# MISSISSIPPIAN MISSIONARIES: BUNDLING A CAHOKIAN RELIGIOUS MOVEMENT

BY

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DISSERTATION

Submitted in partial fulfillment of the requirements
for the degree of Doctor of Philosophy in Anthropology
in the Graduate College of the
University of Illinois Urbana-Champaign, 2021

Urbana, Illinois

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# ABSTRACT

This dissertation examines religion as a catalyst for culture change using Indigenous missionary and proselytizing practices as it pertains to the rise of Cahokia (1050-1300 CE). Drawing from Indigenous philosophies and New Materialisms, I use the bundle and bundling concept to hypothesize that the establishment and dissemination of a Cahokia-Mississippian religion is best understood as a bundled mission comprised of missionaries (human and other-than-human), places, things, and substances relationally and co-generating a religious movement. I define the mission bundle as specific practices, places, things, powers, and substances intended for conversion to and proselytizing of a new religious worldview. More specifically, the mission bundle includes mound building, planned cosmological orientations, introductions of new and special architectural styles, and Cahokia-specific materials within religious contexts. Bundling key components of a new religious movement for the purposes of rearranging worldviews and teaching others is an essential aspect of understanding the mechanism of the expansion of a Cahokian-Mississippian religion.

The Collins Complex in East-Central Illinois is the ideal place to investigate the core components of a Mississippian mission bundle. Over 50 years ago, scholars grappled with the mixed data from the Collins Complex. Most often mixed sites were explained using the blanket term “Mississippianization,” which is problematically situated within a cultural evolutionary framework and implies a conversion, but not necessarily a religious one. In the following chapters, I make the case that a mission bundle of identifiable missionary practices was the underlying mechanism fueling a Cahokia-Mississippian religious movement, directly impacting local experiences and larger social landscapes. The value in this project is it provides a nuanced understanding of the establishment of a Cahokia-Mississippian religion and the complex processes of religious change facilitated by missionary practices in precolonial North America. More broadly, this research can inform studies on indigenous missionary practices throughout the Americas.

# ACKNOWLEDGMENTS

I respectfully acknowledge that my graduate career at the University of Illinois at Urbana-Champaign campus was completed on the ancestral homelands of several tribes including the Peoria, Kaskaskia, Piankashaw, Wea, Miami, Mascoutin, Odawa, Sauk, Mesquaki, Kickapoo, Potawatomi, Ojibwe, Ho-Chunk, Menominee, and Chickasaw tribes. I would like to recognize these nations and their continued and sincere relationships with the landscape since time immemorial. I also recognize and acknowledge that the lands I performed my dissertation fieldwork on are the ancestral lands of several tribes including the Peoria Tribe of the Indians of Oklahoma, Miami Tribe of Oklahoma, Kansas Kickapoo Tribe, Kickapoo Tribe of Oklahoma, Kickapoo Traditional Tribe of Texas, Citizen Potawatomi Nation, Forest County Potawatomi Community, Hannahville Indian Community, Menominee Indian Tribe of Wisconsin, Prairie Band Potawatomi Nation, and other tribes. I want to acknowledge that as a descendent of settler Euroamericans I am a beneficiary of the forced removal of native Americans and the dispossession of Native lands.

*For Shane, and for me*

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# INTRODUCTION

"At this place Mother-Corn brought the people together and said, 'I am Mother-Corn; you shall have my corn to plant, so that you, by eating it, will grow and also multiply.' Then Mother-Corn also said, 'I will have to divide up things among you people,' for here at this place they had their village for some time."

- Hand, Arikara (Sahnish)

The relationship between cultural interaction and religion as a catalyst for long-term historical change is well documented in archaeology throughout the world (Graham et al. 2013; Hodder 2010; Janusek 2008; Shaw 2013; Silverman 1994). The role of missionizing – defined as the intent to convert someone or something to a new idea or religion - in cultural and religious change is extensive in the literature (see Graham 1998; Perring 2013; Lightfoot et al. 1998; Wade 2008). However, the specific suite of practices involving missions, missionaries, and proselytism are nearly exclusive to Christianity (Shaw 2013) and remain an undeveloped line of inquiry within the archaeology of non-Christian periods or peoples (see Bradley 2004 for exception).

Particularly in North American archaeology, Mississippian cultural expansions and intrusions have been considered primarily in political or economic terms (Birmingham and Goldstein 2005; Claflin 1991; Gibbon 1974; Harn 1991; Stoltman 1991, 2000; Stoltman et al. 2008). Yet, missionizing practices - here understood to more closely align with historically and ethnographically documented oral histories, practices and movements of Native American prophets - may have facilitated the spread of a new religion from Cahokia, the largest precolonial city north of modern-day Mexico. Missionaries, missions, and proselytizers are therefore inter-related actors - only some of whom are human, animating and entangling a larger Mississippian world. In this dissertation, they are bundled under missionary practices.

Bundles and bundling were fundamental to the ontologies of the peoples of the Eastern Woodlands and Plains. Bundles are complex things, can be persons, always agentic, and are composed of two or more things, non-human persons, places, substances, and/or powers (Dorsey 1904a, 1904b; Murie 1981a, 1981b; Pauketat 2012, 2013a; Zedeño 2008; Zedeño et al. 2018). "Bundles are literally small 'universes' made of deliberate and historically contextualized landscapes, objects, songs, stories, rights, and more" (Zedeño et al. 2018:104).

> The Bright-Star came to the man, in a vision, and told him that a time was coming when she should give a holy bundle; that whatever the things were within it she would give to them. Now these things were not given by the gods of the heavens directly to these people, but they were placed in the earth by the gods, and they made it possible for these people to find these things (Roaming-Scout, Skidi Pawnee Priest [Dorsey 1904a:9]).

I see bundling as similar to assemblage theory (Barad 2007; DeLanda 2006; Deleuze and Guattari 1987; Harris 2017), which Harris (2017:129) defines as "compositions that act. Made up of more or less heterogeneous components, they are gatherings that act back on, but do not totally define, their constituent parts." He further explains that assemblages are never fixed (after Deleuze and Guattari 1987) and always in the process of becoming (Harris 2017:129). Bundling, as I use it, can be (and has been) theorized in a similar context and as it is more aligned with the ontological realities of many of Cahokia's descendants, I prefer it to assemblage (see Pauketat 2012 for further examples of bundles as assemblages). I follow Pauketat (2012, 2013a) and Zedeño (2008) in the use of bundling, "This idea – *that to bundle is to move or reposition things which is, in turn, to translate relationships*" (Pauketat 2013a:39, emphasis original). In other words, "to bundle is to reconfigure if not transform entire webs of relationships." (Pauketat 2013a:39). Bundling within Indigenous ontologies often have the perspective that everything is bundled, and nothing exists in isolation, relationality supersedes individuality (Chandler et al. 2016:4).

Following these definitions and descriptions, I use the bundle and bundling concept to hypothesize that the establishment and dissemination of a Cahokia-Mississippian religion is best understood as a bundled mission comprised of missionaries (human and other-than-human), places, things, and substances relationally and co-generating a religious movement. In this dissertation, I argue that through indigenous missionary and proselytizing practices, religion was a primary catalyst for culture change as it pertains to the rise of Cahokia (1050-1300 CE) and the spread of what archaeologists call Mississippian culture. I define the mission bundle as specific practices, places, things, powers, and substances intended for conversion to and proselytizing of a new religious worldview. More specifically, the mission bundle includes mound building, planned cosmological orientations, introductions of new and special architectural styles, and Cahokia-specific materials within religious contexts. As a bundle, these things are more than themselves, they relate, they teach, they *do*. "Bundles embody principles of native ontology as well as the means to acquire, order, and transfer knowledge that is essential to the well-being of the world" (Chandler et al. 2016:3). In that regard, bundling key components of a new religious movement for the purposes of rearranging worldviews and teaching others is an essential aspect of understanding the mechanism of the expansion of a Cahokian-Mississippian religion.

I argue that this bundle of identifiable missionary practices was the underlying mechanism fueling a Cahokia-Mississippian religious movement directly impacting local experiences and larger social landscapes. The value in this project is it provides a nuanced understanding of the establishment of a Cahokia-Mississippian religion and the complex processes of religious change facilitated by missionary practices in precolonial North America. More broadly, this research can inform studies on indigenous missionary practices throughout the Americas. The remainder of this chapter will provide an introduction to Cahokia and more details regarding the anthropological problem I attempt to address in the following chapters.

Founding Cahokia – Mississippian Foundations

In the Mississippi River Valley during the mid-eleventh century, a vast city now called Cahokia, was just beginning (Pauketat and Alt 2015:1). Cahokia was founded in what's called the American Bottom, a fertile floodplain of the Mississippi River and the confluence of the Illinois River, just south of where the Missouri River meets the Mississippi (Figure 1). In reality, the city of Cahokia was an urbanized coeval metropolis that included the East St. Louis site (hereafter "ESTL") and the now demolished St. Louis site across the river. Together, these three precincts make up what is referred to as Greater Cahokia (Pauketat et al. 2018). This foundational moment marks the beginning of what archaeologists call the Mississippian period and culture. The Cahokia of the earlier Late Woodland period (650-900 CE) consisted primarily of small villages of horticulturalist families living in single post rectangular houses surrounding small courtyards (Baires et al. 2017; Dalan et al. 2003; Pauketat 1998a, 1998b, 1998c). However, at the beginning of the subsequent Terminal Late Woodland (hereafter "TLW") period (900-1050 CE), big, region-wide changes were occurring. The TLW period marks regional population shifts, with villages emptying and new farmsteads being established (see Betzenhauser 2011) to fulfill the growing demand for maize (Emerson Hedman, Brennan et al. 2020).

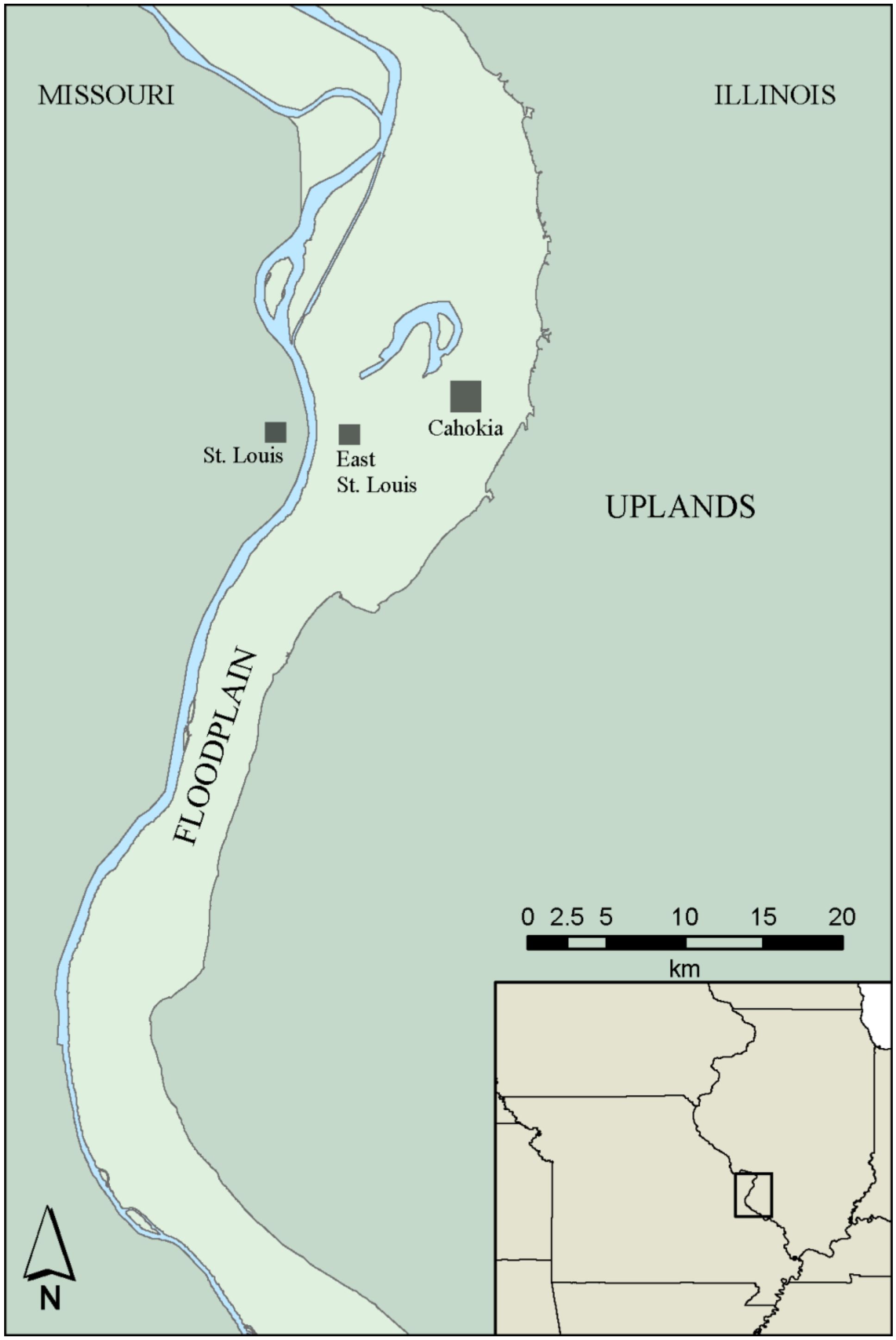

Figure 1. Map of Cahokia and the American Bottom.

At or just before 1050 CE Cahokia underwent a population and cultural explosion as thousands of people moved into a new city under construction (Emerson and Hedman 2016; Pauketat and Alt 2015; Pauketat and Lopinot 1997; Slater et al. 2014; Hedman et al. 2018).

Construction included meticulous city planning with specific placement of monumental mounds, plazas, and houses all citing explicit astronomical alignments including lunar standstills and solstice events. These, along with a new assemblage of notable *things*, were considered new cultural phenomena and identified outside of Cahokia proper using a standard "trait list" of cultural markers. They include truncated pyramidal mound construction, communal reorganization around a site plan, a change from single-post house construction to wall-trench construction, new architectural styles and uses, new ceramic techniques and forms, new foodways (especially involving maize), new powerful materials with important ties/relationships to the places they came from, and cosmic alignments of mounds, plazas, buildings, and posts (see Baires 2014a, 2014b; Emerson 1997b; Emerson and Pauketat 1997; Fowler 1997; Kelly 1991a, 1991b; Pauketat 1994, 2004, 2007, 2013a, 2013b; Pauketat and Alt 2004, 2017; Porter 1969; VanDerwarker et al. 2013).

Many of these changes can and should be viewed as world-altering. For example, the change from single post construction to wall trench construction and the reorientation of the house along a new cosmological alignment is more significant than a simple technology upgrade (Pauketat 1994, Alt and Pauketat 2011). Literature has shown many non-western and indigenous peoples' dwellings to be microcosms and/or *axis mundi* that tether both temporal and spatial dimensions (Bourdieu 1970; Scott 1998; Waterson 1998). Changing the physical building technique, style, and particularly, the orientation reflects a schism or transformation in worldviews (Waterson 1998). Many of these technological changes and transformations are akin to a complete rearrangement of one's views of the world – from how to live, how to align with celestial bodies, and how to move through and relate to a variety of persons, spaces and places (Lucero 2010; Waterson 2009). The described changes at Cahokia speak to a significant change in worldview. Specifically, a worldview that encompasses a new religious way of being in the world where a citation of the cosmos is physically orienting and built directly into the Cahokian landscape. Emerson (2018:525) aptly states, “Cahokia as a culturally constructed world had no equivalent and no obvious predecessor – it was a distinctive change, a transformative break with the Woodland midcontinent.”

Recently, researchers have convincingly shown that religion is the likely spark to such dramatic Cahokian beginnings (see Alt 2006, 2012, 2020a, 202b; Baltus 2015; Baltus and Baires 2012; Baires 2014, 2017; Hall 1997; Emerson 1991, 1997a 1997b, 2018; Emerson and Pauketat 2008; Millhouse 2012; Pauketat and Emerson 2008; Pauketat 1994, 1998a, 2003, 2004, 2013a, 2020; Skousen 2015). The idea of religion as a causal factor in the establishment of Cahokia had not been seriously entertained in past work, where trade center or chiefdom/state were favored as primary explanations for Cahokia’s fluorescence (see Kelly 1991; Milner 1998; O’Brien 1991; Peregrine 1992; Porter 1969).

Religion was part of earlier scholars’ theorizing of Mississippian religion focused on representational notions of belief systems constructed with meanings needing to be read or deciphered (Brown 1997; Galloway 1989; Knight 1986, 1991; Lankford et al. 2011; Reilly and Garber 2007). This has since shifted to accepted knowledge that Mississippian religion is a complex entanglement of relational fields that include specialized practices, persons, places, powers, things, and the cosmos (Alt 2020; Alt and Pauketat 2017; Baires 2014, 2017; Baires and Baltus 2012, 2017; Baires et al. 2013; Baltus 2014, 2015; Beck and Brown 2012; Benson 2020; Pauketat 2008, 2011, 2013a, 2017a; Pauketat and Alt 2015; Skousen 2012, 2016; Watts 2020).

This archaeological ‘moment’ of 1050 CE is given the appropriate moniker ‘Big Bang’ (Pauketat 1994), calling to mind the cosmic event of the same name. Just as the cosmic big bang is not an explosion in space but an expansion of space, the Cahokia big bang is not an explosion of a Cahokia stamp into and onto the wider world, but an expansion of a new way of being in and with the world, (i.e., Mississippian). Viewing Cahokian expansion in this way allows for multiplicities of local participation and experiences, while recognizing that as a result of constant migration into Greater Cahokia, immigrant experiences helped shape the Big Bang. Ultimately a kind of feedback loop of culture change is created.

By 1150 CE a more institutionalized form of Mississippian religion was transforming the Mississippian world again, focusing less on communal participation and more on exclusive access to religious ceremonies (Kidder 1998; Pauketat 1998c, 2017b). By 1200 CE there was a second Mississippian surge into the South and Southeast and at Cahokia itself. A massive palisade wall was built around downtown Cahokia's primary religious precinct (Pauketat 1998c). By 1300 CE, the urban city was markedly diminished in size due to large-scale out-migrations. With this very brief Cahokia overview, I will turn back to the 'Big Bang' and the first expansion.

## The Problem

Archaeologists began recognizing Cahokia-Mississippian traits (truncated mounds, wall-trench housing, shell-tempered pottery, Cahokia arrow points, etc.) intruding or mixing into local Late Woodland groups occurring nearly simultaneously with Cahokia's 'Big Bang' at or shortly after 1050 CE (Pauketat 1994). Scholars struggled to understand the diverse mix of Late Woodland and Mississippian materials in towns and villages, often labeling them as 'outposts', 'colonies', or 'ceremonial centers', that were a result of diffusion, emulation, or occasional intrusive emigration by peoples/groups from Cahokia (Freimuth 1974; Hall 1991; O'Brien 1991; Porter 1969, 1974; Vogel 1975).

Most often mixed sites were explained using the blanket term "Mississippianization," which is problematically situated within a cultural evolutionary framework and implies a conversion, but not necessarily a religious one. Mississippianization cannot address the underlying questions of *why* and *how*. Most scholars agreed that migration or movement of peoples to and from Cahokia, the surrounding American Bottom region, and the wider hinterlands was occurring in the 11th century CE (Alt 2001, 2002, 2006a, 2006b, 2012; Betzenhauser 2011; Emerson 1991, 1997a, 1997b; Griffin 1960; Kelly 1980; Pauketat 2002, 2003, 2013a; Stoltman 1991, 2000). Recent evidence has proven that Cahokia and the greater Midwest region was in constant flux at 1050 CE and throughout Cahokia's urban existence (Slater et al. 2014; Hedman et al. 2018; Hedman and Emerson 2016). However, while scholars have long recognized the physical movement of peoples throughout the region, it was the religious movement generating their travels that was absent from most discussions (see Pauketat 2008, 2010, 2013a for exception). New research highlights the vibrancy with which movements and entanglements bring about change.

> [T]here was no single process of Mississippianization. Another fact that has become clear is that 'Mississippianization' did not 'emerge' from a Woodland base. For the most part, Mississippianization consisted of new traditions and cosmologies that were generated through the cultural entanglements among diverse groups of people. Such entanglements were mediated by a variety of processes, including migration, missionization, pilgrimage, and long-distance exchange and circulation of materials. These new threads became the beginnings of a tapestry of Mississippian lifestyles that covered southeastern and midcontinental North America (Wilson 2017:2).

Despite the heavy emphasis on the "process of Mississippianization," which again, is loaded with cultural evolutionary baggage, Wilson's point holds. Building on this background, I argue that missionaries and missionary practices are both archaeologically identifiable and better explanations of the establishment and spread of a Cahokia-Mississippian religion that actively realigned and entangled people, places, materials, and the cosmos (see Pauketat 2013a).

The remaining chapters will each address a portion of this anthropological problem. Chapter 1 will zoom out of Cahokia to trace the possible origins for the mission bundle through the southeast, followed by an examination of Cahokia's founding as the first mission. The remainder of Chapter 1 looks at the wider Midwest at 1050 CE to better grasp the effect of Cahokia's Big Bang finishing with an introduction to the Collins Complex, the study site. Chapter 2 lays out the theoretical perspectives from which I draw to examine a missionary explanation of a Cahokian-Mississippian religious transformation. Chapters 3-5 each tackle a portion of the mission bundle as viewed from the Collins Complex – mounds, architecture and alignments, and things. Chapter 6 reassembles the bundle to assess a larger regional narrative of Mississippian missionizing followed with specific examples from oral histories. I close Chapter 6 with a discussion of the broader value and importance of drawing on Indigenous theories of missionizing in reassessing historical narratives outside of the Mississippian southeast.

# CHAPTER 1: CHRONOLOGIES AND PLACES

"Now the people scattered, some going in different directions. For a long time they were separated, but at last they came together again."

- Well-Fed-Captured-Girl, Skidi Pawnee

The focus of this research is on the northerly regions from Cahokia and Cahokian contacts during the temporally fluid window of 1050 CE and immediately after. However, in order to fully understand Mississippian missions and missionaries, a discussion focused on an expanded temporal window between 900-1100 CE was necessary for a larger geographic area. The heterogeneity of urban Cahokia and the religious bundle of ideas and things that founded it draws to mind several big questions (Pauketat 2013a; Hedman et al. 2018; Slater et al. 2014). Who were the people of Cahokia? Where did the mission bundle come from? Again, I define the primary components of the mission bundle to include mound building, planned cosmological orientations, introductions of new and special architectural styles, and Cahokia-specific materials within religious contexts.

Mound building has a deep history in the Eastern Woodlands, extending back to Archaic period sites of Watson Brake and Poverty Point in Louisiana (Randall 2015; Sassaman 2010). The combination of flat top mound construction using specific-colored soils in mound structures (both submound and summit) did not start at Cahokia. Cosmological alignments are not a singular Cahokian phenomena either. To address these topics, it is necessary to zoom back out from Cahokia and first look to the South (see Pauketat and Alt 2003). This chapter will examine the timing of some aspects of the mission bundle at various sites in all directions from Cahokia, starting in the south and ending with an introduction of the Collins Complex – the focus of the remaining chapters.

Cahokia's Descendants

It is important to point out that the people of Cahokia have many living descendants that make up *minimally* 26 federally recognized tribes living throughout much of the Plains, Southeast, and Midwest today (Table 1.1). Extensive archaeological data demonstrated that Cahokia was a true urban city, home to different peoples from many different regions/groups likely speaking a variety of languages and certainly different dialects (see Emerson et al. 2018; Hedman and Emerson 2016, 2018; Slater et al. 2014). Ethnographic research and oral histories indicate broad similarities and practices that can be tied back to Mississippian culture. During the migrations *out* of the city during the 1200s and 1300s, people likely either returned to their home group or left the city with 'newly' formed relations. While no known nation today has a specific oral history directly tied to Cahokia, the founding and dissolution of Cahokia had a definite impact on ties, migrations, and histories of a significant number of modern tribal nations[1].

| *Caddo Language Family* | | *Siouan Language Family* | | *Muscogee* | |
|---|---|---|---|---|---|
| **North Branch** | **South Branch** | **Chiwere** | **Dhegihan** | **Western** | **Eastern** |
| Pawnee | Hasinai | Winnebago | Osage | Chicasaw | Muscogee (Creek) |
| Skidi | Kadohadacho | Missouria | Kansa | Choctaw | Seminole |
| Wichita | Natchitoches | Ioway | Omaha | | Alabamu |
| Sahnish (Arikara) | | Otoe | Ponca | | Coushatta |
| South Band | | | Quapaw | | |
| Kitsai | | | | | |

Table 1.1. Incomplete list of likely living descendants of Mississippian peoples, if not Cahokia. Does not include the likely many Gulf Coast tribes (information compiled from Kaufman 2014; McMillan 2014; Pauketat 2013a; and Perttula 2012).

1 It is important to note that archaeologists must do better about discussing the past while directly acknowledging living descendants, even if no specific connection can be made to a particular nation. In the past, the direct-historic approaches - making analogies to modern tribes via ethnographies – too often implied that indigenous peoples have not changed through time. This fed into romanticized notions of the "noble savage" and other tropes effectively erasing any final connections to the past descendants might have had following removal from their ancestral lands. I strive to maintain a balance between highlighting different descendent oral histories while also acknowledging significant alteration and change through time (Echo-Hawk 2000).

Among these nations, some oral histories, practices, and ethnographic documentation indicate stronger probable ties to Cahokia than others. Until recently, the dominant discourse focused on connections between specific male warrior iconography and the Dhegihan Siouan oral histories depicting warrior heroes (e.g., Brown 2003, 2004, 2007; Brown and Kelly 2000; Dye 2012; Hall 1989, 1997; Lankford 1987). Emerson et al. (2016:421) point out that while the warrior/hero iconography was certainly prominent among the late Mississippian groups of the Southeast, "in the early years of the construction of Cahokia, the Red Horn warrior myth characteristics may not have been the ones that those creating Cahokia chose to primarily draw on or emphasize."

Several lines of evidence from the past decade convincingly show a prominent focus on women, life renewal, the moon, water, and fertility (Alt 2020a; Byers 2006; Emerson 1989, 1997a, 2003, 2009, 2015; Emerson et al. 2000; Pauketat 2013a; Pauketat and Alt 2017; Pauketat et al. 2017; Pauketat and Emerson 1991; Romain 2015a). The newest data from a reanalysis of Mound 72 interments corrects the long-held assumption that the initial primary burials were two men (Emerson et al. 2016), finding one was in fact female. Additionally, they found most of the accompanying interments were female-male pairs and might be more closely associated with Caddo creation stories (Emerson et al. 2016:421).

Following a detailed historical and oral history analysis of Pawnee oral traditions, Roger Echo-Hawk (Pawnee) (2018) draws fascinating threads of effect across the movement and adoption of maize via the missionizing of Mother Corn specifically. He indicates that Mother Corn may have been a real person based on specific oral histories from the Wichita, Arikara, and Pawnee (all Northern Caddo language family groups) that hint at a point in their histories where women were the priests, chiefs, and missionaries that drew people together to teach them about the ways of Moon and corn. He implies that this is why/how Cahokia came to be and influence such a large region, though he never uses the name Cahokia. This narrative will be discussed in greater detail in Chapter 6, but for now, I will plant this – oral histories of ancestral Caddo descendants provide tantalizing substance to a growing collection of archaeological data that continues to indicate that women were primary figures in the development of Cahokia and possibly the very missionaries that helped spread a new religion bundled with corn, mounds, and the moon.

While there is no doubt that the creation of Cahokia and thus, Mississippian, was the result of complex entanglements of histories and relations among different persons (only some of whom are human), places, substances, powers, and things, there is significant data that connects the origins of at least part of the Mississippian mission bundle to the south and likely early Caddo peoples (O'Brien and McHugh 1987; Pauketat 2021).

## The Proto-Mississippian Southeast

### Caddo or Coles Creek or…?

There is continuing discourse regarding Cahokia Mississippian beginnings and early Caddo and Coles Creek influences/people from the South and Southeast (see Gerard 2018; Kassabaum et al. 2014; Kidder 1992; Pauketat 2004, 2015: 14; Pauketat and Alt 2003, 2015; Perttula and Walker 2012; Regnier 2017; Steponaitis et al. 2015). The Lower Mississippi River Valley, especially where the Arkansas and Red Rivers meet the Mississippi, is a dynamic region, particularly between 500-1000 CE. Based on the literature a vast majority of important sites remain unexcavated, only superficially examined, or completely lost to urban development.

In Nassaney and Cobb's (1991:2) important synthesis of the greater southeast Late Woodland period they point out (following Muller 1983) that by 700 CE much of the southern

Mississippi Valley exhibited many “Mississippian” characteristics such as platform mounds and planned layouts around a plaza. These traits are more notable in the northern part of the Southeast. They also point out that “maize became widely disseminated at this time, but its importance to the diet of different regions was highly variable.” (Nassaney and Cobb 1991:2). This is a similar conclusion most recently discussed by Fritz (2019) and subsequently Emerson et al. (2020). Using updated isotopic data and AMS dates from human and dog burials in the American Bottom, Emerson, Hedman, Simon et al. (2020) conclude that maize was “abruptly” introduced into the area at about 900 CE. Instead of replacing earlier subsistence practices however, Cahokia’s earliest farmers maintained a strong dietary connection to many of the Eastern Agricultural Complex foodways (see also Fritz 2019). Emerson, Hedman, Simon et al. (2020:256) state,

> [W]e do support the position that maize was a key factor in supplementing existing Terminal Late Woodland Eastern Complex agricultural production and acknowledge its important role in allowing and accelerating the development of the Cahokian polity.

This seemingly odd disconnect might not be so odd after all. If the introduction to maize was explicitly entangled within a new religious worldview, specifically dominated by women (i.e., women farmers, women deities, women instructed), its early use was likely relegated to new religious ceremonies and some feasting events indicating an ongoing negotiation and adoption *into* an already robust subsistence assemblage of Eastern Agricultural Complex (EAC) staples. This scenario is plausible given the archaeological and archaeometric data showing an abrupt introduction of maize, but not an abrupt increase/take-over of EAC crops early in Cahokia’s history (900-1050 CE) (Emerson, Hedman, Simon et al. 2020; Fritz 2019). By 1100 CE and significantly so by 1150 CE, maize agriculture was not only much more intense, but also significantly increased in the general diet of Cahokians (Emerson, Hedman, Simon et al. 2020). While maize is not the specific topic of this dissertation, the archaeological data and oral histories indicate that it is an active participant in generating change and entangled within a mission bundle.

Pauketat and Alt (2003, 2015; see also Nassaney and Cobb 1991) synthesized much of the following information elsewhere. They convincingly hypothesize that Plum Bayou, early Caddo, and/or Coles Creek immigrants, through meaningful adoptions and entanglements with American Bottom Late Woodland peoples, founded Cahokia. Through those entanglements, the Mississippian tradition began (Pauketat and Alt 2015:5). Building on those overviews, I believe there are compelling patterns that indicate the origination of mission practices, specifically the religious foundations of mound building and alignments, comes from the southern early ancestral Caddo peoples. These mission practices were subsequently elaborated, built upon (through a feedback loop of migration and contacts), bundled, and made wholly Cahokian and thus Mississippian post 1050 CE.


Figure 1.1. Selected sites discussed in the text.

Some of the earliest flat-topped mounds with planned and organized sites (not including earlier examples of Middle Woodland sites such as Pinson in Tennessee) are found in the southern portion (primarily south of the Arkansas River) of the Lower Mississippi River Valley

(LMRV) during the Baytown Period (300-700 CE) (Kidder 1998). Within this larger time period there are two defined cultures of interest, Troyville and Fourche Maline. The next time period of interest is between 700-1000 CE, which encompasses the Coles Creek culture (from the earlier Troyville), Formative Caddo (from the earlier Fourche Maline) and Plum Bayou (possibly from some aspects of Fourche Maline) (Figure 1.2).

The Troyville and Fredericks sites (see Figure 1.1 for all sites mentioned) in east-central and central Louisiana are the two largest Troyville culture sites (Girard 2018; Kidder 1998) and some of the earliest platform mounds. Designated as early ceremonial centers, both are significant in size with very large platform mounds planned around plazas, but little evidence of any significant populations. Kidder (1998:134) highlights that most Troyville culture sites are planned community mound centers to inter the dead. There is a pattern of midden deposits found on mound aprons indicating the mound tops themselves were swept clean. This is also true of the plazas (Kidder 1998). Additional mound constructions built the platforms in height but did not increase their footprint. This practice changed during the latter part of the Coles Creek Period (Kidder 2004). At the Fredericks site, Girard (2018:chapter 3) describes intentional mound deposits with specifically placed clay platforms and clay caps. He goes on to make an important note:

> Establishment of places of public ritual prior to earthwork construction appears to have been a common occurrence for Late Woodland ceremonial centers…The impetus for the Late Woodland elaborations was social integration – public ceremony to attract and organize dispersed populations (Girard 2018:chapter 3).

Kidder (1998:134) agrees, summarizing that “the totality of the Troyville community plan and its functions suggests an attempt to include the broader community.” There appears to be an early connection to gathering for feasting and mound accruals – some with specific soils. There is no evidence that these mounds were substructural platforms but were instead used to inter their dead. Earlier Hopewell sites exhibit similar connections.

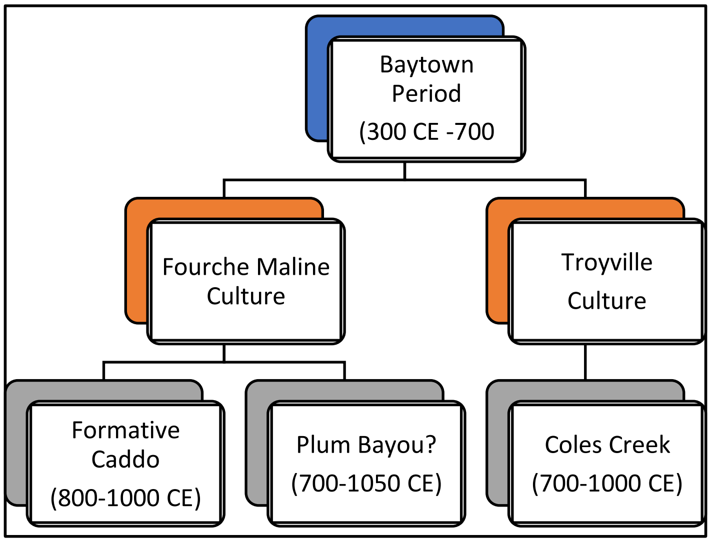


Figure 1.2. Lower Mississippi River Valley contemporaneous cultures. Note that some literature places Plum Bayou culture as its own cultural 'entity' and not from Fourche Maline. Also, Fourche Maline begins around 300 BCE and continues until ~700 CE.

Fourche Maline sites are primarily clustered in the quad-state region encompassing North Texas, Northwest Louisiana, East Oklahoma, and Southwest Arkansas. Fourche Maline culture is considered to be ancestral to the Caddo tribes (Perttula 2012). Rogers (1991:228) states that "Fourche Maline is used to refer to ceramic bearing occupations that preceded the Caddoan tradition in the Trans-Mississippi South." The largest and most extensively researched/ site with a Fourche Maline component is the Crenshaw site, located along the Red River in the extreme southwestern corner of Arkansas. There is a late Fourche Maline occupation here documented between 600-900 CE with a village, burial mound and cemetery (Jackson et al. 2012). Extensive middens, a noted feature at many Fourche Maline sites, are attributed to this time period as well as an additional 4-6 burial mounds. (Jackson et al. 2012).

One other Fourche Maline site is worth noting here for possible similarities with a temple structure described in Chapter 4, the Poole Site near Hot Springs, Arkansas. It is a large rectangular single post structure 30 meters long and 8.5 meters wide with a line of 7 interior center posts running along its central axis and that long-axis orientated northeast-southwest (Wood 1981). This is an unusual structure style as there are only two other similar structures recorded. One is documented at the Collins Complex in East-Central Illinois (discussed in Chapter 4) and the second is from the Aztalan site in southern Wisconsin. By 900 CE at the Crenshaw site there was a significant population decline, “establishing the dispersed farmstead and nearly vacant ceremonial center settlement pattern that seems to have prevailed among the Caddo of the Great Bend region.” (Jackson et al. 2012:50). This is noted at the Poole site as well (Wood 1981). Ultimately, the Troyville and Fourche Maline might differ significantly in their materialities, but their larger organizational patterns seem to have threads of similarities.

By the beginning of the Coles Creek and Plum Bayou cultures, around 700 CE, significant social changes were occurring. The practices and engagements surrounding mounds and mound construction significantly changed. Kidder (2004:554) describes a distinct change in Coles Creek mound construction to cover burials to platform mounds being specifically constructed as foundations for perishable structures (though he also later states that this cannot be determined for sure). The change in mound practices had significant social change recognized archaeologically. Kidder (1998:149) explains the Coles Creek change (that began during the latter part of the Baytown period):

> Furthermore, mound communities do not appear to be the locus of supporting villages. Williams and Brain, for example, argue that beginning as early as the Coles Creek Period we see the development of ‘vacant’ centers ‘in the sense that they [the mound sites] were not primarily residential units, although they were occupied by a small group who were presumably religious caretakers and/or privileged personage’ (Williams and Brain 1983:407).

By 800 CE, a distinctive “Coles Creek Pattern” of platform mound and plaza construction developed (Kassabaum 2011; Kassabaum et al. 2014; Steponaitis et al. 2015), creating a distinctly restrictive and powerful space as noted by Kidder[2] (1998, 2004). One significant aspect of many Coles Creek (and Baytown period) platform mounds, specifically pre-900 CE, was the lack of any structural features on their summits or substantial literature indicating submound structures (Kidder 1998; Pauketat and Alt 2003). Though Kidder (2004:554) states that at many Coles Creek sites he believes mounds supported structures, he noted that this could not be determined for certain. In any case, there lacks a distinct pattern of submound structure, mound, and then surface structures recognizable in the Caddo constructions and later Mississippian practices.

The Feltus site in Southwest Mississippi revealed a significant midden deposit at the base of Mound A, one of the site's earlier Coles Creek mounds, highlighting a continued connection of feasting and mound construction (Kassabaum et al. 2014). Many researchers also point out that while Coles Creek mound construction utilized specific soils and colors, the construction (at least pre-900) was slower – smaller structural increases and those increases were added primarily to the summits (see Kassebaum et al. 2014; Lindauer and Blitz 1997; Pauketat and Alt 2003). The additions built up the height of the mound but did not increase its footprint. Something most Mississippian mounds, especially at Cahokia, exhibit in addition to having large blanket mantles and quick, episodic construction (Pauketat and Alt 2003).

Plum Bayou overlaps with some Fourche Maline sites to the west in Central Arkansas and is contemporary with Coles Creek[3] (Figure 1.2) and early Caddo. Plum Bayou peoples were known for mound construction, plazas, little to no evidence of maize, and dispersed settlements

2 Coles Creek saw an increase in population, but no maize until 1000 CE (Kidder 1998).

3 I wish to highlight the problematic nature concerning culture area designations like the one in Figure 1.2. While they are useful for visually orienting a reader about large areas in the discussion, the idea of a bounded or bordered people is inherently problematic. This struggle is not a new one, as Nassaney and Cobb (1991:112) point out, "cultural systems are not easily bounded nor are they closed entities. In fact, their boundaries are quite permeable and often difficult to define."

with “ceremonial centers.” (Rolingson 2007). The Toltec Site in Central Arkansas is the type-site for Plum Bayou culture and often cited as a potential Mississippian precursor site (see Pauketat and Alt 2003, 2015; Pauketat 2013a, 2021).

The Toltec site was well-organized with a planned layout and occupied between 700-1050 CE. There were 18 mounds (at least one is conical) with some evidence of platform structures, and two plazas (Pauketat and Alt 2003; Rolingson 2007). The mounds were constructed between 750-900 CE and there is evidence of significant feasting but with very little maize, though it was available in the region (Alspaugh 2014; Nassaney and Cobb 1991; Pauketat and Alt 2003; Rolingson 2007). Nassaney (1991:205) argues that the earliest midden deposits found beneath the mounds indicate that a plaza concept predates mound construction at Toltec. In other words, a gathering space for feasting and connections. In addition to mounds, plazas, feasting, and a planned layout, some of the significant *things* recovered from Toltec include copper, galena, mica, and conch shell. These items are familiar to most Mississippian archaeologists and exhibit geographically significant connections from the Great Lakes (copper), the Carolinas/southeast Pennsylvania (mica), the Gulf Coast (conch shell), and the Ozarks (galena). By 1050 CE Toltec was abandoned (Alspaugh 2014; Pauketat and Alt 2003; Rolingson 2007).

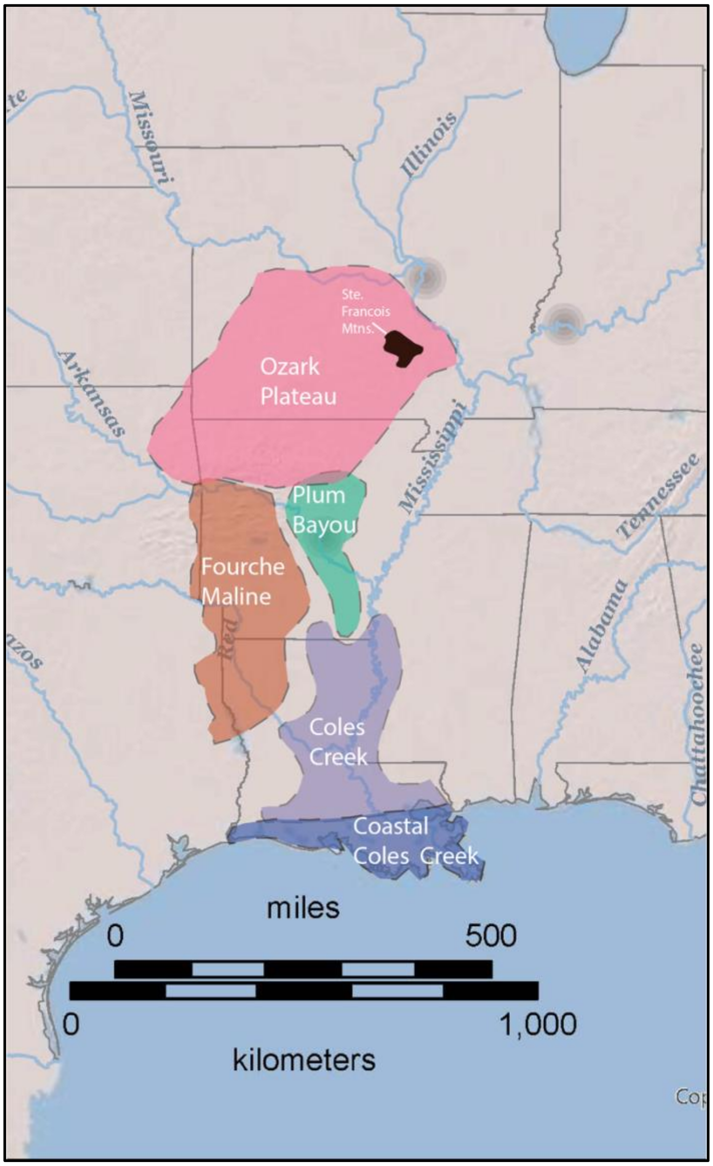


Figure 1.3. Southeast culture areas discussed in text. Adapted from Alspaugh 2014:Figure 1.3 and Jeter and Scott, Jr. 2008:Figure 1.

The third cultural component in this brief overview is a discussion of the ancestral Caddo peoples. Perttula (2012) gives an updated chronology to the development of what would become Caddo, which he and others argue developed from local Woodland traditions. This updated chronology is useful in that it collapses a variety of regional phases into easier comparable time frames. The two I wish to focus on here are the Formative Caddo period (800-1000 CE) and the Early Caddo (1000-1200 CE).

In the following discussions I will be using terminology including “ancestral Caddo,” “early Caddo” and even “Caddoan” and wish to point out that this is a language failure on my part and not intended to presume cultural/ethnic continuity through time. The data currently show that at any period of Cahokia’s history, a minimum of 1/3 (30%) of its population were immigrants (Hedman et al. 2018; Slater et al. 2014). The extensive archaeology of the past decades continues to prove that the time leading up to and through the Mississippian period was dynamic, vibrant, and full of community formation and dispersions, each one potentially impacting the historicity of Cahokia’s descendants.

Among the people whose language can be said to belong to the Caddoan language family, there are accepted splits from the ancestral language. Linguists have hypothesized[4] that the first separation occurred some 3000-3500 years ago (some argue even earlier). This separation brought about a split between ancestral Northern Caddo and ancestral Caddo. The remaining splits occur within the Northern Caddo groups, first with the Wichita, followed by the Kitai, the Pawnee, and the Arikara. Within the Pawnee, there is a very recent split into the South Band Pawnee and the Skidi (Parks 1979). The Arikara split from the Pawnee as late as the late 1700s or early 1800s. In his study of the Northern Caddo language divergences, Parks (1979) reports that a probable time period for the split of the Pawnee/Arikara from the Kitsai occurred at 750 CE. This potential timeline is relevant to this discussion for two purposes, 1) archaeologically, the known ancestral homelands of people whose language is from the Caddo language family, are the same areas discussed for the Fourche Maline and possibly Plum Bayou cultures. 2) As I discussed above, the people whose languages today are considered to be a part

4 The glottochronology of the Caddoan language family has not been updated or refined and therefore these earlier hypotheses are very rough estimates that are not agreed upon by either linguists or archaeologists.

of the Northern Caddo language group (Pawnee, Arikara, Wichita[5], etc.) have extensive oral histories documenting substantial migrations and movements. The archaeological data concerning the movements of ancestral Northern Caddo seems to be less understood, even less so if/how they may be a part of the larger Mississippian narrative. In reference to the first note, in his synthesizing overview of the area of Eastern Oklahoma and Western Arkansas, Rogers (1991:234) points out that while the area is Caddo homeland, it is a distinctly different historicity than that of the southern area of early Caddo near North Texas, stating,

> In the earlier portion of the Woodland period (ca. A.D. 1-600; see Table 1), variations in material culture indicate some form of interactions with the Kansas City Hopewell, for the northern portion of the study area, and with the Marksville culture in the Lower Mississippi Valley, for the southern portion of the area. Although the regional differences separating the northern and southern areas continue to be important, the basic pattern of interactions that characterize the period of A.D. 600-900 centers around the process of 'Caddoanization' of several local cultural entities. The term *Caddoanization* refers to the spread and incorporation of certain characteristics including increasing sedentism, the construction of several types of mounds associated with a hierarchical settlement pattern, engraved ceramic decoration, increased evidence for maize horticulture, and a ranked form of social organization.

He further explains the differences between Northern and Southern Caddo,

> Comparison of dates for early Caddoan sites throughout the region show little difference. When taken in combination with sharp differences in building styles (i.e., round buildings in the south and square in the north), settlement organization, mortuary practices, other ritual patterns, and artifactual differences, it is more plausible to support the idea of two separate regions of development, rather than the movement of people from one area to the other (Rogers 1991:233).

The pointed differences between Northern and Southern ancestral Caddo history might be an important avenue of inquiry regarding early Mississippian bundle carriers. Regnier (2017:190) also makes a salient point,

> [T]he Early Caddo arose out of several distinct cultural groups with relatively fluid social and territorial boundaries. Some of these groups apparently had much more extensive contact with Coles Creek groups, by virtue of proximity and other nebulous factors, but, even as they

5 Following Atalay (2006), Echo-Hawk (2000), and Howe's (1999) (and other indigenous peoples) calls to better integrate oral histories as datasets into archaeological interpretations, I attempt to use a combination of linguistic hypotheses, oral histories of migrations, and creation histories as potential data sets for further inquiry. It is not intended as "filler" for any perceived lack of data, but instead a suggestion for continued research and new collaborations with descendent communities in the Southeast and Plains.

> interacted more heavily with their neighbors, they remained a part of a broader *religious* and ceremonial tradition that distinguished them as Caddo (emphasis my own).

As Rogers (1991) synthesizes, there was significant change occurring during 600-900 CE for early Caddo. The four noteworthy Formative and Early Caddo period sites were George C. Davis in East Texas, Crenshaw, Gahagan, and Mounds Plantation. The latter two can be found in Northwest Louisiana. While the Gahagan and Mounds Plantation sites may be more representative of the later Mississippian missionization occurring after 1050 CE and not the best examples of Early Caddo for comparisons (see Emerson and Girard 2004; Girard 2018), Mounds Plantation and George C. Davis have dated contexts to 900-1000 CE. Mounds Plantation was a mound and plaza site with nine documented mounds. Girard's (2018) most recent excavations into the base of Mound 6 uncovered post holes and middens, indicating occupation prior to mound construction. The midden deposits date to late 900 CE to early 1000 CE. Girard (2018: Ch. 4) hypothesizes that the middens found beneath Mound 6 and also Mound 3 (from previous excavations) are indicative of large communal feasts whereby it becomes "common practice to construct mounds over areas once used for rituals."

The overall chronology of the site is tenuous, but Girard is confident that mound construction was firmly underway by the 1100s. At the George C. Davis site, Mound C is a circular platform mound. This style of mound is found at other sites (later in time), but this is considered one of the earliest (White and Weinstein 2008). Throughout the history of Late Woodland mound construction in the Southeast there are sites with a combination of circle and rectangular platform mounds (e.g., Toltec, Spiro, Crenshaw).

In Regnier's (2017) chapter in the Mississippian Beginnings (Wilson 2017) edited volume, she argues that Early Caddo and Mississippian (Cahokia-Mississippian?) have distinctly different historical trajectories, specifically regarding landscape and settlement patterns and ideology and ritual. In her argument describing how ‘different’ they are she ends up connecting some very important threads. For example, with regards to specifically identifiable practices visible beginning in the Early Caddo (1000-1200 CE) she lists burning rectangular structures, then building mounds over the ruins, a combination of circular and rectangular structures/mounds, the presence of special purpose buildings (with extended entrances) with specific orientations, and specific color symbolism and soils in mound construction. She summarizes,

> It seems that Caddo mound sites were more important as religious centers than they were as political centers. While religion and politics certainly were enmeshed across both the Caddo and the Mississippian worlds, the Caddo made a clear distinction between the two spheres (Regnier 2017:196).

In Rogers’ (1991:239) summary, he sees a distinct break or discontinuity from the previous Fourche Maline settlement patterns i.e., now settling in places with little to no previous settlements stating,

> This break in settlement location could also represent a move away from the ancestors (common sources of authority and obligation in kinship-based societies [Meillassoux 1960]) toward new sources of cosmological validation. This seems plausible considering the Fourche Maline habitation sites were also burial sites, which would support a connection between place and ancestral sources of social validation. A break with the ancestors could further be viewed as a move toward the gods as a source of authority.

The takeaway regarding platform mound origins can be this; Southeast archaeologists, whether they focus on Coles Creek, Plum Bayou, or Formative/Early Caddo ultimately agree that mound places were always overtly religious spaces that seem to begin with more communal, accessible participation (see Coles Creek above), changing to more restrictive/specific spaces with limited population and likely in-residence priestly caretakers. This is clearly a simplistic summation of the dynamics of interaction/negotiation and change through time but is useful in pointing out that there is not one answer to finding the historical precedent of platform mound construction/engagement.

Alignments

A significant number of Lower Mississippi River Valley (LMRV) sites are known to have cosmic alignments (Romain 2014, 2019; Sherrod and Rolingson 1987). Early research conducted by Sherrod and Rolingson (1987) examined 33 sites that cut across all "culture areas," Coles Creek, Plum Bayou and Early Caddo. Seventy-three percent (*n*=24) of those examined were found to have significant solar alignments that orient the site plan/layout. In other words, some had a site grid. The sites they examined included Toltec, Spiro, Crenshaw, and Cahokia, among others. Sherrod and Rolingson (1987) did not find any pre-Coles Creek period sites with alignments. This is not to say that cosmic alignments begin with the terminal Late Woodland era. We now know that the Archaic sites of Poverty Point and Watson Brake (Romain 2014, 2019) have solar alignments, and the Middle Woodland Hopewell sites have both solar and lunar alignments (see Romain 2000, 2019). Recently, archeoastronomy researchers have shown that a number of Mississippian sites with solar alignments also have lunar alignments (Herrmann 2021; Pauketat et al. 2017; Romain 2015a, 2015b). Sherrod and Rolingson comment (1987:129),

> [T]he late prehistoric Indians of the Lower Mississippi River Valley had a body of knowledge concerning celestial phenomena and mound engineering that provided principles for planned construction for ceremonial centers and that these principles can be discerned in the arrangement of site features, such as mounds.

Embedding a living cosmos into and with a living landscape using precise measurements is a deep tradition expressed differently through time. Using earth (colors and soils) to tether the cosmos and orient people, spirits, animals, and other forces, is a body of knowledge specifically bundled within different ontologies. In other words, the cosmologies that bind them together differ by people through time. However, regarding a Cahokia Mississippian world, it is the relationality of these practices that is significant. There is intentionality to connect all things through time and place (space). In other words, each place might differentially negotiate their contribution toward and participation in the wider *materialities* of Mississippian, but participation in mound building and ceremonies at mound places automatically connects them within a larger relational field or Mississippian animic geography. Thus, platform mounds and their cosmic alignments might not be the negotiable parts of a missionary bundle and might be a founding principle.

Summing up the pre-Mississippian South

Where does this brief examination leave us regarding potential origins for platform mounds, cosmic alignments, and special structures bundled into missionary practices? The data examined indicate that there are strong similarities between Troyville and Fourche Maline mound sites – flat top mounds, death, feasting, and fire. The Fourche Maline (ancestral Caddo) sites (e.g., Crenshaw) often included burning a non-domestic building and then constructing a platform mound over it using special colors and soils (Regneir 2017). Burials would be placed into the mound as ‘shaft graves.’ Feasting middens recovered surrounding the site are often found beneath mounds (see Girard 2018; Perttula 2012; Regneir 2017; Rogers 1991). Troyville sites (e.g., Troyville) include constructed platform mounds using specific colors and soils. Plazas were a part of the site plan, and that plan was sometimes oriented cosmically (see Kidder 1991, 2004; Sherrod and Rolingson 1987). There was a probable association of feasting and mound construction with evidence of feasting found within the middens on the flanks of or beneath mounds and at the edges of plazas. Thus, it seems the participants maintained clean spaces. Differences include no submound/pre-mound burned building, no buildings on the platforms, large fire pits as a part of the burial process, and some residential populations (Kidder 1991).

During the Coles Creek Period (~700 CE), archaeologists note a shift regarding the three culture groups/areas – Coles Creek, Formative Caddo, and Plum Bayou. Coles Creek people move out of the mound centers with the exception of “religious caretakers” (see Kidder 1991:149). Some platform mounds might have had structures on them, but it is not a recognizable pattern. Kidder (1991:149-150) believes there is a significant shift in the accessibility of Coles Creek centers happening during the latter part of the period (~800-1000 CE). New mounds are constructed around plaza areas, thus restricting access to space and likely knowledge that Kidder (1991, 2004) implies would have been more communal previously.

The Plum Bayou information primarily comes from work done at the Toltec site and even still, there is not a comprehensive compendium of information to summarize. The big takeaways are this – Toltec (750-1050 CE) is one of the earliest verified places with bundled orientations of both solar and lunar (Romain 2015a; Sherrod and Rolingson 1987). Feasting is tied to mound construction with middens at the base of some of the mounds (Alspaugh 2014; Nassaney and Cobb 1991). All three culture areas had distinct connections between feasting and mound constructions. In many cases, extensive middens were established prior to any mound construction.

> Establishment of places of public ritual prior to earthwork construction appears to have been a common occurrence for Late Woodland ceremonial centers, including early occupations at sites such as Mounds Plantation in northwest Louisiana…The impetus for the Late Woodland elaborations was social integration – public ceremony to attract and organize dispersed populations. It is not clear why integration became important at this time. In the central Louisiana region, there were no apparent links to economic changes such as increasing dependence on farming (Girard 2018:715)

The placement of a plaza or *gathering* space prior to mound construction, could be thought of as the mission; pulling people into a new relational field of ceremonies, orientations with the cosmos, and feasting. At the Coles Creek Feltus site, a series of post pits (one dated to 780 C) were put in place, then removed and filled with midden debris, sometimes with human remains, and often with clays. A large midden was found at the edges of a plaza – the same plaza that would later be surrounded by mounds (Steponaitis et al. 2015). In addition to paired cosmic orientations, there is some evidence supporting the existence of structures on platform surfaces, but this is tenuous. It is one of the earliest sites with extensive geographical connections and there are most assuredly connections with contemporaneous Coles Creek people, Early Caddo, and the shell tempering pottery people of the Missouri bootheel (Lafferty 2008).

Changes were also occurring with the ancestral Caddo, notably between northern and southern groups (Rogers 1991). It would seem that within the southern region (such as George C. Davis), religious traditions continue with the mound construction pattern - burning a structure, building a mound, then building another structure. Circular structures are the noted shape here (see Walker and McKinnon 2012), which differs from the rectangular structures in the north (see Rogers 1991). During the time span between 600-900 CE, Rogers (1991:234) sees a very specific process of interaction occurring in northern Caddo area, calling it "Caddoanization," which has immediate familiarity to any Mississippian archaeologist (i.e., Mississippianization). Again, he states,

> *Caddoanization* refers to the spread and incorporation of certain characteristics including increasing sedentism, the construction of several types of mounds associated with a hierarchical settlement pattern, engraved ceramic decoration, increased evidence for maize horticulture, and a ranked form of social organization (Rogers 1991:234).

While the term itself suffers from the same unintended cultural evolutionary baggage as Mississippianization (see Chapter 2), its use highlights significant, possibly intentional change. In fact, Rogers is describing a process of ontological change, one that is centering a missionizing component. Referring to the Early Caddo period sites/areas outside of the four biggest ceremonial centers (George C. Davis 800-1200 CE, Crenshaw 900-1200 CE, Mounds Plantation 900-1200 CE, and Gahagan 1050-1400 CE) Regnier (2017:190) states,

> I argue here that the adoption of Caddo ideology, rituals, and material traits at sites outside the four major centers occurred much earlier than the selective adoption of aspects of Mississippian ideology and material culture across the Caddo world (Regnier 2017:190).

This is an important point – southeast archaeologists, including Regnier, have long been saying that there is a distinctly Southeast *religious* flavor to practices such as mound construction, site organization, subsistence, and certainly ceramics long before Cahokia's urbanization (Girard 2020; Perttula 2012; Rogers 1991; Sherrod and Rolingston 1987). Her statement is likely a counter to earlier, more dominant theoretical perspectives concerning Cahokia Mississippian and the "Mississippianization" of the southeast after 1050 CE that were grounded in structural-functionalist notions of political powers dominating a materialist economy. A large majority of recent research and literature from the last decade would actually agree with her religious lens approach and recognize that the similar practices she claims as distinctly Caddo because of their religiosity might very well be enmeshed within the larger connectedness of what would become the Mississippian world.

Indeed, many Mississippian archaeologists throughout the Southeast and Midwest recognize there is not a one-size-fits all Mississippian "Mississippianization". There is not a Mississippian stamp that creates clones from one place to another, something that earlier archaeologists may not have intended to imply with their trait lists and political power and economic interpretive lenses. The historical threads of religious practices that would become central to a Cahokia Mississippian religion seems to be the result of a knot of interactions between a vibrant region during the Late Woodland period of the Southeast.

Referring to the Toltec site, Pauketat (2021; see also Pauketat and Alt 2015) has argued that the platform mound tradition, the gatherings/feasting, relational geographies, and lunar alignments, are a reanimated knowledge bundle possibly drawn from earlier Marksville (Middle Woodland) peoples. Toltec is abruptly abandoned at 1050 CE and that bundled knowledge is possibly brought to Cahokia itself (Pauketat 2017a, 2021). In other words, possible Cahokian ancestors were at Toltec with the Troyville/Ancestral Caddo bundled knowledge of plazas, feasting, mounds, and cosmic alignments. These people were also engaging with northern Caddo, who were practicing a particular Caddoanization process with local Late Woodland groups, and the shell-tempering people of the Missouri bootheel. If this was a religious bundle of world orienting practices with an intent to convert/enfold and brought to Cahokia, where it was added to/built onto, then we should see a transformative construction of the cosmos into the landscape and an influx of people to be *gathered* and proselytized to.

> "These other gods, when they had created these people, had also given them bundles. So these people had the bundles, but the ceremony they did not know."
>
> -Roaming-Scout, Skidi Pawnee Priest

## Cahokia

### Pre-Big Bang at Cahokia

In the introduction, I laid out an overview of Greater Cahokia's fluorescence and subsequent dimming starting with the Big Bang at ~1050 CE. If Cahokia Mississippian missionaries were journeying out from Cahokia to begin tethering the world at the Big Bang, what was happening at Cahokia leading up to it? Was Cahokia the first mission? By 1000 CE a bundled set of ideas and the beginnings of a new religion based in the cosmos was being planned and physically built into the landscape, inviting all persons, powers, and things within a growing field of relations (Alt 2020b; Baires 2014a, 204b, 2017; Pauketat 2013a, 2017a). Just prior to 1050 CE, the old, scattered villages of Greater Cahokia were built over, a lunar-aligned city axis combining the living and the dead was in place, and the construction of a monumental Grand Plaza with a series of guardian/ancestor posts (see Skousen 2012 and Pauketat 2013a) were positioned in specific locations around what would become "Downtown Cahokia" (Alt et al. 2010; Baires 2014, 2017; Dalan et al. 2003; Fowler 1999; Pauketat 1998a). Single post house construction abruptly changed to wall trench construction as immigrants poured into the new city. Temples for processing and housing ancestors were built, used, dismantled or burned and then built over with colored clays and soils into mounds.

Research from the past two decades at Cahokia has built upon and refined previous data to weave together a cohesive timeline of Cahokia's core beginnings (see Baires 2014, 2017; Dalan et al. 2003; Hargrave 2011; Pauketat 1998a, 2013b; Schilling 2010, 2013). The latter half of the Terminal Late Woodland period (950-1050 CE) marks the beginning of an abrupt reorganization of the core, or downtown Cahokia (Baires 2014; Collins 1990; Holley 1989; Fowler et al. 1999; Kelly 1980; Pauketat 1993, 1994, 1998b; Pauketat et al. 2002). Downtown Cahokia encompasses a "core cluster of mounds, plazas, and habitation areas." (Pauketat 1998b:1) (Figure 1.3). The largest earthwork at Cahokia is actually the Grand Plaza (Dalan et al. 2003; Alt et al. 2010), a large (over 20 ha) filled and flattened landscape feature extending from the base of Monks Mound to the 'twin mounds', mounds 59 and 60. In addition to the Grand Plaza, I want to focus on the construction and placement of the heart, or core, of what would become Cahokia including Mound 72, Rattlesnake Causeway and Mound, and Monks Mound. Just before 1050 CE an organized and planned construction of the literal cosmos began.

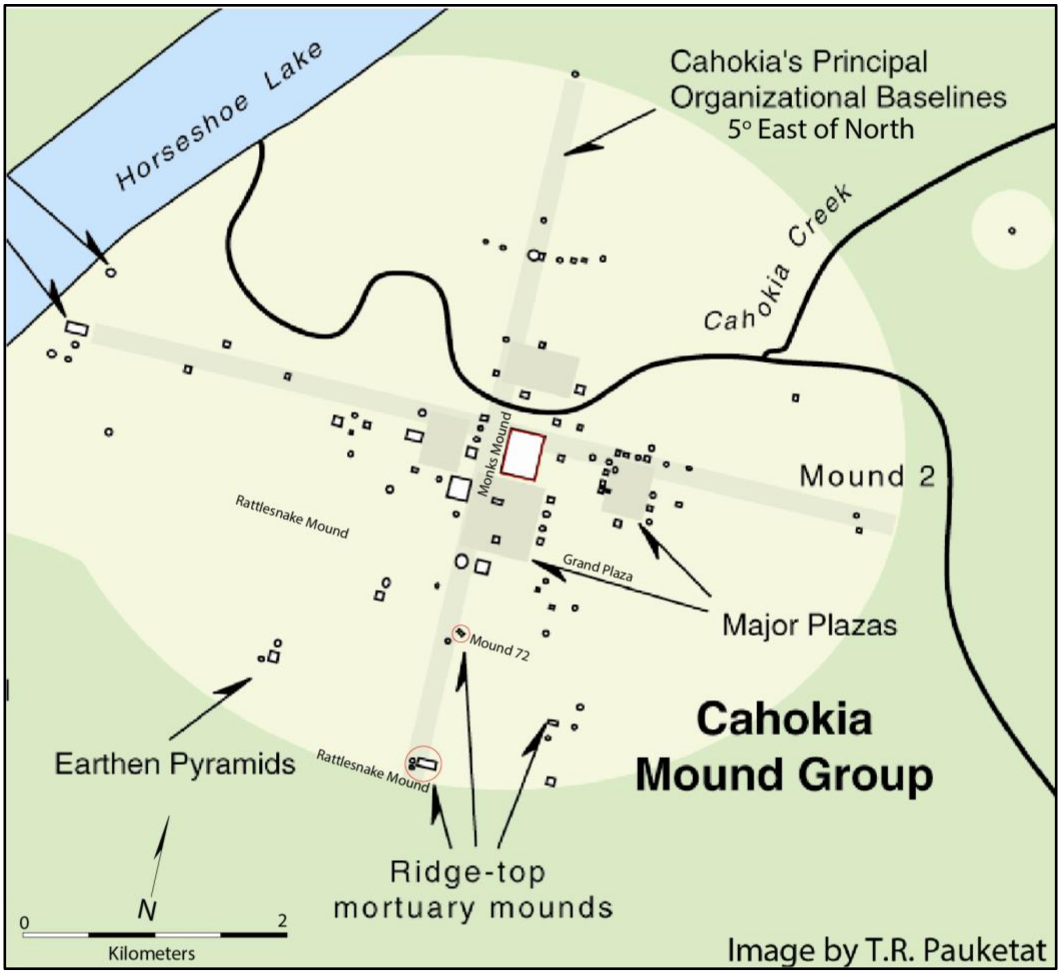


Figure 1.4. Cahokia's Primary Axis and Core Constructions; Grand Plaza, Rattlesnake Mound and Causeway, and Monks Mound. Altered from original image with permission of T.R. Pauketat.

**Mound 72 – Complimentary Creation**

The specific entanglements and practices at Mound 72 add nuance to the timeline and story of Cahokia's downtown beginnings. This will be a simplified overview. For a more detailed understanding of the excavations and analyses see Fowler (1999) and Emerson et al. (2016). The compacted chronology of Mound 72 is a series of pre-mound structures, burials and feasting activities, followed by the construction of two subsequent platform mounds with continued burials (many of them mass burials), and a final capping event using clay to give it its final ridge-top shape (Baires 2014; Fowler 1999). The first constructions are a post pit (dating to 950 CE), a wall trench structure with bundle burials, and a series of middens. This combination recalls the posts/middens/plaza combination at Feltus combined with Early Caddo doings of temple construction, decommissioning (almost always burned) and then built over. A secondary midden associated with another subsequent burial sequence dates to 1015 CE. The newest data and reanalysis of the burials from Mound 72 show that the famed supposed falcon warrior beaded burial was not as it first seemed (Emerson et al. 2016). In fact, their reanalysis showed the primary burial (long assumed to be two men) was actually a female/male pairing and that the majority of the "retainer" remains were also paired interments, leading them to comment that it more closely resembled "broadly held creation myths among the plains-prairie native groups (especially the Caddo)." (Emerson et al. 2016:421). Emerson et al.'s (2016) newest dates for this set of interments are subject to adjustment but are currently assigned a range of 991-1023 CE. Emerson et al. (2016) provides the following overall chronology for the doings at Mound 72:

- Pre-1000 CE: Post Pits and Charnel House with burials.
- Pre-1050 CE: Middens, 1st platform construction over first series of features and the primary burials.
- 1050-1150 CE: Mass Burials, final construction and capping into a ridge-top.

Following recent work by Romain (2015a) and Pauketat (2013a, 2017a) showing the moon and lunar alignments (discussed below) as central to Cahokia's reorganization, Emerson et al. (2016) argue, the very first interments at Cahokia were likely citing the moon; complimentary dualities of Caddo creation histories – the first woman and the first man. The following quote is from Roaming-Scout's (Skidi Pawnee Priest) retelling of the Dispersion of the Gods and the First People[6] (Dorsey 1904a:6-7), "Afterwards, in the winter-time, was born to Great-Star and Bright-Star a female child…About this time, another child was born to the Sun and Moon. It was a

6 In this recounting of the origins of the first people, Roaming-Scout uses the names Bright-Star for Evening Star and Great Star for Morning Star.

male.” Earlier in the story, Roaming-Scout recounts the creation and placement of the gods, each one has a female/male counterpart (see Dorsey 1904a:3-6).

**The Cahokia Cosmos**

Previous research recognized solar solstice alignments at Cahokia (Sherrod and Rolingson 1987) and the prevailing interpretation of the city itself has been “The City of the Sun,” even though a solar alignment could not explain the hypothesized (at that time) site axis, which is 5$^{o}$ east of north (see Reed. In ‘archaeological’ contemporaneity with the construction of the causeway is Rattlesnake Mound, Mound 72, the Grand Plaza and at least the base platform for Monks Mound. Excavations have shown that the construction of the first iterations of these features (excluding the plaza) were rapid (within a few years or decades). The Grand Plaza is thought to have been completed or near completed by 1050 CE (Alt et al. 2010; Dalan et al. 2003). Archaeological tests into Monks Mound and the Grand Plaza reiterate a set plan and design for the completed build. No rebuilds or reorientations, they were finished as they were first intended (Dalan et al. 2003; Schilling 2013). Rattlesnake Mound and Mound 72 are a specific type of mound recognized as burial spaces and named ridge-top mounds/mortuaries based on their final ‘hipped-roof’ or ‘loaf’ shape (Pauketat 2010). Baires (2014, 2017) has shown that the preparations and constructions of these specific features are foundational to the city. Bolstering this argument is the recent reanalysis of the burials at Mound 72 (Emerson et al. 2016), recounted above.

Primary to the orientation of the would-be city is Rattlesnake Causeway. A 752 m long and 18 m wide raised causeway constructed through marshy, watery and boggy areas of the southern portion of the site leading directly to the Grand Plaza, and if the line is extended – directly to a small circular mound on the summit of Monks Mound (Baires 2014, 2017; Pauketat

2017a). The verification of the Rattlesnake Causeway cements the idea that Cahokia has a primary site axis from which the rest of the site is built, oriented, or referenced and the orientation of that axis is 5° east of north. Recently, this peculiar alignment has been shown to be the mirror of a precise celestial event that occurs once every 18.6 years; a major lunar standstill or specifically a lunar maximum southern rise (Romain 2015:34-36).

Cahokia's site line and organization were constructed to mirror a lunar standstill creating a liminal space on land that at once tied together the underworld, the upper world, and the lived-in-world… (Baires 2014:100). Even more, Romain (2015a:36) explains that the 'flip' or mirroring of a "perfectly good lunar alignment" (i.e., earthly perspective) is from a sky perspective. In other words, the construction of Cahokia's core was planned from a sky perspective – literally as viewed from the cosmos. A place where the cosmos, earthly, and underworld realms are connected.

> Cahokia's beginnings consisted of new and complex relationships based in a unique ridge-top mortuary program, lunar movements and alignments that likely informed a 'New World Order', literally rearranging people and things personifying the cosmos, presencing the dead, and uniting the living world with that of the lower and upper worlds (Baires 2014a:101).

This is the Skidi Pawnee story of creation – uniting the worlds. Romain (2015a:37) further demonstrates that alignments from submound doings, including the first temple to nearly every interment thereafter, references the "normal" moon maximum southern rise alignment, i.e., an earthly perspective (Figure 1.5) (Romain 2015a:37).

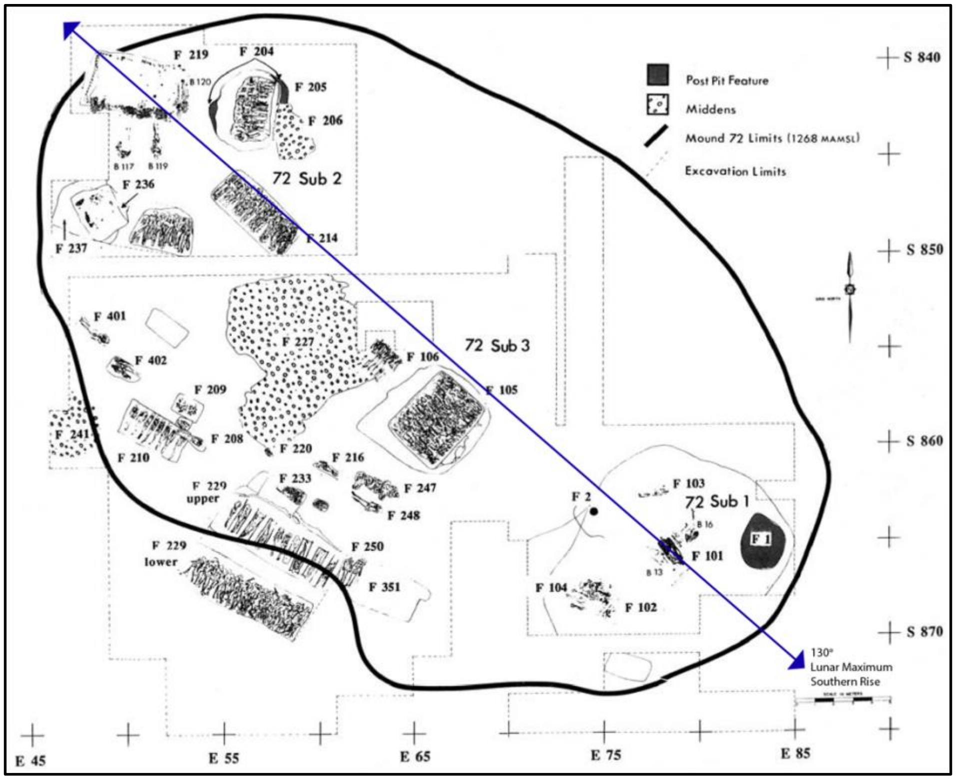

Figure 1.5. Mound 72 with Lunar Alignment. Figure altered from Fowler 1991:Figure 1.3.

Drawing from Skidi Pawnee histories of the creation of the cosmos[7], we can further hypothesize the intended cosmological embodiment of the core of Cahokia (see also Pauketat 2013a). As the northernmost point on the Cahokia axis and the largest and tallest mound, Monks Mound is almost exhaustively referred to or cited as the home of the chief/chief priest/most elite individual/s. The labels themselves are not important here, the place itself was of extreme importance. Excavations of the summit revealed "several elaborate pole-and-thatch buildings, including a hall or temple as large as some medieval European palaces. The great building was the largest known at Cahokia, covering at least forty-three hundred square feet…" (Pauketat et al. 2015:25). Pauketat and coauthors continue,

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7 As I previously mentioned, there are a minimum of 26 likely descendant tribal nations with some connection to Cahokia. Each of their oral histories should be incorporated (along with collaboration) into archaeological interpretations. While I primarily draw upon the stories told from Skidi Pawnee priests, this is not to preference their histories/stories as 'more Cahokian' than any other. The detailed religious origins and intents of many of their oral histories I find to be more useful in my current interpretations of Mississippian missionaries.

> Next to this building, an upright post rose nearly twenty feet skyward. It might have been an important marker of a powerful ancestral spirit. Nelson Reed, the archaeologist who excavated it, thought it might also have been a lightning rod. Copper bits found where the post wood had once been could mean that part of it was sheathed in copper. When the excavators put up a modern post in the same spot, lightning struck it repeatedly (Pauketat et al. 2015:25).

If, as several lines of data currently seem to suggest, that the Cahokia axis and therefore, primary alignment of the city core was intended to be a precise sky/cosmological perspective that cited the *mirror* of a moon maximum southern rise, then it is not too far to suggest that certain points on this literal cosmological axis might also be important stars or gods as their physical emplacement within the cosmos (Pauketat 2013a). Specifically, north, and south citing Monks Mound and Rattlesnake Mound respectively. Roaming-Scout, a powerful Skidi priest and one of Dorsey's (1904a:3-8) informants, recounts how Tirawahut (the Universe-and-Everything-Inside) places all the gods in the cosmos. The following is extensively quoted from that story (Dorsey 1904a:3-6).

> Tirawa spoke to the gods, and said: 'Each of you gods I am to station in the heavens; and each of you shall receive certain powers from me, for I am about to create people who shall be like myself. They shall be under your care. I will give them your land to live upon, and with your assistance they shall be cared for. You (pointing to Sakuru, the Sun) shall stand in the east. You shall give light, and warmth, to all beings and to earth.' Turning to Pah, Moon, Tirawa said: 'You shall stand in the west to give light when darkness comes upon the earth.' – 'Tcuperekata, Bright-Star (Evening-Star), you shall stand in the west. You shall be known as Mother of all things; for through you all beings shall be created.' Turning to Operikata, Great-Star (Morning-Star), Tirawa said: 'You shall stand in the east. You shall be a warrior. Each time you drive the people towards the west, see that none lag behind.' – 'You' (pointing to Karaiwari, Star-that-does-not-Move, North-Star) 'shall stand in the north. You shall not move; for you shall be the chief of all the gods that shall be placed in the heavens, and you shall watch over them.' – 'You' (pointing to another star), 'you shall stand in the south. You shall be seen only once in a while, at a certain time of the year. You shall be known as the Spirit-Star.'

Tirawa continues by naming the four world quarter gods/stars – Northeast (black), Northwest (yellow), Southwest, and Southeast, and instructs them to hold up the heavens, thus connecting earth and sky. Roaming-Scout continues,

> After all had received instructions from Tirawa, he commanded the gods to take their different stations in the heavens. The Stars of the Four Directions still remained with Tirawa. Tirawa then turned to the west and said to Bright-Star: 'I will send to you Clouds, Winds, Lightnings, and Thunders…These four gods shall be the ones who will create all things.'

> Now Tirawa told Bright-Star that he was ready to make the earth; that she should tell the gods to sing, for he was going to drop a little pebble. So these gods began to rattle their gourds and sing. As this was done the Clouds came up. The Winds blew the Clouds. The Lightnings and Thunders entered the Clouds. The Clouds were placed over the space, and as the Clouds were now thick, Tirawa dropped a pebble into them…When the storm had passed over, there was in the space all water. The four world quarter gods who still sat around Tirawa were now given war-clubs, and were told that as soon as they touched waters they must strike them with their clubs.
>
> This striking of the water separated the waters. So now the earth was made. After the earth was made, Tirawa commanded Bright-Star to tell these gods to sing, and the song was to be about the formation of the earth. So the four gods sang, and the Clouds came up, and the Winds and Lightnings, and Thunders. While the four gods sang about the formation of the earth, the storm passed over the earth, and as the Winds blew, it rained, the Lightnings striking in the ground, to put life in the earth. Then the thunders shook the earth, so that in parts where the earth was not level the dirt slid down into the valleys.

As the living embodiment of the cosmos, the creation of Cahokia's primary axis is mirrored in the Skidi histories of the creation of the universe and of all things. Even more so when you add the entanglements and practices at Mound 72 (see Emerson et al. 2016). Every aspect of the immediate time leading up to the 'Big Bang' was an organized cosmological creation. Again, if a religious bundle of world orienting practices with a missionizing intent was brought to and subsequently entangled within Cahokia, then we would see transformative cosmological constructions being built into the landscape that draws people to be proselytized to. The above review illustrates that this is indeed the case. With the history of plazas being hypothesized gathering places and often tied to feasting, is this something we see at Cahokia?

The Grand Plaza at Cahokia was a founding construction just prior to the Big Bang and hypothesized to be able to hold at least 10,000 people (Alt et al. 2010; Dalan et al. 2003). A large pit filled with feasting debris, ceremonial debris – some associated with priests (paints, medicinal plants, etc.), and human remains were recovered from beneath mound 51, a mound along the east edge of the plaza. In other words, the pit was likely a large borrow for the construction of Monks Mound and was filled with feasting residues as part of the plaza construction and subsequently built over with Mound 51 (see Pauketat et al. 2002). Other feasting middens were documented in submound activities for Mound 72 and are associated with its earliest constructions and interments.

There is convincing evidence that the short time leading up to and at the Big Bang evinces the cosmological foundations for a new religion encompassing:

- An urban foundation built from a cosmological perspective and incorporating combined Southeastern elements that become the Mississippian missionary bundle including,
  - Structured (i.e., colored soils, specific soil textures) mound constructions
  - Cosmic Alignments (solar and lunar)
  - Religious/special temples/buildings built beneath and atop platform mounds
  - Feasting and middens associated with earthwork construction and burials
- A place of proselytizers – physically orienting newcomers to a new religious orientation
  - Mounds as living missionaries
  - Plazas as spaces of proselytizing
  - Cosmic alignments and pathways orienting experiences and world views

Dalan and her coauthors noted the suggested proselytizing component to the Cahokia core,

> Our reading of early construction at Cahokia is that this process took on an *evangelistic* slant. In a sense, Cahokia was a ritual 'Boomtown' where a vision of or plan for the future (symbolized by monumental works such as Monks Mound and the Grand Plaza and later ceremonies associated with the construction, use, and maintenance of these features) was used to *convince* people to join in the creation of the monumental community that it became (Dalan el al. 2003: 111, emphasis mine).

By 1050 CE, the gathering of and from the cosmos creating the heart of Cahokia is laid out and the subsequent reverberations can be seen as a *gathering to* Cahokia (see Alt and Pauketat 2017). People, things, and ideas are moving quickly into the new city and just as quickly, traveling out. A recent isotope study measuring $Sr^{87}/Sr^{86}$ between molars concluded that the primary female of the pair (F. 101, Burial 14) was "born in, or to a mother from, the

American Bottom, but may have spent her childhood and adolescence outside the region." (Slater et al. 2014:125). I return to this specific discussion in Chapter 6, suffice it to say, there is significant evidence that indicates missionizing was a core component of the new Mississippian religious world.

### Closed-Man sends an Errand Man

> "Closed-Man now sent the errand man to invite the neighboring people to come and receive their ceremonies. The errand man went to the west. He found a village of four large-sized lodges – one built in the northwest of the village, one in the northeast, one in the southwest, and one in the southeast. This man went to these lodges and invited them to come. One of these men said: 'We will come, for we were told by our god that a certain man was to gather the people together, who would become chief of the tribes.' The errand man went north and found some more people. He knew them. They said they would come. The errand man kept on finding people here and there, and he invited them. At last he came to the Elk Horn River, and here the medicine-men were having their performance. They refused to take part in the ceremonies, for they said that their god had given them certain powers, so that they could hold their own ceremonies themselves. The errand man went east and found another people, who were living in earth lodges, the entrance of which faced west…Their ceremony they knew, so that they did not go. The errand man went south and invited the southern people. Then he went on around the southwest, and invited all the people that he found." (Dorsey 1904a:10-11).
>
> \- Roaming-Scout, Skidi Pawnee Priest

### The Mississippian 'Big Bang'

Many archaeologists grapple with this particular archaeological "moment" and how it might relate to the places outside of Cahokia, in many cases a significant distance away. As I briefly discussed in the introduction, once a recognizable "trait list" was identified from Cahokia, (heavily leaning on the presence or absence of shell tempered pottery, specifically the presence of Powell Plain or Ramey Incised) several theoretical models were put forth. These models ranged from diffusion via migration/emigration, militaristic colonization, extractive colonies, demands of a state, trade and distribution center, and simple emulation (e.g., Conrad 1991; Finney 2000; Gibbon 1974; Kelly 1991a, 1991b; O'Brien 1991; Peregrine 1992; Porter 1969; Steadman 1998; Stoltman 1991; Tiffany 2003).

All of these models are framed within political and economic constructs and nearly all were centered on a core-periphery type model that were deeply embedded within representationalist and cultural evolutionary frameworks. These models erase and ignore the individual histories and experiences of those in the 'periphery.' Many early researchers flatly rejected religion as a primary causal factor for Cahokia's existence, let alone a possible mechanism for culture change and the ensuing multiplicities of entanglements (see Emerson 1991, 1997a, Hall 1991, 1997, and Riley and Apfelstadt 1978 for exceptions). As I introduced it in the Introduction and discuss more in depth in Chapter 2, I won't rehash the last decade of research that convincingly shows that indigenous religious practices and specifically, a new religion, was one of the primary factors in Cahokia's beginnings. Some scholars have suggested hybridity or creolization theoretical lenses through which to examine the identity formation process of 'Mississippianization' (Alt 2006a; Millhouse 2012; Pauketat 2002). These are excellent at thinking through the '*what'* questions, i.e., what happens when contact/interaction/entanglements occur. Like more recent discussions focusing on Mississippian beginnings, they fall short of getting at the *why* and *how* kinds of questions underlying 'Mississippianization' (Wilson 2017). It is here that missionary practices can add a great deal of nuance to interpretative discourse.

The remainder of this chapter briefly introduces regions of study dealing with the instantaneous impact (archaeologically speaking) of Cahokia's big bang, ending with an introduction to the case study site, the Collins Complex. I refer the reader back to Figure 1.1 for a visual of all sites discussed in this section. A number of these sites will be examined comparatively in greater detail in the following chapters.

**The Richland Complex – American Bottom Uplands**

The Richland Complex is a locality within the Greater Cahokia region situated in the uplands just to the east/southeast of Cahokia proper. Some of the more significant sites include the multi-mound lunar complexes at the Emerald Acropolis and Pfeffer Complex, and Knoebel, Grossman, and Halliday – farming villages (Alt 2006a, 2006b, 2012; Pauketat and Alt 2005, 2017; Kruchten 2012; Pauketat and Alt 2005, 2017). All of these sites were founded at 1050 CE or a little before, "at the same time as the dramatic population increase at Cahokia proper and the dissolution of the large Terminal Late Woodland villages in the American Bottom floodplain" (Alt 2006a:75). The villages highlight the uniqueness of daily experiences and negotiations of participation within a new religious worldview. These include specialized architecture such as T and L-shaped buildings, sweat lodges, large public buildings and temples, hybrid ceramics technics/forms, and hybrid wall constructions (faux wall trenches) (Alt 2006a). The Emerald and Pfeffer Complexes are multi-mound religious spaces designed within specific lunar orientations. In addition to a combination of rectangular platform and circular platform mounds, both complexes have a full suite of temples, a combination of single post and wall trench buildings, specialty structures such as T-shaped, rotundas/sweat lodges, and council houses. A temple from Emerald dates to the Terminal Late Woodland Edelhardt phase (1000-1050 CE), possibly the earliest structure at either complex (Alt and Pauketat 2017; Pauketat and Alt 2017). The Emerald Acropolis also exhibits convincing evidence for pulses of pilgrimage (see Pauketat 2013a and Skousen 2016, 2017).

**The Central Illinois River Valley (CIRV)**

The communities along the Illinois River in West-Central Illinois are another great example of the diverse ways in which a Mississippian missionary bundle is engaged, negotiated, and experienced. The CIRV has a rich history of Mississippian experiences that begin just at 1050 CE and continue through the 1300s. The earliest sites of reported contact include the Rench, Fandel, and Lawrenz sites. One of the most noted problems with understanding the CIRV is a lack of radiocarbon dates. However, there is a concerted effort to change this. A recent Bayesian analysis of a series of radiocarbon dates from the Lawrenz Gun Club site indicates early contact at just before 1050 CE. The site itself is the largest in the CIRV and comprises at least 10 mounds – primary mounds are platforms, a large, central plaza, and many structures (some of which were identified on/beneath the mounds) (Krus et al. 2019:715). The Rench site is a small, possible farmstead with just two structures: one wall trench and the second, possibly single post. There is a combination of Late Woodland and Mississippian style ceramics and both structures were burned. One of the structures exhibited a combination of single post and wall trench techniques and dated to ~1050 CE (McConaughy 1991). The Fandel site is an early Lohmann phase (1050-1100 CE) mound center with mound temples, possible structures off mound, possible plaza, and a mix of Late Woodland and Mississippian ceramics (Esarey et al. 2017). A magnetometry survey was conducted over the site and showed several promising anomalies. This site is currently being investigated.

**The North**

The northern hinterlands of interest include the Apple River Valley (ARV), Trempealeau, and Aztalan. The ARV sites of interest, with dates at or just after 1050 CE, include the John Chapman site, Mills, Lundy, and Fred Edwards. This region has been a significant part of Cahokian hinterland conversations for more than 30 years (see Emerson 1991; Emerson et al. 2007; Finney and Stoltman 1991; Millhouse 2012; Wilson et al. 2017). The John Chapman and Mills sites are multi-mound centers with associated village areas. The John Chapman site has platform mounds, a plaza, and single post architecture. Earlier mound excavations revealed feasting debris including charred maize (Millhouse 2012; Wilson et al. 2017). There is a possible mound (plowed down) with an associated charnel structure/temple. Shell beads have been reportedly collected from surface scatters and remote sensing has indicated the presence of a possible submound structure (Hargrave 2005; Wilson et al. 2017). The Fred Edwards site is a small, fortified village consisting of rectangular structures surrounding a plaza (Finney and Stoltman 1991; Wilson et al. 2017).

The Trempealeau Complex is a multi-mound complex situated along the Mississippi River in west-central Wisconsin dating to or just before 1050 CE (Boszhardt and Benden 2019; Pauketat et al. 2015, 2017). To date, Trempealeau is understood to consist of two areas, the Little Bluff Complex and the Uhl Complex (Boszhardt and Benden 2019). The Little Bluff Complex was a massive engineering project that transformed the bluff top into a terraced platform mound, causeways, and remnant borrow pits that overlook the Mississippi River. A single post structure with noted yellow and black floor is identified as a possible "shrine house" similar to those recognized at the Emerald Acropolis (Alt and Pauketat 2017; Pauketat et al. 2017). The Little Bluff Complex mounds were also found to have lunar alignments (Pauketat et al. 2017).

Recent investigations on the terrace just below the bluff also verified another platform mound along with single post and wall trench structures (Boszhardt and Benden 2019). An additional platform mound and another amorphous mound were documented at the Uhl site area, an area on the terrace to southeast of the Little Bluff complex. As a whole, Trempealeau is hypothesized to be directly resultant of Cahokians ambitiously creating a shrine complex by reorienting Little Bluff into the greater Mississippian religious landscape (Pauketat et al. 2015). Unlike other sites I introduced thus far, Trempealeau is currently understood to be a religiously oriented Cahokian intrusion with little to no interaction with local peoples (Boszhardt and Benden 2019; Pauketat et al. 2015, 2017).

The Fisher Mounds Complex is located just south of Trempealeau, Wisconsin. A small farmstead was identified on a fertile terrace of the northern part of the Fisher Mounds Complex. One single post structure and one wall trench structure were identified along with associated features, imported Cahokian chert, and Cahokian pots (Pauketat et al. 2015). This site consists of two or more farmsteads, if not a destroyed series of special Cahokian buildings, that date to the decade/s just before and after Cahokia's Big Bang, with a median date of 1028 CE[8]. Pauketat and his coauthors make an importantly relevant summary here regarding Cahokian entanglements at the Trempealeau and Fisher Mounds Complexes and their seeming lack of interest in local people and resources, "Comparatively speaking, these particulars are strikingly similar to historic-era religious missions around the world, which typically involve missionaries performing non-local practices in exotic lands using their own imported materials." (Pauketat et al. 2015:20-21).

The Aztalan site is a multi-mound complex with an associated village situated along the Crawfish River in southeastern Wisconsin dating to right at or just before 1050 CE (Richards 2020; Richards and Zych 2018). Extensive research has been conducted at Aztalan (see Goldstein and Richards 1991; Price et al. 2007; Richards 1992, 2007; Stoltman 1991; and Zych 2013), which is most recently described as "Middle Mississippian people from Cahokia and/or the greater American Bottom region…established an occupation among an extant Late Woodland occupation." (Richards and Zych 2018:235-236). Like most of the sites introduced thus far, Aztalan also exhibits a combination of single post and wall trench architecture, temples,

8 Median date obtained using Calib Rev8.2 (Stuiver and Reimer 1993) on the published dates from Pauketat et al. 2015: Table 3.

specialty buildings including T-shaped structures, platform mounds (both rectangular and circular), a combination of ceramic techniques and forms, and a charnel temple. The entire site is surrounded by a bastioned palisade, often leading to interpretations concerning conflict with local groups "resisting" being Mississippianized/colonized. Recent cosmological alignments were evaluated by Romain (2015b) and indicate that the site is very specifically oriented to both solar and lunar alignments.

**The East**

Angel Mounds, located along the Ohio River in southwestern Indiana, is a significant mound center consisting of 11 mounds, multiple plazas, temples, dense village areas (later), solar and lunar alignments, and a recognized 'hinterland' of its own (Watts 2020; Watts Malouchos et al. 2021). The chronology of the site has the founding phase just before 1050 CE with associated mound constructions, but no definitive village area (Watts Malouchos et al. 2021).

As an introduction into the region of study from which the remainder of this dissertation will focus, I attempt to summarize the most recent research in the area by Josh Wells (2008). While I disagree with his interpretations and the theoretical framework he draws from, he is attempting to answer similar questions, but from a different angle. The Vincennes phase originated as an archaeological culture defined by ceramics in the region surrounding the confluence of the Embarrass and Wabash Rivers on the Illinois and Indiana border. It was originally defined by Winters (1967) as a group exhibiting a combination of Late Woodland and Mississippian-like practices/settlement patterns. In Wells' 2008 dissertation, he sets out to clarify the Vincennes phase in an attempt to better understand the region's process of Mississippianization. He sees the Vincennes phase "as a heuristically valid archaeological culture. This culture initially resulted from a process of culture change, (Mississippianization) and continually evolved as a process of cultural reproduction." (Wells 2008:61). His cultural evolutionary premise is flawed and deeply problematic in ways I already pointed out earlier, however, by updating Winters' original definition and clarifying 'boundaries,' Wells has shown that the contact into the Wabash occurred much earlier than originally suggested.

There are three sites I wish to briefly introduce here, the Smith-Phelps site, Farrand site, and the Secondino and Shew Mounds. These sites are south and southeast of the study area (Collins Complex) along the Wabash River. The Secondino and Shew Mounds in west central Indiana, records the burials of 29 individuals (juveniles and adults) with associated Cahokian-style pottery (Ramey), marine shell artifacts, a chunkey stone, and hybrid Late Woodland and Mississippian pottery (Wells 2008:121). He notes that the records indicate a marine shell human effigy pendant was also found with one of the interments and was observed to be similar in appearance to the Keller Figurine from the priestly complex, BBB Motor Site near Cahokia (Wells 2008). Based on the interments and associated artifacts, the Secondino and Shew mounds are thought to date to 1050-1100 CE. The Smith-Phelps site is described as an early Mississippian hamlet dating to the latter part of the Lohmann phase (1050-1100 CE). The Farrand site is a slightly larger village site just south along the Wabash River and is likely contemporaneous with Smith-Phelps (Wells 2008).

## The Collins Complex

The Collins Complex is located on the Middle Fork of the Vermilion River, one of three branches of the Vermilion River. The main stem of the Vermilion River drains into the Wabash River near Cayuga, Indiana. Located in east-central Illinois the complex encompasses both bluff and floodplain terrace flanked by the Middle Fork (Figure 1.6). The Collins Complex encompasses three known associated archaeological sites into one larger associated complex, including 11V15 (terrace mound and small occupation), 11V82 (bluff top mound), and 11V394 (bluff top mound). There are an additional three sites that are very likely associated, but they have not been extensively tested (see Riley et al. 1978). These include 11V78 (destroyed possible mound) across the river from the main complex, 11V77 (possible plowed down mound) also west of the main complex, and 11V959 (two possible mounds) reported and recorded by Doug Jackson of the Illinois State Archaeological Survey. The primary site (11V15) is situated within a meander loop of the Middle Fork River on a remnant terrace that measures more than 42 acres (Douglas 1976). In all, the complex encompasses a minimum of three mounds, a plaza, a small occupation, and possibly an additional association of five possible mounds both on the bluff and just west across the river.

The area of study is geographically situated on the east-central side of Illinois and geologically located along the northeastern rim of the Illinois Basin (Frankie 2005). The region still bears the glacial scars of the Wisconsin Glacial Episode. The local bedrock is deeply buried by Pleistocene glacial deposits except where streams and rivers cut into the bedrock (Frankie 2005). These glacial deposits result in thick till deposits (100-200 feet) overlain by secondarily deposited loess. The youngest bedrock deposits below the drifts are of the Pennsylvanian Carbondale and Modesto Formations and include sandstones, shales, limestones, and coals (Douglas 1976:29). There is a salt dome formation that is associated with the LaSalle Anticline which produces saline seeps (Douglas 1976). Historically, both the coal sources and salt evaporation works were strong industries in the region.

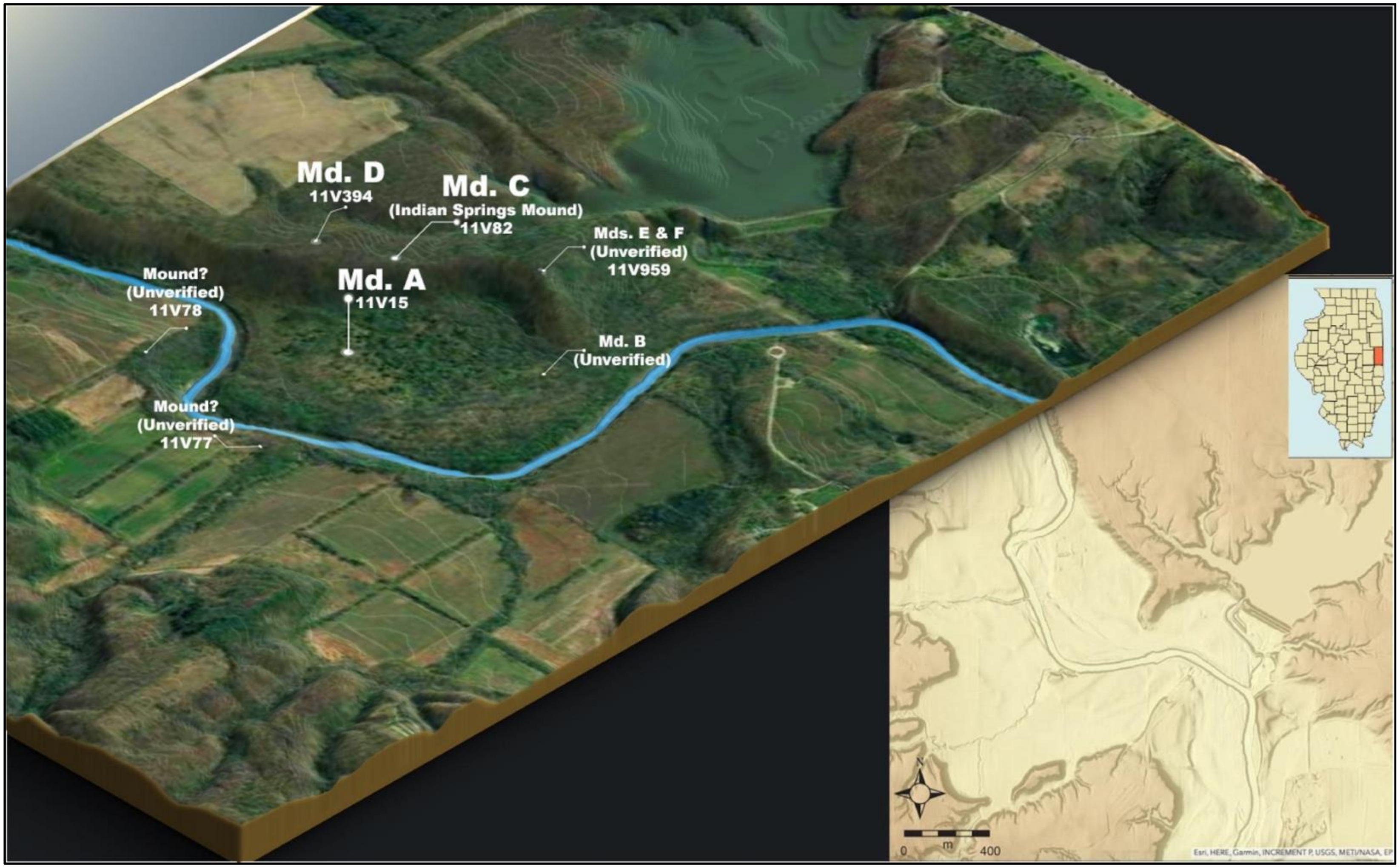


Figure 1.6. Map of the Collins Complex. Top image shows the Collins Complex in relief with labeled mounds.
Bottom right image is a LiDAR map of the Collins Complex.

As a result of historic-era strip mining, no direct archaeological evidence is known to date that examines precolonial use of the saline seeps. A third industrially important mineral resource for the area was clay, leading the Western Brick Company of Danville to be the world's largest producer of brick for a time (Douglas 1976).

The Vermilion Basin includes the triple-branched Vermilion River and is one of the largest western tributary systems to the Wabash (Figure 1.7), having a combined drainage area of 1435 $mi^2$ (Douglas 1976:25). The Salt Fork, named for its salt seeps, is the western-most branch of the Vermilion River and meets the Middle Fork just southwest of Danville, Illinois. The central branch, the Middle Fork, is the longest branch, running 83 miles with a watershed of 438 $mi^2$ (Douglas 1976). Developing along the Middle Fork is a "long stretch of broad, single-terraced floodplain in its middle and lower valley, unlike the Salt Fork which has little floodplain except in its last few miles of flow." (Douglas 1976:25). The eastern-most branch of the Vermilion River is the North Fork. The Salt Fork and Middle Fork run together for 4 miles, creating a deep valley with significant relief, before joining the North Fork within the Danville city limits (Douglas 1976). The combined Vermilion River flows 23 miles southwest before joining with the Wabash River in Vermillion County, Indiana. With regards to being connected to a much wider geographic area, the "Salt Fork headwater tributaries are a short distance from tributaries of the Embarras River which drains to the Wabash, Kaskaskia River which drains to the Mississippi River, and the Sangamon River which drains to the Illinois River. In combination with the areas reached by both the Middle Fork and North Fork headwater tributaries, the Vermilion Basin has water access to nearly all of the major and many minor drainage systems in Illinois and Indiana (Douglas 1976).

In addition to water highways, the Vermilion Basin is connected directly to the Vincennes Trace (also known as Hubbard's Trace). Known first historically as the Pottawatomie Trail linking Chicago to Vincennes, Indiana, it later was called the Vincennes Trace (Meyer 1954). The current Illinois Highway 1 follows most sections of the Vincennes Trace, which passes directly through Danville, Illinois. There is another historic trail called the St. Louis-Vincennes Trace that connects Vincennes, Indiana to St. Louis (Wagner and McCorvie 2018). As with most historic-era traces, many followed along older indigenous paths and 'highways' and were later renamed. The point being, the Vermilion Basin is a well-connected location via extensive waterways and overland trails known historically and almost certainly precolonially.


Figure 1.7. Map of the three forks of the Vermilion River – Salt Fork, Middle Fork, and North Fork – and the Wabash River watershed within which it drains. Original image by Kmusser, CC BY-SA 3.0 <https://creativecommons.org/licenses/by-sa/3.0>, via Wikimedia Commons

The Illinois Archaeological Survey first recorded the terrace occupation of the Collins Complex (11V15) in 1957, being requested by local amateur archaeologists to do so. The associated mounds were not recorded at that time and subsequently have different site numbers. In response to a proposed plan in the late 1960’s to build a reservoir in the Middle Fork River valley, and thus flooding the entire valley, the Vermilion County Conservation District contracted two University of Illinois Anthropology graduate students to conduct a survey of the proposed floodpool. Their survey in 1968 added an additional 24 sites to the original Middle Fork archaeology inventory (see Denbow and Cleveland 1968).

A larger survey of the Vermilion Basin in 1973 was conducted by the Historic Sites Survey in Illinois and added 84 new sites for the entire basin (Drolet and Clouse 1974). The Department of Anthropology at the University of Illinois at Urbana-Champaign conducted an additional survey focusing on the proposed Middle Fork reservoir floodpool area in 1974-1975 for the Illinois State Department of Conservation (Riley et al. 1975). This survey added 65 new sites that would be impacted by the construction. In the end, the proposed reservoir was not built, the land was purchased by the state and is currently managed by the Vermilion County Conservation District as the Kennekuk County Park.

The proposed reservoir construction spurred initial salvage excavations followed by more formal excavations of the complex by John Douglas, a University of Illinois at Urbana-Champaign (UIUC) Ph.D. student at the time (Douglas 1976). Douglas’ initial salvage excavation in 1970 focused on a series of hand-dug units in the platform mound (Mound A) on the terrace and locations west of the mound (Douglas 1970). It was Douglas who renamed the site after the former owner of the property who collected artifacts from the complex for many years.

Douglas continued excavations from 1971-1973, widely expanding investigations on the terrace, adding new excavations of the blufftop mound, 11V82 – Indian Springs Mound, and intensifying his previous investigations into Mound A (Douglas 1976). Douglas identified that Mound A was a low platform mound constructed using specifically colored soils in alternating light and dark deposits. He primarily focused on the identification of a yellow clay floor that was hypothesized to be oriented along the same alignment as the mound itself (Douglas 1976). His work on the terrace also identified more than 41 features, many of them abnormally large. He was unable to classify the large majority of features. He did recover a single post structure with a basin filled with debris. Douglas' work on the blufftop mound (11V82-Indian Springs Mound) uncovered a large, burned structure with human remains beneath the mound. His interpretation has been reassessed by me and is discussed in Chapter 4. Douglas (1976) interpreted that the locus of activity at the site was on or immediately around Mound A on the terrace. A total of seven dates were obtained by Douglas and I have since updated (re-calibrated) these using OxCal 4.4 using IntCal 20 data set, and they are available in Table 1.2 (Douglas' original published dates can be found in his dissertation 1976:177-178). The median date range for Douglas' dates (not including sample 176) shows a short, 100-year occupation from 1086-1180 CE.

| | Lab # | Sample # | Mat. | Context | $^{14}$C yr B.P. | 1$\sigma$ Confidence | 2$\sigma$ Confidence | Median Date (CE) |
|---|---|---|---|---|---|---|---|---|
| Butler | ISGS A4581 | CI-962 | Corn Kernal | F4 (ST. 4), PM 50 | 925 ± 15 | CE 1040 - 1165 (95.4%) | CE 1047 - 1083 (45.9%) | 1089 |
| | ISGS A4582 | CI-963 | Hickory Shell | F12 (TU 11), Pit | 990 ± 20 | CE 1016 - 1050 (47.5%) | CE 1021 - 1045 (45.0%) | 1042 |
| | ISGS A4583 | CI-964 | Walnut Shell | TU 4, near F9 | 2055 ± 20 | BCE 116 - 15 CE (92.1%) | BCE 95 - 71 (25.5%) | *51 BCE* |
| Douglas | - | 112 | Wood Charcoal | F12 | 930 ± 140 | CE 820 - 1302 (93.9%) | CE 994 - 1229 (66.0%) | 1099 |
| | - | 113 | Wood Charcoal | F31, potential ST | 853 ± 75 | CE 1035 - 1278 (94.5%) | CE 1154 - 1268 (57.4%) | 1180 |
| | - | 175 | Wood Charcoal | F41, Single Post ST | 975 ± 75 | CE 949 - 1223 (92.3%) | CE 1021 - 1045 (45.0%) | 1086 |
| | - | 176 | Wood Charcoal | 11V81, F1 | 1045 ± 75 | CE 825 - 1167 (94.0%) | CE 892 - 1045 (61.7%) | *998* |
| | - | 191 | Wood Charcoal | 11V81, F1 | 960 ± 75 | CE 956 - 1229 (93.1%) | CE 1021 - 1165 (68.3%) | 1096 |
| | - | 193 | Wood Charcoal | 11V81, F1 | 950 ± 75 | CE 977 - 1234 (93.3%) | CE 1021 - 1045 (45.0%) | 1102 |
| | - | 196 | Wood Charcoal | 11V81, F1 | 890 ± 85 | CE 1016 - 1277 (94.4%) | CE 1120 - 1222 (45.1%) | 1144 |

Table 1.2. Collins Complex radiocarbon dates. Calibrations using OxCal 4.4 using IntCal 20 data set. Sample number CI-964 is considered an erroneous date. Sample number 176 is also considered a bad date due to the likelihood of having dated heartwood and the outer rings.

Thomas Riley, a UIUC Department of Anthropology professor at the time, followed Douglas' efforts with archaeology field schools from 1976-1977. His work attempted to build upon Douglas' work by continuing investigations within Mound A, while also adding a series of test units in varied locations on the terrace looking for the 'missing village occupation.' Riley also conducted targeted excavations on the bluff for any occupation in addition to an examination into the smallest bluff top mound, V-394 (Riley et al. 1978). At the very end of the 1977 field season, Riley conducted small test units in several nearby recorded sites for further clarification on their component. Some of these may be associated with the Collins Complex, but further investigations were recommended (Riley et al. 1978). His investigations of the Collins Complex added a great deal of detail that complimented the earlier work by Douglas. This included identifying several features and structures on Mound A, additional wall trench and single post structures off the mound, and a flexed burial in the previously unknown blufftop mound, 11V394. Like Douglas, he hypothesized that Mound A was the focus of ritual activity and the locus of Mississippian activity.

Both Douglas and Riley interpreted the Collins site as a short-lived Late Woodland ceremonial complex with distinct *Mississippian influences*. Riley tentatively hypothesized that these influences could be attributed to Cahokian missionaries based on evidence of ceremonial mound use and the small, but concentrated amounts of Mississippian artifacts in relation to Late Woodland ceramics. Riley felt that the low percentage of actual Mississippian "traits," again heavily relying on the presence or absence of a majority shell temper potter, in addition to three differently interred burials he labeled as Late Woodland, indicated a failed missionizing attempt (Riley and Apfelstadt 1978). However, these varying interment styles, a flexed headless interment in a submound pit burial, individuals (some bundled and some extended) placed within a pre-mound structure and subsequently burned prior to mound construction, and a pit burial with seven bundled individuals, are not uncommon within other Mississippian contexts (see Alt 2006a; Baires 2014a, 2017; Brown 2010; Fowler et al. 1999; Hall 1997; Hargrave and Hedman 2001).

They were also stuck within the earlier cultural evolutionary construct attached to the various models of contact and culture change that I previously problematized (i.e., unilinear progression from 0% Mississippian to 100% Mississippian). That said, both Douglas and Riley were some of the first scholars to theorize a religion as being a factor in Mississippian contact/interactions. While ahead of their time by proposing religious Cahokian influences at Collins (Douglas 1976) and marking the first time Cahokian missionaries were hypothesized as theoretical lens (Riley and Apfelstadt 1978), Douglas and Riley's final classification of the complex as Late Woodland spurred my own interest in the Collins Complex.

A UIUC Department of Anthropology field school directed by Timothy Pauketat and supervised by me undertook additional exploratory excavations in 2013, as well as re-evaluating and repairing Douglas' Indian Springs mound excavations. Based on magnetometry survey results from 2012, we isolated an area of several anomalies to investigate. We set up an arbitrary grid using a total station and set up a datum in a large tree stump on the apron of Indian Springs Mound near the bluff edge. The datum was later tied to the arbitrary grid in real space using a high accuracy GPS.  Using a mini-trackhoe we stripped the plow zone of Excavation Block 1 (EB1). We identified one single post structure with two internal features. We mapped the feature in plan and profiled the cross-section. All soil was screened using ¼ inch mesh.

Our work on Indian Springs Mound (ISM) was initially intended to clean up the old profiles from Douglas' excavations, to re-evaluate the stratigraphic location of the temple structure he excavated, and to describe mound construction. We were surprised to find the actual structure was still intact and proceeded to map and document the structure. The interpretation of ISM has significantly changed and is discussed in great detail in Chapter 4.

In 2016, I organized and directed a Parkland College field school that was intended to locate, clean, and re-evaluate the Douglas Trench that cut through Mound A on the terrace. I targeted a possible location using a magnetometry survey conducted in the Fall of 2015. A mini-trackhoe stripped the disturbed surface in perpendicular cuts to identify what we hoped would be a visible old trench. The results were a new Butler Trench that identified 17 features and detailed profiles of the mound. Chapter 4 describes these excavations in detail. All soil was screened using ¼ in mesh and all features were mapped in plan. Two dates (a third, Sample CI-964, is considered erroneous) were obtained in an attempt to add Mound A to the overall site chronology. The date from Mound A pushes the founding of the Collins Complex at least 40 years earlier than previously expected with a median date of 1042 CE. The median date from the single post structure fits nicely within the larger Collins chronology at 1089 CE.

Based on the 2013 and 2016 excavations, I have made significant reinterpretations about mound construction methods, chronologies, and feature interpretations, resulting in a more nuanced narrative of the Collins Complex, which I summarize in the following chapters. During my ‘conference circuit’ after excavations at Collins, people often joked why Cahokians would be in such a “backwater.” The economically depressed Danville region, caused by the industrial downturn of the last 50 years, have biased our views on why Mississippians would be interested in being in such a “backwater.” This chapter has shown in great detail that much of what Cahokians were “interested in” includes relating to the wider cosmos, powers, things, and other-than-human spirits, animals, and persons.

# CHAPTER 2: THEORETICAL GEOGRAPHIES

> "These other gods, when they had created these people, had also given them bundles. So these people had the bundles, but the ceremony they did not know."
>
> -Roaming-Scout, Skidi Pawnee Priest

In the introduction, I briefly established the anthropological problem this dissertation addresses – that the role of Indigenous missionizing in cultural and religious change is an underdeveloped line of inquiry, specifically regarding Mississippian cultural expansions and intrusions after Cahokia's 'Big Bang' at 1050 CE. Archaeologists continue to struggle with the various historicities of Cahokia's hinterland by using blanket term labels such as "Mississippianization" to explain mixed Late Woodland and Mississippian 'traits' and things.

My issue with Mississippianization is 3-fold. 1) Even as it attempts to address culture contact and change, it does not get at the underlying process of that change – *how* is change happening? 2) While it implies a conversion, that conversion is seen as colonial (political) and economic, but not a religious one. Not recognizing that religion is causal to the establishment of Cahokia and the subsequent dissemination of a Cahokia-Mississippian religion, creates an interpretive box where "Mississippian" is a fully formed identity that is stamped onto Late Woodland peoples and places for the extraction of said people and things for labor and 'trade'. 3) The term itself is couched within a cultural evolutionary framework. Even if unintended, it carries notions of a unilinear process from 0% Mississippian to 100% Mississippian, where anything less than 100% can be labeled as 'failed', 'resistance', or 'emulation'. This essentially erases the complex ways in which Late Woodland peoples, specific places, things, and substances relationally brought into existence and continually (and differentially) formed and reformed a Cahokia-Mississippian religion.

Drawing from new materialism and Indigenous philosophy, I argue that the establishment and spread of a Cahokia-Mississippian religion is best understood as a mission bundle comprising persons (human and other-than-human), places, things, and substances relationally driving historical change. Each of the following chapters in this dissertation examines an aspect of a mission bundle,

- mounds and plazas - mission and missionary
- architecture and cosmic alignments - mission and proselytizer
- things and substances - missionary and proselytizer

Thus, missionizing within and through an animic geography of persons, places, substances, and things occurs in complex ways, but primary import is that they are relational and co-generative.

**Theoretical Mission**

The philosophies I draw upon to think through the missionary processes that helped establish and spread a Cahokia-Mississippian religion are gathered from various theoretical geographies, but primarily group under the broad umbrella of non-human agency/new materialisms. The theoretical pluralism (Coole 2013) of new materialism encompasses a multi-disciplinary field of interests and therefore varies greatly in definition (see Gamble et al. 2019; Pauketat 2020). However, a large majority of definitions share a common goal of attempting "to problematize the anthropocentric and constructivist orientations of most twentieth-century theory." (Gamble et al. 2019:111). For this discussion, I am interested in aspects of new materialisms that "allow for animate and agentic forces other than people to cause history" (Pauketat 2020:2). These aspects draw from Barad's (2007) agential realism - "the idea that agency is not just a human capacity but a quality manifest in all aspects of reality." (Rosiek et al. 2020:332).

These theoretical positions are complementary with Indigenous studies scholars' long-held theorizing of non-human agency. However, there are valid critiques of new materialisms by Indigenous scholars who point out a lack of appropriate citation of and/or devaluing of Indigenous philosophers and exploitation/colonization of Indigenous knowledge (see De Line 2016; le Grange 2018; Marker 2018; Martin 2017; Todd 2016; Tuck and McKenzie 2015; V. Watts 2013). Rosiek and his coauthors pointedly state, "…it should be understood that Indigenous thinkers and scholars developed ideas about non-human agency thousands of years earlier than contemporary philosophers of science." (Rosiek et al. 2020:332).

This is not to prioritize one philosophy over the other, but to acknowledge (read cite) the work of Indigenous scholars and philosophers while also recognizing their parallels and potential for working with scholars of new materialisms. This is stated much clearer by Rosiek and his coauthors: "[T]he calls for engagement with Indigenous studies literature on non-human agency have not been efforts to dismiss, supplant, or displace new materialism, but instead have been calls for the new materialism to not be an agent of displacement." (Rosiek et al. 2020: 334). I attempt to adhere to the ethics of this practice in my following theoretical discussion.

This chapter examines the layered theoretical lenses through which I address the inquiry of cultural and religious change as it pertains to the establishment of Cahokia (1050-1300 CE) and the subsequent spread of a Cahokia-Mississippian religion via bundled missionaries. First, I review the development of an archaeology of religion followed by the primary theoretical lens from which I draw – new animism.

**Religion and Animism**

The concept of religion as a separate category of human experience, particularly in non-Western societies, has been problematized within anthropology and archaeology (Baires 2014a;

Deloria Jr. 2003, 2006; Fowles 2013; Pauketat 2013a; C. Watts 2013). Acknowledged as a Western construct stemming from the Enlightenment, anthropologists have critiqued the very application of a secular modernity that classifies and homogenizes past human experiences of non-Western and Western peoples as religious (Asad 1993; Smith 1998; Fowles 2013).

However, many archaeologists and anthropologists continue to grapple with various nuances of religion. This includes uncritically using religion as a universal category that is haphazardly applied to the past (Brown 1997; Wesler 2012); refusing to unpack continued use of Cartesian categories of sacred and profane (Eliade 1959), which immediately separate thought from action; in addition to thinking about religion as a system of symbols and meanings that explain the supernatural (Brown 2004; Brown and Kelly 2000; Brown and Kelly 2012; Geertz 1965).

Religion as a theoretical concept is ontological (way of being in the world) and is embodied, enacted, experienced, performed, and negotiated in complex ways through relationships with materials, temporality and space, landscape, and persons - human and other-than-human (Alt 2020b; Baires et al. 2013; Deloria Jr. 2003, 2012; Droogan 2013; Fowles 2013; Harvey 2005; Marker 2018; Pauketat 2013a; Pauketat and Emerson 2008). Earlier anthropological thinking saw religion theorized as “beliefs” while ritual is defined as the residues or the practices of those beliefs, often enacted through ritual (Durkheim 1965; Eliade 1959; James 1963; Leach 1968; Sahlins 1976) (further explanations see Bell 1992; Emerson and Pauketat 2008; Pauketat 2013a). Earlier theories not only cut religion out of the research realms of archaeologists, but also flattened religion’s relationality and causal entanglements. It follows then, that religious change was equally a change of worldview, a rearrangement of the cosmos and the recursive negotiation of one's place within it. However, if religion is such a problematic framework, why use it here?

One of the ways in which scholars from an array of disciplines, anthropological archaeology included, have begun to address/rework the problematic use of religion in/on the past is by acknowledging theories of relational ontology (e.g., Baires 2017; Baires et al. 2013; Baltus and Baires 2018; Buchanan and Skousen 2015; Harrison-Buck and Hendon 2018; Harvey 2005; Herva 2009; Holbraad 2009; Pauketat 2013a; Oliver 1980; C. Watts 2013; Wildman 2010). The 'ontological turn' (and new materialisms) has allowed a Euro-Western reexamination of the ways in which we think through religion, agency, materiality, change, causality, and relations (Alberti & Bray 2009; Alberti & Marshall 2011; Fowles 2013). Meaning, Indigenous philosophers, thinkers, and scholars were already working within many of these positions (see Deloria Jr. 2003, 2006, 2012, 2018; Howe 1999, 2014; Todd 2016). Relational thinking, or the idea of connectedness, is not new. Within anthropology, the ushering in of New Archaeology focused on context and relationships as a part of a whole, or ecologies. The ecological view suffers from overtly structural/functionalist tones. By seeing the world as an ecological organism made up of various parts working together, it subtly implies that the parts are working towards some unknown progression with only one specific function of the larger organism and no agency. Relational ontologies allow for greater dimensionality of those relationships, not just bounded relationships within a singular ecology or organism metaphor. The shift to post-processualism brought in phenomenology (see Merlou-Ponty 1962) and landscape studies (see Ashmore 2004; Barrett 1999; Basso 1996; Bradley 2000; Stross 2008; Whitridge 2002), which opened the door for true relational ontologies by not only recognizing the various ways in which humans relate with the world around them, but also acknowledging non-human agency (see

Barrett 1999; Jones and Cloke 2008; Merleau-Ponty 1962; Tilley 2004). Tilley (2004:29-31) explains,

> A phenomenological approach to landscape and place…is an approach emphasizing the intertwining of subject and object, things and persons, mind and body, places and Being in the world." and that "What I have been suggesting is that rather than regarding things, places or landscapes primarily as systems of signs, or as texts or discourses which encode meaning and reflect social identities in various ways, we can regard them as agents which actively produce that identity. In other words we need to think about places and landscapes animistically, in an analogous manner to the way in which we like to think about persons, as entities who can and do make a difference.

Acknowledging relational ontologies allows for endless relations and entanglements, but how do we think through and have productive discourse with *all those relationships*? In recent years, many theorists have utilized metaphor. These include 'field of relations' (Ingold 2000), actor network (Latour 2005), meshwork, web, entanglement, (Hodder 2012; Ingold 2007), and rhizome (Deleuze & Guattari 1987). The metaphor helps us think through the immensely complicated, always moving, dynamic reality that is the relational world. I utilize most of these (excluding Latour 2005) nearly interchangeably, but I see them as more closely associated with Deleuze and Guattari's (1987) rhizome – ceaselessly establishing connections with no points (only connections) – and is antithetical to structure and cannot have a genealogy. The absence of genealogy or structure helps decenter the human as primary. Rhizomic relations can be layered with dimensionality and are often directionless. Indigenous scholars, such as Sebastian De Line (2016), find that there is no need to rename or redefine aspects of an Indigenous paradigm, i.e., using metaphor. In fact, he explains that the concept of all my/our relations is an Indigenous philosophical proposition that aligns with new materialist[9] theorizing stating,

> The proposition can be deduced as such: *all* refers to a whole, all matter, all factors, all contingencies; *my* means belonging to or associated with that which is beyond singularity; interchangeably *our* is associated with belonging to more than one; and *relations*, refers to both an interconnectivity and a familial relationship to all matter…What distinguishes all my/our relations from Spinoza's rhizomatic fractalism is that all my/our relations places emphasis on

9 See De Line 2018 for his critique of the "occidental, compartmental lens of some of Barad's theorizing.

> ‘my’ or ‘our’ as the interlocker of belonging, whereas Spinoza’s proposition states that the body is the interlocker...Animateness is the interlocker of relationalities between all matter. It is not exempt from materialism, *Niw_hk_m_kanak* or all my/our relations is similar to new materialist thinking but it is ‘pre-materialist’ and ‘pre-/post-humanist’.

De Line is specifically referring to Karen Barad’s notion of agential realism from her 2007 book *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning* and highlighting how an Indigenous philosophy of all my/our relations is similar/complimentary to Barad’s use of *intra-action* (see note 1). Both are focusing on the “binding agent, gluing subjectivity to all matter.” (De Line 2016). Following this, Pauketat (2020:8) helps illuminate this ‘in-between’,

> For all intents and purposes, aura and the other affects are that which mediate relations. They are the ‘attachments’ of Bruno Latour’s networks and the strands of Tim Ingold’s (2000) ‘meshworks’ and Deleuze and Guattari’s (1987) ‘rhizomes.’ They are, in essence, that which gives any *thing* its thinghood and any object or being its agency.

The point of these definitions and descriptions is that they allow us to think *with* a world that lives instead of about the world. Further, they highlight a vibrantly relational world or of a vital materialism where a “shared materiality of all things is elevated” (Bennett 2010:13) and differences between subjects and objects are minimized (see Gell 1998; Hamilakis 2013; Olsen 2010). In other words, “Matter is agentive, not a fixed essence or property of things.” (Barad 2007:136).

In sum, while I acknowledge the issues of religion as a rigid category, often inappropriately pasted onto the histories of non-Western societies as a whole, I see a productive middle. I espouse instead a relational ontology that is framed within a religious tone. While I acknowledge that for many, religion is not some separate category of life, I also recognize that some of the ways in which we orient ourselves in the world are better framed within an overtly religious lens. Removing the religious undertones in discussions of the past can sometimes have the unintended consequence of incorrectly secularizing histories, or unintentionally homogenizing and flattening culture change. The overly secularizing of the Roman expansion is one example of how this is an issue that transcends Indigenous/non-Indigenous, i.e., Western vs. non-Western studies. British archaeologist Ralph Merrifield recognized the issue of religion vs economy vs. politics, saying, "…religion in the Roman world pervaded every human activity, and that practices relating to it were almost as common in the home and in the fields as in the temple." (Merrifield 1987:7). For the purposes of this research, I primarily draw from theories of animism (Alberti & Bray 2009; Deleuze & Guattari 1987; Harvey 2005; Ingold 2000; Latour 2005; C. Watts 2013), landscape studies, place/place-making (Basso 1996; Deloria Jr. 2003; Martin 2018; Tilley 1994, 2004; V. Watts 2013), and bundling (Dorsey 1904a, 1904b; Murie 1981a, 1981b; Pauketat 2012, 2013a; Zedeño 2008), all couched within a missionary framework.

**(New) Animism**

In the last two decades, scholars in anthropology, Indigenous studies, sociology, philosophy, and archaeology have attempted to reclaim animism from the shadowy depths of evolutionary, structural/functionalist notions of religious belief (see Bird-David 1999; Alberti and Bray 2009; Deloria Jr. 2012; Groleau 2009; Haber 2009; Harvey 2005, 2014; Ingold 2012, 2014; Zedeño 2009). Interested in locating and describing the very first notions of religious belief, Edward Tylor (1913) declared animism to be the most primitive of religions and described it as a belief that inanimate things and animals have souls or spirits. Harvey (2005:9) best summarizes Tylor's impact on the earliest anthropology of animism,

> For Tylor, then, animism, 'the belief in spiritual beings' (including the attribution of life to inanimate objects and of 'souls' to animals), is the taxic indicator of religion *per se*. He inherited the term from others and passed it on without entirely persuading his successors in every detail. Many latched onto animism as a sign of primitive stupidity, rather than a universal rational error, and located it only among 'savages' and children. Thus animism became a stage in the theory of the evolution of religion.

Even in many anthropology textbooks today or books on anthropologies of religion, animism is represented as the first primitive stage of religion/religious belief that is stuck within a cultural evolutionary frame. Recently however, there is a push[10] to rethink animism – not as a 'belief', but as it *is*, a relational ontology (Bird-David 1999; Harvey 2005; Ingold 2012). New animism is simply the notion that "…the world is full of persons, only some of whom are human and that life is lived in relation to all persons." (Harvey 2005:4). In other words, new animism shifts the focus onto the relationships among all persons and emphasizes *how* we relate within a world that *is* relational (Groleau 2009; Harvey 2005; Ingold 2012; Viveiros de Castro 1998). This is often referred to as 'ethics of reciprocity' within Indigenous studies (see Rosiek 2019:340). These potentialities of infinite relations exponentially widen the scope of historical experience. Animism necessarily blurs lines and breaks walls of dualities put up by Euro-centric ways of knowing. There is no separate sphere as nature/culture, subject/object, or past/future – these dichotomies fall apart when the focus is on relationships and ways of being (see Descola 2014).

The shift to new animism can be traced to Irving Hallowell's (1960) work among the Ojibwe. It is here the phrase 'other-than-human persons' first appears in the literature. The famous story is with Hallowell's informant and a stone. A now famous account, Hallowell (1960:24) recalls, "I once asked an old man: Are *all* the stones we see about us here alive? He reflected a long while and then replied, 'No! but *some* are.'" The point is that while some persons are things, not all things are persons, they might simply be things, but that does not make them less-than or negate a relational experience with them (see Bennett 2010 and Hamilakis 2013). Pauketat (2013a:33) further explains this point,

10 This push came from Euro-Western scholars as Indigenous scholars never used 'animism' but were already working from non-human agency ontologies.

> The interactive aspect of materiality is open-ended, extending beyond the strictly physical dimension to various phenomenal relationships between things, substances, and other intangible qualities. The qualities of things, substances, organisms, body parts or elements (e.g., wind, atmospheric pressure, moisture, temperature, etc.) engage the senses – sight, sound, smell, taste, and touch – …such qualities are agentic, which is to say the things in question have the ability to affect social relationships and histories.

Key to understanding animism is the fact that an animic world is not worried with notions of what is or is not 'alive' or what is or is not a person, the world *lives*. In other words, it is less "a way of believing *about* the world" and more a "condition of being *in* it." (Ingold 2012:10). Animism is then repositioned not as a set of beliefs, but as a relational ontology. Following Amy B. Groleau (2009:1), "This move begins to dissolve the categories of sacred and profane that are embedded in historical studies of religion."

An animic ontology is a way of being in the world that is relational and rhizomic. Animic ontologies allows us, when necessary, the ability to decenter the human person from some fields of relations.

> Animacy, then, is not a property of persons imaginatively projected onto the things with which they perceive themselves to be surrounded. Rather…it is the dynamic, transformative potential of the entire field of relations within which beings of all kinds, more or less person-like or thing-like, continually and reciprocally bring one another into existence (Ingold 2012:10).

In other words, animism recognizes vibrancy and dimensionality in a *lived* world without foregrounding humans or human engagement (following Bennett 2010). This is important as we move into thinking about place, as animism should have a direct relevance to theories of landscape.

> New animisms may differ in their details, in their materialist versus epistemological emphases and so on, but collectively they represent an intimate, emergent, mutually constitutive vision of a world infused with life, down to the pavement caressed by our feet as we walk down the road and the exiled wildflowers finding a way back to the sun through crevices in the asphalt…animating and reanimating as an efflorescent, historically located process (Weston 2017:5).

**Missions, Missionaries, Proselytizers and Prophets/Priests**

First, let me provide some basic definitions and terms as I intend to use them. Mission is a noun with multiple meanings and implications, such as mission as a place or mission as purpose. The definitions of mission I use here include A) an important assignment carried out for religious and/or political purposes. B) a mission establishment consisting of the materiality of a place, including mounds, planned cosmological orientations, and introductions of new architectural styles in addition to the co-option of earlier styles for religious spaces and Cahokia-specific materials within religious contexts. I understand missionary as both person/s (human and other-than-human) or things taking up, or sent on, a religious mission. Additionally, I recognize prophet/s in the context more closely associated with historic-era priests who, through visionary connections with numinous powers, bundled people, new ideas, and places, rearranging relations and causing historical change. Last, I use proselytizer as a means to help *move* a mission. I define proselytism as: to convert or attempt to convert someone or something. In other words, proselytism is the practice of missionizing.

The terms mission, missionary, and proselytizer immediately draw to mind Christian religious practices and their colonialist intersections. However, if we theorize the underlying concepts and associated practices, there is precedent in such practices prior to Christianity and is an underdeveloped line of inquiry in most precolonial contexts. For example, prior to Christianity and their missions/missionaries in Ireland, Druid priests were said to be "wandering preachers who traveled around, passing on their teaching to whomever would receive it." (Cooper 2003:37; Jones and Pennick 1995:85). By teasing out the nuances of these various terms and couching them within a vibrant and animate ontology, they can be useful in revealing the intentional and unintentional historically situated *processes* of religious change outside of and prior to Christianity. In this sense, mission, missionary, and proselytizer are simply mercurial and relational identities that can entangle humans, other-than-humans, things, and places that leave behind meaningful material traces.

What follows is an examination of the similarities in the historicities of historic-era Native American religious movements – primarily focusing on prophets – in order to situate religious change during Mississippian times. Bundled missionaries and associated missionizing practices are here understood to align more closely with the historically and ethnographically documented practices and movements of Native American prophets and religious movements. Before this however, I want to briefly explain how I draw from oral histories and ethnographic sources throughout this dissertation and how I am using bundle/bundling.

<u>Oral Histories and Ethnographies</u>

Drawing analogy from the many North American ethnographic sources, from early colonial contact to 20th Century ethnographers, is common practice in archaeology, particularly as a starting point of a deeper inquiry. However, these accounts are often used uncritically, and many scholars primarily quote the ethnographer's interpretation of the account instead of the informant directly. This can lead to a pattern of prioritizing economic and political motivations (read male) for culture change/interaction and ignore the clear religious realities that many informants were attempting to detail. For example, Michael Marker explains how necessary it is to go back and listen to the actual words of the Elders when available. He describes, "I became attentive to the particular language usage and the efforts of the Elders to explain the structure of a vibrant conscious geography in the efforts to transport the listener to an actual experience of *being* on the land." (Marker 2018:456). This effort often was dismissed, distorted, or even spoken over by the interviewer (Marker 2018).

Stemming from a positivist line of thinking (and colonial), there have been similar dismissals or skepticism regarding the use of oral histories. In recent decades, there have been an increase in calls by Native Americans for academia to embrace oral histories and traditions (Atalay 2006; Deloria Jr. 2003; Echo-Hawk 2000; Howe 1999) without placing time limits for when they are 'useful' or not. "Oral records and the archaeological record describe a shared past and should be viewed as natural partners in post-NAGPRA America." (Echo-Hawk 2000:267).

Throughout this dissertation I draw from several ethnographic sources and attempt, when possible, to quote directly the story of the informant over the voice of the interviewer in order to make connections or possible points for further inquiry. I follow Pauketat regarding drawing from ethnographies and ontologies of Cahokia's descendants and neighbors, "The point, of course, is not to reassert a constructivist position that people mediated all things in culturally unique ways, but rather to affirm that other-than-human materials and phenomena did and still do assemble human and other-than-human entities." (2020:11).

### Historic Prophets and Religious Movements

Throughout the 19th Century during the settler-colonial policies of the United States, numerous religious movements were documented and later analyzed by anthropologists, ethnographers, sociologists, and religious historians. Religious movements are typically thought of as a subset of cultural transformations that come about as a reaction to or effect of some kind of outside pressures. In particular, when examining Native American religious movements, they are typically cast within a 'resistance' framework (Mendoza 2004; Mooney 1896) or as an effect of deprivation stemming from continued colonization (forced acculturation) (Cave 2006; Wallace 1956). A popular concept many anthropologists and archaeologists continue to use uncritically is Wallace's (1956) Revitalization Movement – the conscious intent to construct a more agreeable culture. In other words, religious change is not theorized to be internal. Utilizing a western/Judeo-Christian framework, the leaders of these movements were assigned a variety of labels/identities – prophets, disciples/apostles, proselytizers, missionaries, and messiah-like. They are given a pass/fail in regard to the success-again, measured by western notions of religious transformation and embedded within cultural evolutionary constructs.

The following are the more well-known historic examples of Nativist religious movements. However, keep in mind that while I am providing a broad-stroke overview of numerous similarities cross-culturally, each is historically situated with a particular historical citation and trajectory, i.e. they did not just 'emerge' from nowhere. In the late 18th and 19th Centuries there is documentation of numerous native prophets from nearly all recognized tribes/groups, but particularly they are visible in the Eastern Woodlands, some of whom can be considered Cahokia descendants. The Delaware prophet Neolin and his warrior disciple Pontiac, the Shawnee prophet Tenskwatawa and his warrior/politician brother Tecumseh, the Kickapoo prophet/chief/politician/priest Kenekuk, the Seneca prophet Handsome Lake and his warrior Chief brother, Cornplanter, and the Paiute prophet Wavoka each headed a religious movement. Some were militaristic, some preached removal of all white ways, some advised co-existence through peace, and others did a little of all the above. All of them rearranged worldviews and entangled new materialities, persons, places, and powers and thus, fueled religious change.

While many scholars point out the Christian tones of many of these prophets' messages (Barber 1941; Lowie 1941; Mooney 1896; Wallace 1956), it is imperative to also see the rootedness in Indigenous religious traditions (Cave 2006; Hall 1997; Pauketat 2013a). All the aforementioned prophets had a vision (usually many visions) that included meeting the 'Great Spirit.' Often, the prophet told of traveling to these meetings (special places) of the spirit where they were told how to save their people. They were immensely powerful and used that power to reorient people along new traditions. For example, Tenskwatawa upended a fundamental understanding of Shawnee religion when he insisted that all those who kept/used medicine bundles (individual, not community bundles) were in league with the Great Serpent (Cave 2006:76). This was one of his basic tenets, “All medicine bags, and all kind[s] of medicine dances and song, were to exist no more; the medicine bags were to be destroyed.” (Willig 1997:130). Willig points out,

> At no time prior to the advent of the Prophet would members of the Algonquin cultures have gone without their sacred bundles. These buckskin pouches contained sacred elements through which the mantous empowered and protected their proper bearers, and to be without the sacred bundle invited disaster (Willig 1997:133).

In other words, significant spiritual risk was taken by many converts and followers of Tenskwatawa as he became their sole mediator to the Great Spirit.

In most of the historic examples it was important that these be pan-Indian movements, i.e., forging new relationships through converting all tribes and First Nation peoples was a crucial component (particularly to the warrior/politician brothers/disciples). With the exception of Kenekuk, all of the prophets were afforded authority through a variety of ways and then travelled throughout the region spreading their message and giving access to their knowledge. In other words, their otherworldly relationships and connections were the important component of their message. Often, they sent converted messengers and in many cases, other tribes sent their own emissaries to hear the message and assess the prophet. Most returned as converts (Cave 2006) and thus, missionaries.

In all earlier accounts, I found the term ‘missionary’ used only when discussing Tenskwatawa and Tecumseh’s religious movement (Cave 2006; Mooney 1896). Converted messengers were sent (with the mission of conversion) to tribes throughout the Midwest, Eastern

Woodlands, and the Southeast. Many Shawnee, Potawatomi, and Kickapoo (and others) sent their own emissaries to meet with Tenskwatawa and many returned as converts to proselytize. Tenskwatawa had himself accepted an invitation by Main Poc, the Potawatomi chief and shaman, to settle in a new place, Prophetstown, Indiana.

> [T]he Indians flocked to him from every quarter; there was no name that carried such weight as his. They never ceased talking about his power, or expatiating on the miracles which he has wrought, and the more extraordinary the revelations he made, the more willingly were they believed and confided in (Schoolcraft 1857: 35).

This specific place, at the confluence of the Wabash and Tippecanoe rivers, was a sacred place for the Potawatomi people (Bottiger 2013: 40). This place was a convergence of energy, power, and connections and became a new place where potential converts came to Tenskwatawa. Prophetstown was a vibrant place, one that connected old and new. Similarly, missionaries rework the old and establish the new (Cave 2006; Wade 2008).

*A Mississippian priesthood?*

> During the Colonial period (ca. 1670-1784) similar *sacra* and their ritual manipulation were under the control of organized priesthoods. Priestly duties also included such ritual charges as the maintenance of temples and ossuaries, administration of mortuary ritual, the maintenance of sacred fires and responsibilities connected with their supernatural symbolic aspects, and the preparation of ritual medicines. The roles of priesthoods intermeshed both with chiefly ritual practice (especially mortuary) and with community rites of intensification. These priesthoods might be viewed as mediating between chiefly and community ritual affairs, yet clearly having exclusive ritual and supernatural prerogatives distinct from both of the former (Knight 1986: 681).

Knight (1986) first offers archaeologists a model of understanding Mississippian religion using ethnographic data that documented an established priestly class of religious specialists. Jay Miller (1996) more explicitly details Caddoan priesthoods, showing an institutionalized class of priests headed by the most powerful priest, tsa neeshi, or Mr. Moon. Both of these earlier accounts are overly structural and not a 1:1 correlation to Mississippian missionaries. Yet, combining oral histories and drawing from these earlier theorists who recognize a more overtly religious lens to the Late Woodland/Mississippian culture contact/change can help get at how the idea of Mississippian missionaries were able to so quickly impact the wider Mississippian world.

The problem of theorizing missionary practices in the past, as evident with the brief overview of nativist movements and colonial contact religious organization, is the intense focus on the human person – the missionary. If we pull back and re-examine the mission bundle from a new materialist lens we see a much more vibrant world of missionaries, both human and other-than-human, places, and things. The remainder of this chapter I reanimate the specifics of missions, missionaries, and proselytizers.

Mission as Place and Purpose

Before I break down what a mission is and more importantly what it does, I want to provide some foundational theories of landscape and place. Phenomenology shepherded the first interest in landscape studies within archaeology (Merleou-Ponty 1962; Tilley 1994). While the focus of phenomenology was on understanding how the human body perceived, experienced, and moved through the world around them, landscape studies attempted to shift that focus from human consumption and perception to participant interaction (see Ashmore and Knapp 1999; Bradley 2000; Tilley 2004). Within the last decade, a natural coupling of landscape studies and animic ontologies shifted into archaeological and anthropological discourse, even without necessarily naming animism specifically (Ashmore 2004; Chadwick 2016; Harrison-Buck 2012; Harvey 2005; Howe 2014; Pollard 2013; Tilley 2004; Wallis 2009; Whitridge 2013). Landscapes are animate, they move, they entangle, they change, they *live*[11]. The Omaha provides one example with an explanation of Wako$^{n}$'da.

> An invisible and continuous life was believed to permeate all things, seen and unseen. This life manifests itself in two ways: First, by causing to move – all motion, all actions of mind and body

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11 This idea as it relates to animate Mississippian landscapes is discussed by Butler 2015, Emerson et al. 2021, Emerson and Hughes 2000, and Kelly and Brown 2012.

> are because of this invisible life; second, by causing permanency of structure and form, as in the rock; the physical features of the landscape mountains, plains, streams, rivers, lakes, the animal and man…Through this mysterious life and power all things are related to one another, and to man, the seen to the unseen, the dead to the living, a fragment of anything in its entirety (Fletcher and La Flesche 1992:134).

A primary focus developed from landscape studies is the idea of place and place-making, which builds from earlier theorizing on space and place. Space and place as theoretical concepts can be traced to early phenomenological geography (Heidegger 1977; Tuan 1977) (also see Deloria Jr. 2003 for Indigenous views of animate and relational place in 1973). Space and place are concepts that are almost always discussed in opposition, furthering a nature/culture divide, something animism blurs. Peter Whitridge (2004:214) further explains,

> Space is taken to refer to the universal, abstract, quantifiable quality of *spatial extension*, especially as conceived and deployed by objectifying sciences like physics or urban planning or, for that matter, archaeology. Place, on the other hand, is taken to refer to a qualitative, historically emergent, experientially grounded mode of inhabiting or dwelling in the world.

Instead of discussing place within some abstract space, we can extend place and place-ness to be multiscaler and multi-dimensional. Place and place-ness are simply bounded, or bundles of rhizomic webs. I argue further that this is only possible within the process of place-making with an animic ontology, particularly one that is non-anthropocentric. Meaning place and place-ness does not need to be experienced or meaning-laden solely from the body or perspective of a human-person much like earlier phenomenology prioritized the human body. Indigenous theorizing on place and place-ness helps clarify this. I quote Michael Marker (2018:454) extensively, he begins with posing the question,

> [W]hat if scholars took the narratives of Elders and traditional Indigenous knowledge holders seriously about an intimate vastness of wisdom that percolates through the layers of physical and metaphysical time and space in sentient landscapes?” He continues, “From an Indigenous standpoint, there is no sense made in questioning the *place of nature* in human history; there is only the *nature of place* that is to be understood as a way to recognize the meaning of history, time and space, and the structure of reality. All inquiry, in this cosmology, must begin with an awareness of the interconnectedness of plants, animals, and humans, geologic forms along with the stories that tune and shape cognition of a landscape that is also conscious of human beings.

Place and place-making are innately enmeshed with dwelling in the world. Keith Basso (1995:238) articulates, "…place-making is a way of constructing history itself, of inventing it, of fashioning novel versions of 'what happened here.'" Places are temporal and multiscaler, collapsing the natural/supernatural dichotomy. For example, "…the spirit of a place has access to the larger cosmic time sequence; hence, if true, it enhances our conception of the power of spirits of sacred places." (Deloria Jr. 2006:151). Deloria Jr. further maintains,

> The vast majority of Indian tribal religions…have a sacred center at a particular place, be it a river, a mountain, a plateau, valley, or other natural feature. This center enables the people to look out along the four dimensions and locate their lands, to relate all historical events within the confines of this particular land, and to accept responsibility for it (2003:66).

Places are locations in which "events occur, memories are formed or re-awakened, and experiences unfold and correspond between participants'" (Brittain 2013). Places get their meaning from these events or experiences and the relationships formed between person and place. In addition to having particular relationships with human persons, places are formed by a web of relationships and entanglements with other-than-human persons, things, substances, and powers. Each carries their own rhizomic field of relations and contributes towards the place-ness of place.

Bradley's view is useful in thinking about appropriation of place.

> The construction of monuments in places with an established significance transforms the entire way in which these locations are experienced. Locations that had been readily accessible became more difficult to visit. Parts of the site that had dominated its natural topography could be screened off from view. Where the natural terrain had imposed few constraints on visitors, the presence of walls and terraces influenced – or even directed – the movements of people around the sanctuaries (Bradley 2000:104).

For example, some places were likely chosen *because* of their recognition as a place to others – human or otherwise.

> In the Eastern Arctic some *inuksuit* are regarded as ancient constructions of the pre-Inuit Tunit (likely Dorset Paleoskimo) who had 'prepared the land' for the Inuit, hence the legacy of a long-term social historical process of appropriation of the arctic landscape (Whitridge 2004:226).

While this specific example includes ruins or stone kairns as the designated ‘ancient construction,’ they might also include what non-animic ontologies would label as natural landscapes or topographies. Appropriating a previous place in other words, is both a means of reviving former times and *revising* them (Basso 1996:238). Other archaeologists have drawn attention to the deep ties Mississippian practices had to earlier Hopewell practices (Baires et al. 2013; Pauketat 2013a). Another example can be seen in the religious change seen in Britain,

> In all periods the landscape was saturated with a great range of meanings. The early medieval period, with its combined evidence from archaeology, texts and place-names is particularly well placed to demonstrate the range of values emerging from the imposition of a newly Christianized world onto older landscapes of belief that were seen as pagan…The early medieval village radically reconfigured the landscape of belief and practice, with a central focus on the church in all areas including agriculture, but other (perhaps older) belief systems were found in smaller shrines and deposits across the countryside, many of which concerned key issues of life, death, and living well (Harkel et al. 2017:419).

The structuration and appropriation of place is at the heart of what a mission site *is* and *does*. Zoe Crossland states “Efforts to change belief are often tied to efforts at remaking place” (2013:79). The mission is the reorganization of space, both physical and cosmological, while also co-opting daily practices for new or different purposes (Comaroff and Comaroff 1991; Graham 1998; Wade 2008). The creation and manipulation of mounds, architecture, and place evidences the alteration or rearranging of worldviews (Pikiraya 2013). The reorganization of built space, specifically constructed buildings, and the appropriation of sacred spaces subvert daily practices and movements to facilitate conversion (Wagner 2014). For example, mound building is a multisensory experience that forges, maintains, and renews relationships with persons, places, things, and substances. In other words, mound building actively missionizes by bundling human persons, soils, substances, cosmic alignments, and architecture and reorients a place, i.e., a mission. Once built, the materiality and relational fields of the mound continue to proselytize via engagement structuring both physical and cosmological space.

Missions look different and as a place, are relationally experienced locally. In other words, "…local conditions are critical in explaining the diversity of mission encounters." (Graham 1998:26). Archaeologies of Christian missions highlight these diversities while also establishing an organizational pattern. Graham (1998) provides an in-depth analysis of the archaeology of missions in different geographic regions. While "no two missions were exactly alike" their "basic architectural components were much the same." (Graham 1998:42). There often was great variability in mission size, materiality, location, and participation etc., but there is always a mission 'core' – the church and a friary (priest housing). Granaries were also common as a means of bringing people to be proselytized via food access. My goal is not to equate a 1:1 correlation, only to highlight possibilities for the applicability of missionary theory outside of Christianity.

As I introduced in Chapter 1, the combination of mounds and plazas seem to be a core component of religious space, as seen in the South prior to Cahokia and after Cahokia's 'Big Bang.' Using plazas as gathering spaces for feasting and other ceremonies became an integral part of the mission bundle. These elements structured space and were used/engaged in different ways. By the time this bundled knowledge arrived at Cahokia, it was the literal cosmologic core of a new religion, gathering and realigning worlds and relations.

<u>Missionary and Proselytizer</u>

Missionaries can be architects, moon priests, fire priests, pilgrims, and I argue, place, mounds, posts, temples, and alignments. "Sacred sites play an integral role in the creation of medicine men and the development of their powers and provide a communal shrine as their power is recognized." (Deloria Jr. 2006:160-161). Using gatherings such as feasts or special calendric or cosmic ceremonies creates the gatherings for missionizing. There is a necessarily recursive negotiation between the proselytizer and the proselytized. Conversion is never a unilateral process or one-way progression to some ideal form. It is a gradual, recursive, and relational transformation of a worldview that included the very ways within which people lived their lives and through which they related to others and the world (Comaroff and Comaroff 1991; Lund 2013; Shaw 2013).

Missions and missionaries are but one thread of many, including pilgrims and shrines that animate a greater religious landscape. As I laid out in the previous sections, acknowledging religion as causal to the foundation and urbanization of Cahokia allows for a more nuanced understanding of the founding of Cahokia itself, as well as the dissemination of a Cahokia-Mississippian religion. The earliest theorizing that Cahokia missionaries were a part of the Mississippian narrative were the archaeologists who worked at the Collins Complex, John Douglas (1976) and Thomas Riley and Gary Apfelstadt (1978), with Riley and Apfelstadt (1978:18) stating, “Our own research in east central Illinois suggests that the far-reaching spread of Mississippian culture was based on what can only be described as ‘missionary activity’ rather than on conquest or trade.” The concept was not picked up again until Thomas Emerson’s chapter and article? Followed by Timothy Pauketat’s 2013 book, *An Archaeology of the Cosmos: Rethinking Agency and Religion in Ancient America*. This work was a culmination up to that point, of decades of research in and around Cahokia by Pauketat and Susan Alt (see also Alt 2006a, 2006b, 2012, 2020b; Emerson 1997a; Hall 1997; Pauketat 2003, 2013a, 2017a).

A brief discussion on shrines is relevant in relation to missionary practices as a notion of accessibility and a varied religious landscape. Recent discussions by Timothy Pauketat, Robert Boszhardt, and Danielle Benden on their work at the Trempealeau site in western Wisconsin indicate an intrusive assemblage of persons, practices, and things into the area. They suggest that

Trempealeau should be viewed as a shrine “built by and for Cahokians with very little involvement on the part of living local people…” (Pauketat et al. 2015). Ongoing investigations by Susan Alt, Timothy Pauketat, and Jeffery Kruchten at the Emerald site 24 km east of Cahokia also have evidence of shrines being built for and occupied by religious priests and their acolytes (Alt and Pauketat 2017). As a relational counterpoint to the restrictive access to certain doings and practices within elite designated shrines in spaces such as Trempealeau and Emerald, I argue that missions are necessarily inclusive. Missionizing is the intent to convert to a new idea or religion and requires people to be proselytized. Recognizing these two very different accesses to Cahokian religion is important to understanding how that religion so effectively and yet, differentially wove through the lives and landscapes of Late Woodland peoples during the mid-late 11th century. This brings us back to the larger animic geography of Mississippian places that make up the Cahokian world.

> Not only are spirit powers known to reside in certain specific places on the landscape, but the methodology for learning about powerful forms of consciousness and visions cannot be extracted from the ‘being in places’ where the powers exist. The place itself is saturated with energy forms that exist only in the dimension of that landscape. This is an Indigenous interface with two sentiences: the mind of the place, and the human mind that is convening and opening to it (Marker 2018:456).

**A Mississippian Animic Geography**

The Mississippian world is one that is animate and constantly becoming. It is a world that is constantly negotiating relationships and connections with and through a multiplicity of persons (human and other-than-human), places, things, and substances. There is a dimensionality to the Mississippian world that is best understood as rhisomic. Places can become missions and mounds, temples, and posts can become missionaries/proselytizers.

> Physically embodying, presencing, or emplacing the spiritual forces or numinous powers through practice entangled specific people, places, things, and substances with the greater order of the universe. A human being might embody such powers (e.g., a shaman or priest), but so might other beings, places, objects, substances (e.g., earth), or even qualities of experiences (e.g.,

> sounds such as thunder). Indeed, concentrations, "bundles," or convergences of such powers define that which we ordinarily identify as religious phenomena (Pauketat and Alt 2017:5-6).

All of these relations connect each other to a greater Mississippian animic geography.

> Elements, beings, substances, and things, properly aligned or positioned, connected people directly to those mediating powers. That mediation, as then expanded, transferred by the people themselves, took the forms of places such as Emerald, Angel, and Trempealeau. (Pauketat 2017a:18).

As I discussed in Chapter 1, new research on cosmic alignments (specifically lunar ones) have shown that Cahokia is the largest knot within a greater rhizomic meshwork of powers, persons, places, substances, and things and thus, the first mission (Pauketat 2013a; Pauketat and Alt 2015; Romain 2015a). Missionizing within that animic geography of persons, places, substances, and things occurs in complex ways, but primary import is that they are connected on a larger scale.

> Thus the inhabitants not only find ways to situate themselves within, and thus to act effectively upon, the world, but in such actions they also submit to the desires of others, either willingly or through various forms of coercion. This geography of being is therefore a geography in which the inhabitants are able to find a place for themselves by reference to their own biography but in which that place is also fixed, and is recognized as being so fixed, according to a larger social order (Barrett 1999:259).

Thus, missionizing within and through an animic geography of persons, places, substances, and things occurs in complex ways, but of primary import is that they are relational and co-generative.

This chapter walked through the interconnected theoretical lenses from which I use to interpret data from my excavations at the Collins Complex. Again, I argue bundled missionaries of persons (human and other-than-human), places, things, and substances relationally and co-constructively established and missionized a Cahokia-Mississippian religion. I also contend that aspects of these bundled missionaries included mounds, architecture and alignments, and things. What follows is an 'opening' of the mission bundle and each of the following chapters examines a part of that bundle and its associated relational fields.

“When the other priests come and are seated, he asks them if they heard the thunders. They say, ‘Yes.’ He says, ‘I have opened the bundle; now we are ready to sing the Creation Ritual.’” (Murie 1981a:57-58).

# CHAPTER 3: MOUNDS AS MISSION AND MISSIONARY

> "So Bright-Star told this man to get the people together, and that a man would be sent to them, who would teach them the different ceremonies of the different bundles."
>
> -Roaming-Scout, Skidi Pawnee Priest

There is a deep tradition of earthen mound building as a practice in the North American Midwest and Southeast. Excluding shell mounds in the Coastal Plain, the earliest mound building dates to the Middle and Late Archaic periods in present-day northeast Louisiana (see also Randall 2015; Sassaman 2010). Archaeologists have suggested that mounds were used to bury the dead, elevate important spaces, and symbolize cosmic relationships. As such, mound building continued in a variety of practices through contact with European colonizers.

However, mounds were more than this. They were, and yet are, alive/animate constructions whose existence transforms the ways in which a space is experienced (Bradley 2000; Kidder and Sherwood 2018; Pauketat 2013a). In addition, mound building was a sensory engagement that forged, maintained, and renewed relationships with persons - human and otherwise, substances, realms, and time. Particular shapes, orientations, interactions, deposits, and relational fields differed by region, time, and community. Mounds were never 'complete' or static. Their human caretakers may have discontinued daily labors of dwelling with and caring for mounds, but the mounds became places of multitemporal and multispecies engagements (Bloch 2019; Pauketat 2003). They are living places – soils settle, slump, or erode; roots of vegetation move through layers of soil and bind together time; animals burrow within and move around deposits of time. In other words, mounds can mark special places, but become places in their own right. When humans are no longer engaging with or relating to mounds, the mounds themselves remain entangled with and by the world around them.

**Mississippian Mound Entanglements**

The repetitive/cyclical practice of building mounds and associated plazas are a defining component of Mississippian culture and I argue the mission bundle (see chapters 1 and 2) (Blitz and Livingwood 2004; Lindauer and Blitz 1997; Pauketat 1993). As I discussed in Chapter 1, mounds and plazas were components of a bundled set of practices, knowledge, and new relations from both the Coles Creek and Formative Caddo worlds. The mission design and associated practices were enveloped into a distinctly Cahokia-Mississippian ontology and immediately built into the landscape, giving rise to a larger Mississippian animic geography.

As I discussed in Chapter 1, Cahokia was the first Mississippian mission and was already being implemented at the local level by 1000 CE. By Cahokia's 'Big Bang' at 1050 CE, the foundational missionary work was already in place. Dates indicate that before 1050 CE Cahokia's primary axis and cosmic-religious core was already enmeshed within the landscape. This includes the ceremonies and first burials within Mound 72, the construction of the Rattlesnake mound and causeway complex, the construction of the Grand Plaza and the beginnings of Monks mound, all of which were gathered along a 'flipped' lunar alignment – i.e., a sky perspective (Alt et al. 2010; Baires 2014a, 2014b, 2017; Dalan et al. 2003; Fowler 1991; Romain 2015a). The physicality of a mission, especially within a cosmic alignment rearranges meanings and power in both overt and subtle ways.

The key element of the mission bundle - missionizing itself, i.e., the concept of converting local Late Woodland peoples into the fold of a new Mississippian religion - might also have come from Cahokia's southern neighbors. Rogers (1991 224) identified a pattern of "Caddoanization," defined as "the spread and incorporation of certain characteristics of local woodland groups…" between CE 600-900 in eastern Oklahoma and western Arkansas.

Cahokians may have utilized a similar mechanism in their engagements of the Midwest and upper Midwest, i.e., *missionizing* being that mechanism. A primary component of the mission bundle is mounds. Mound building as a missionizing practice is the engagement of local labor in the cyclical construction of flat top mounds surrounding a plaza. In other words, a mission.

As I defined the problem in the introduction, checking off the presence or absence of mounds and other Mississippian 'traits' leads to hypothesizing the varying degree or success/failure of a site's Mississippian-ness and creates a 2-dimensional history neglecting what mounds *do*. Mounds demand. They demand labor, attention, participation, and inclusion. As archaeologist Lee Bloch (2019:369) puts it, mounds "are sites of historically deep and unfinished dramaturgies, foregrounding the importance of movement and vitality…." Mounds are monumental, but never static. As part of Bloch's research on animate mound landscapes in the southeast, he was invited to learn from and spend time with Talwa people (Muskogee) to get an Indigenous perspective on Indigenous realities. The culmination of those teachings resulted in his dissertation, where he describes what he calls "mound power" (Bloch 2018:260). He explains,

> This concept draws upon Talwa peoples' teachings about the nature of Power, or animating force. Mound power is a theory of the force relations that emanate from mound landscapes: the heavy gravitational pulls that create the curvatures of Indigenous spacetimes and draw Talwa people into orbit. The forces exercised by mounds animate the movement [of] entities seen and unseen, human and otherwise. They exceed illusions of masterful subjects, human exceptionalism, and relations of command and control. Because one is drawn into or enrolled within mound power – because one does not direct but is directed by it – these forces often lead elsewhere from where one had expected. They may provide knowledges otherwise to what one had anticipated (Bloch 2018: 260-261).

In this way, Mississippian mounds have power and are powerful. They mediate relationships and demand focus. For example, one could argue that as core elements of a mission, Mississippian mounds demand to be aligned within larger cosmological orientations (solar and lunar). One can literally be pulled into Cahokia's, and thus, Mississippian's gravitational, relational field – connecting all mounds and, therefore, all missions.

The performance of mound building is a missionizing action in itself. Orienting enough human persons to engage with the correct materials/substances and in the correct order and spatial location is proselytizing in real time. Once brought into existence, mounds become active proselytizers (exerting mound power) in addition to anchoring the core of a mission. Mounds appropriate space, which is an overtly religious practice in the creation of a mission. Ethnographic and archaeological examples show evidence of utilizing spatial layout and the restriction/granting of access as proselytizing practices facilitating conversion (Lightfoot et al. 1998; Voss 2008; Deagan 1996; Pikirayi 2013; Wagner 2014). The mission bundle and in it, the blueprint of a mission, moved out from Cahokia at the 'moment' of the Big Bang to places including Aztalan, Angel, Trempealeau, and Collins. This chapter focuses on the mounds at the Collins Complex in detail – their construction methods, soils, locations, and biographies. I will discuss how all of this, bundled together, exemplifies components of the Mississippian mission bundle. Specifically, by acknowledging mounds as vibrant components of mission architecture and active proselytizers, it reanimates the larger Mississippian geographies. It reconnects sites lost to the disconnected grey-area of Late Woodland/Mississippian designations and foregrounds the "diversity of mission encounters" (Graham 1998:26).

**<u>Mounds of Collins</u>**

There are three primary mounds with known temporal associations within the Collins Complex (Figure 3.1); however, there are as many as five additional mounds that could potentially be enfolded within the larger Collins Complex (Douglas 1976; Riley et al. 1978). Early reports indicate there were as many as eight mounds prior to destruction via agricultural practices (Douglas 1976; Riley et al. 1978). With the exception of the three primary mounds, the remainder were minimally tested or left untouched archaeologically (Riley et al. 1978). As a

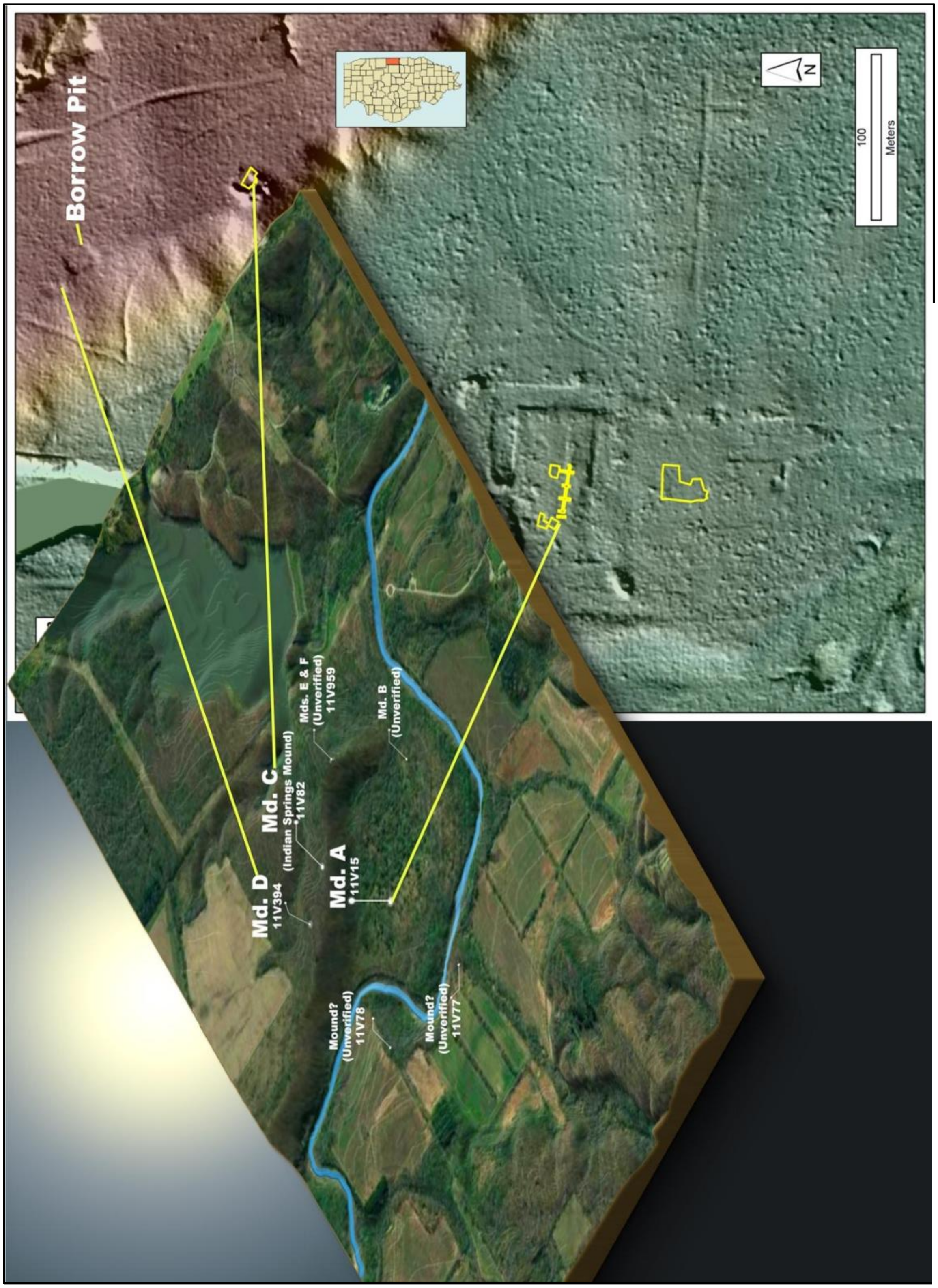


Figure 3.1. The Collins Complex: Mounds, Borrows, and Excavation Locations

result of the multitemporal inquiries at the Collins Complex, there are some discontinuities in mound labels, exacerbated by their individual site numbers. In order to discuss all the excavated mounds of Collins as a whole, I have extended Douglas' original labeling scheme (A, B, etc.) to include Mound 394 and the untested, but suspected mound hypothesized by Douglas (1976). Table 3.1 clearly indicates the site numbers, their nicknames and the mound letter I gave it for this discussion.

| Mound* | Nickname | Site Number | Widest x Longest x Height (meters unless noted) | Orientation | Shape |
|---|---|---|---|---|---|
| **A** | Mound A | 11V15 | 45.7 x 76.2 x 1.2 (150 x 250 x 4 feet) | WNW-ESE | Rectangular Platform |
| **B** | Mound B | 11V15 | 4-5 feet high | NW-SE | Unknown |
| **C** | Indian Springs | 11V82 | 21.3 x 27.4 x 2.1 (70 x 90 x 7 feet) | WNW-ESE | Possibly oval/rectangular platform followed by final cap similar to a ridge top |
| **D** | - | 11V394 | 8 x 10 x 0.5 | N-S | Oval Platform |
| **E & F** | - | 11V959 | - | | Circular Mounds |
| **-** | Henthorne | 11V77/V304 | - | | Unknown - plowed down |
| **-** | Chestnut | 11V78/V302 | - | | Unknown - Plowed down |
| ***A. Butler extended the lettering system started by John Douglas.** | | | | | |

Table 3.1. Collins Complex mound information.

| Mound* | Radiocarbon Dates (1-sigma Confidence) | Excavation Status | Comments |
|---|---|---|---|
| **A** | 1016 - 1050 CE (1 sample) | Excavated by Douglas, Riley, Butler | Monks Mound Red sherd from sand core of mound (Riley et al. 1978) |
| **B** | - | Not excavated - untested | |
| **C** | 825-1277 CE (4 samples) | Excavated by Douglas, Butler | |
| **D** | | Excavated by Riley | |
| **E & F** | - | Not excavated - untested | |
| **-** | - | Unknown | Surface collection: LW potsherds, including collared rims, triangular points, and a human tooth. (Douglas 1976:175) |
| **-** | - | Unknown | Surface collection: Archaic material dominate, but a triangular point, celt, and sherds also recovered. (Douglas 197:175) |

***A. Butler extended the lettering system started by John Douglas.**

Table 3.1 (Cont.). Collins Complex mound information.

The primary mounds include Mound C, referred to as Indian Springs Mound by Douglas (1976) and Mound D built atop the natural bluff, overlooking the main site and a third mound, Mound A, on the floodplain terrace. There are at least two known borrow pits on the bluff. The first to the southeast of Mound C and the second just to the northeast of Mound D. Douglas (1976:175) reported a suspected mound, Mound B, "at the southeast margin of the Collins Site terrace, on the easternmost portion of the natural levee…it rises some 4-5 feet above the terrace surfaces adjacent to it to the north and some 2-3 ft. higher than the levee to the west." It was mapped by Douglas, but never tested. I include it as a possible mound related to the Collins Complex (see Figure 3.1).

The overall Collins Complex chronology is discussed in Chapter 1 (see Table 1.2), but more specific dates relating to the mounds themselves can be found in Table 3.1. More dates are needed to obtain a tight chronology for the happenings at the Collins Complex. However, the most recently obtained radiocarbon date following the 2016 excavations, along with the radiocarbon dates obtained by Douglas (1976), indicate that Mound A can be placed in the Edelhardt Phase (CE 1000-1050) and Mound C (Indian Springs Mound) was slightly later in the Lohmann/Stirling Phase (1050-1200). While no radiocarbon date was acquired from Mound D, it can tentatively be placed within the Edelhardt Phase based on an Albee Phase[12] 'occupation' that the mound shaft superimposed (see further details in Mound D section below) (Riley et al. 1978).

Each of the primary mounds at Collins *did* different things, looked different (i.e., bundled differently), and were engaged by people in different ways. As I discuss in greater detail below, Mound C is an ancestor mound. Mound A is the heart of the mission and Mound D is a burial mound. During my excavations at the Collins Complex, I re-examined and expanded the excavation scars of Mound C. In addition, my excavations opened a new trench into the heavily disturbed Mound A. Excavations of Mound C were conducted in 2013 and excavations into

12 Albee Phase is first described by Winters (1967) based on ceramics and point styles. Albee Phase peoples are typologized as living a Late Woodland existence and are considered to be contemporaneous to Collins (Wells 2008). See Wells (2008) for an updated archaeological chronology of the entire Vincennes region.

Mound A transpired in 2016. Mound D was exclusively excavated by Thomas Riley in 1977 and is summarized briefly as part of the mound complex at Collins.

**Mound C (Indian Springs Mound)**

Mound C is the largest of the three archaeologically confirmed mounds within the Collins Complex. Originally named for the natural spring (Indian Springs) a half a mile upstream along the Middle Fork of the Vermilion River (Douglas 1976), this mound was constructed atop a steep, natural bluff overlooking the main site floodplain terrace and river (see Figure 3.1). While named for a spring up river, there is also a natural spring/water seep at the base of the bluff directly below where Mound C sits. The bluff itself rises at a fairly steep angle some 15 meters above the floodplain to an elevation of 198 meters above sea level. The bluff line runs in a southeast-northwest angle of approximately 335° east of north (Riley et al 1978). Douglas (1976) observed the bluff as being covered in a secondary forest of oak, hickory, juniper/red cedar. Soils on the bluff consist primarily of loess deposits overlaying a ~10 cm layer of yellow clay. The clay is utilized heavily in Mound A constructions and is loaded with chert and limestone inclusions attributed to the Strawn component (Riley et al 1978).

Prior to my re-investigations, the original shape of the mound was long altered as a result of early looting and over 40 years of slumping following salvage excavations in the 1970's. Based on Douglas' observations in 1970, Mound C was "apparently fairly regular, generally rounded with sides sloping at an average grade of about 20 percent" (Douglas 1976:136). Douglas also provides the most reliable data for overall dimensions at the time of his excavations. Douglas (1976:136) reported dimensions as roughly 90 x 70 x 7 feet (27 x 21 x 3 meters). The long axis of the mound follows a northwest-southeast orientation, mirroring the bluff edge. My primary goal of re-evaluating Douglas' excavations was intended to reassess

Mound C construction technique and depositional chronology through the lens of a more robust dataset on Mississippian mound construction which was not previously available to Douglas. Particularly, the focus was on reassessing whether the large structure (Feature C1), asserted to be a crematory pyre/scaffold by Douglas (1976), was built alongside and therefore, after the construction of the core primary mound (Douglas' hypothesis). Did the mound construction, that is, align with other widespread Mississippian practices of incinerating a submound structure in preparation for building a core mound? Excavations not only led to a new understanding of the chronology of mound construction, but also a greater insight into the unique funerary temple (Feature C1).

Excavations 1971-1972

Douglas became aware of Mound C through local amateur archaeologists but did not include testing of the mound in his original excavation plans as it was to be spared from flooding by the proposed reservoir. However, during his excavations of the terrace (below Mound C), he was informed that while the bluff top would not be subject to flooding, it was slated for a new RV park that would overlook the future reservoir (Douglas 1976). Switching gears, Douglas quickly reworked his original excavation plans to include testing of Mound C.

Douglas' excavations (Figure 3.2[13]) were extensive and encompassed two full seasons of work. Excavations began with the placement of two L-shaped trenches through the assumed center of Mound C (Table 3.2). The two initial trenches revealed a "basket loaded" primary core mound and a thick blanket mantle capping the mound and forming its final shape. Douglas (1976) noted a combination of loess soils from the bluff and sandy soils transported up from the

13 Unless otherwise noted, any figures and tables using data from John Douglas' or Thomas Riley's excavations were compiled from original maps, field notes, field forms, feature forms, etc., on file at the Illinois State Archaeology Survey.

terrace below utilized in construction. Upon discovery of baked soil and charcoal, Douglas extended a sizeable area north of trench 1 and uncovered the charred remnants of a large ovoid shaped burned structure, Structure C1[14], in addition to five burned and poorly preserved burials. Overall, excavations produced very few artifacts and no diagnostics.

| | Name | Dimensions (Ft) | Area ($Ft^2$) | Dimensions (m) | Area ($m^2$) |
|---|---|---|---|---|---|
| 1971 | L-Trench 1 | 40 x 35 x 5 | 350 | 12.2 x 10.7 x 1.5 | 31.95 |
| 1972 | L-Trench 2 | 25 x 25 x 5 | 225 | 7.6 x 7.6 x 1.5 | 20.63 |
| 1971 | EB A | 15 x 15 | 225 | 4.6 x 4.6 | 21.2 |
| 1972 | EB A Expansion | Compound | 419 | Compound | 38.93 |
| 1972 | TU 1 | 5 x 5 | 25 | 1.5 x 1.5 | 2.3 |
| 1972 | TU 2 | 5 x 5 | 25 | 1.5 x 1.5 | 2.3 |
| 2013 | Profile 1 | - | - | 6.3 | - |
| 2013 | Profile 2 | - | - | 5.4 | - |
| 2013 | Profile 3 | - | - | 1 | - |
| 2013 | Profile 4 | - | - | 3.7 | - |
| 2013 | Profile 5 | - | - | 2.1 | - |
| 2013 | Profile 6 | - | - | 4.9 | - |
| 2013 | Profile 7 | - | - | 2.1 | - |
| 2013 | EB A (total) | - | - | Compound | |

Table 3.2. Combined list of all Mound C excavations and profiles with their dimensions

14 Douglas labeled this structure, Feature 1, and I followed suit in our 2013 excavations. However, in order to discuss the entire complex together (particularly in Chapter 4), I have designated this feature Structure C1 to differentiate it from the other structures and features on the terrace below.

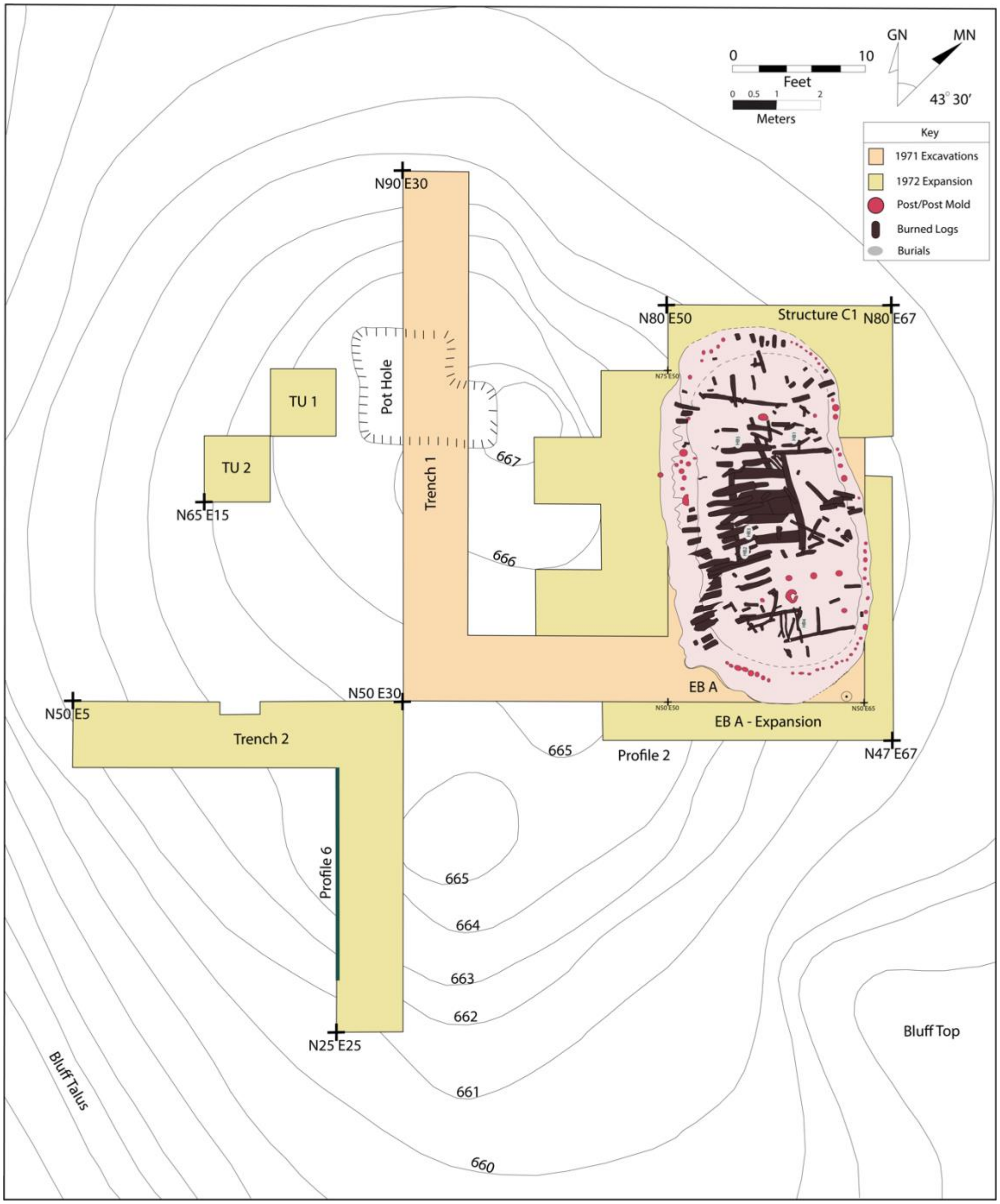


Figure 3.2. Mound C Composite Map of Douglas Excavations of mound and Structure C1.

Excavations at Mound C continued during the 1972 field season. Douglas extended his original excavations to uncover the entire Structure C1 and recovered many logs and hewn planks, all burned. The structure was fashioned entirely of red cedar (Douglas 1976). According to Douglas' excavations, the angles and supposed shallowness of the perimeter posts indicated this was not a typical structure. Douglas hypothesized that Structure C1 was more akin to a funeral pyre/scaffold combination. He believed that a central scaffold was first constructed around which many cedar logs/posts were shallowly placed to lean on and around the central scaffold. He hypothesized that five bundled bodies were placed atop the scaffolding of hewn planks and then the entire structure was burned (an in-depth description of Structure C1 can be found in Chapter 4). Based on his observations of charcoal and flakes of possible calcined bone on the core mound surface, Douglas (1976:146) hypothesized that Structure C1 was built next to the primary mound. This observation makes the two features contemporaneous, uncommon in mound building in the greater region and time period. Douglas' (1976) final Mound C chronology as he understood it consists of three stages:

1) The construction of a truncated core mound using basket loaded fills over a cleaned bluff surface.
2) Construction of Structure C1 to the northeast of the core mound.
3) Structure C1 is burned with 5 bundle interments.
4) After cleaning the surface of the core mound and the surrounding area of all organic material and while the pyre still smoldered, a thick blanket mantle of unconsolidated loess was deposited over the Structure C1 remains and the core mound in a final capping event.

<u>Excavations 2013</u>

The 2013 excavations began targeted excavations on Mound C. Again, the primary goal being a reexamination of profiles left open from previous excavations in 1971-1972. A better assessment of the chronology of construction was needed as the original hypothesis of a structure next to a mound was not in line with current data concerning Mississippian construction practices. Obtaining a refined mound chronology and construction timeline was essential to testing a mission hypothesis. With no diagnostics coming from the mound and Douglas' report of a unique shaped structure and mound combination, it was essential to reevaluate the specifics of Mound C.

Excavations at Mound C consisted of cleaning seven profile walls and the floor of Douglas' excavations (see Table 3.2). While cleaning the profiles, several burned log sections and large (fist size) chunks of charcoal were recovered from the slump and Douglas' backdirt. A sample of the better-preserved logs were collected for potential dendrochronology. The crew re-scraped what was assumed to be the excavation floor and quickly realized that it was slump covering the original plastic tarp Douglas used to seal his excavations from 1972. Like removing the lid of a Tupperware, the original excavation and feature floor was uncovered in a dramatic and odoriferous reveal. The plastic tarp and the moist clay loam floor helped promote a healthy growth of fragrant organisms. Under the tarp were intact posts and post molds for the entirety of Structure C1. Douglas' original limits of excavation were re-scraped to see all of Structure C1 and clarify its sequence in Mound C construction. Further details about the possible ancestor temple (C1) can be found in Chapter 4. With all profiles cleaned and seen in relation to Structure C1, the 2013 reexamination demonstrated clearly that the story of Mound C unfolded in five stages.

*Pre-mound Sequences (Stages 1-3)*

Profiles 1 (view to northwest) and 2 (view to the south and southeast) (Figure 3.3a and 3.3b) were the first to be cleaned and examined and thus oriented the excavation. The profiles, particularly Profile 1, showed a discrete construction sequence in addition to distinguishing the original mound from Douglas' backdirt. To ensure a clear progression of construction events between the mound and the structure, we began a deeper cut into Douglas' assumed overgrown excavation "floor." Douglas' polyethylene tarp protected his limits of excavation and allowed a quick cleanup. Subsequently, the remains of Douglas' Structure C1 were revealed. As Douglas hypothesized Structure C1 to be more of a temporary/loosely built structure, i.e., not a permanent or actual building. It was believed the entirety was excavated, leaving nothing for reexamination. Upon cleaning the floor level, it became obvious that Structure C1 was much more formal than Douglas believed.

A more detailed description and discussion of the architectural features of Structure C1 can be found in Chapter 4, but a brief description follows. Structure C1 was a 8.1 x 3.9 meter (31.24 $m^2$) wall trench and single post structure with angled posts set into a shallow wall trench with three large center posts more or less equally distributed within (see Figure 3.3). It was rectilinear with ovoid ends and the long axis oriented NW-SE following the bluff edge. A shallow entrance ramp was located along the northeast wall of the structure and it and the wall were rebuilt once. As Douglas noted, the structure was burned and the ends of many burned posts were still in situ, particularly along the East and South walls.

With the cleanup of Structure C1, Profiles 1, 2, and 3 (Zone C, Zones C & D, and Zone 13 respectively) unmistakably illustrate that Structure C1 was built and burned first, followed by a blanket mantle of loess and sand 10-17 cm thick. A blanket mantle was deposited over the still smoldering remains and used to enlarge the surrounding area meant for the mound. It would seem that construction of the core mound began rather quickly once the blanket mantle was in place as there is no developed A-horizon. Profile 3 (See Figure 3.4) best illuminates the sod block construction of the core mound, built on top of the prepared platform, but not directly over Structure C1. This placement likely led Douglas to incorrectly assume the contemporaneous construction of the mound and structure next to one another instead of their subsequent construction stages.

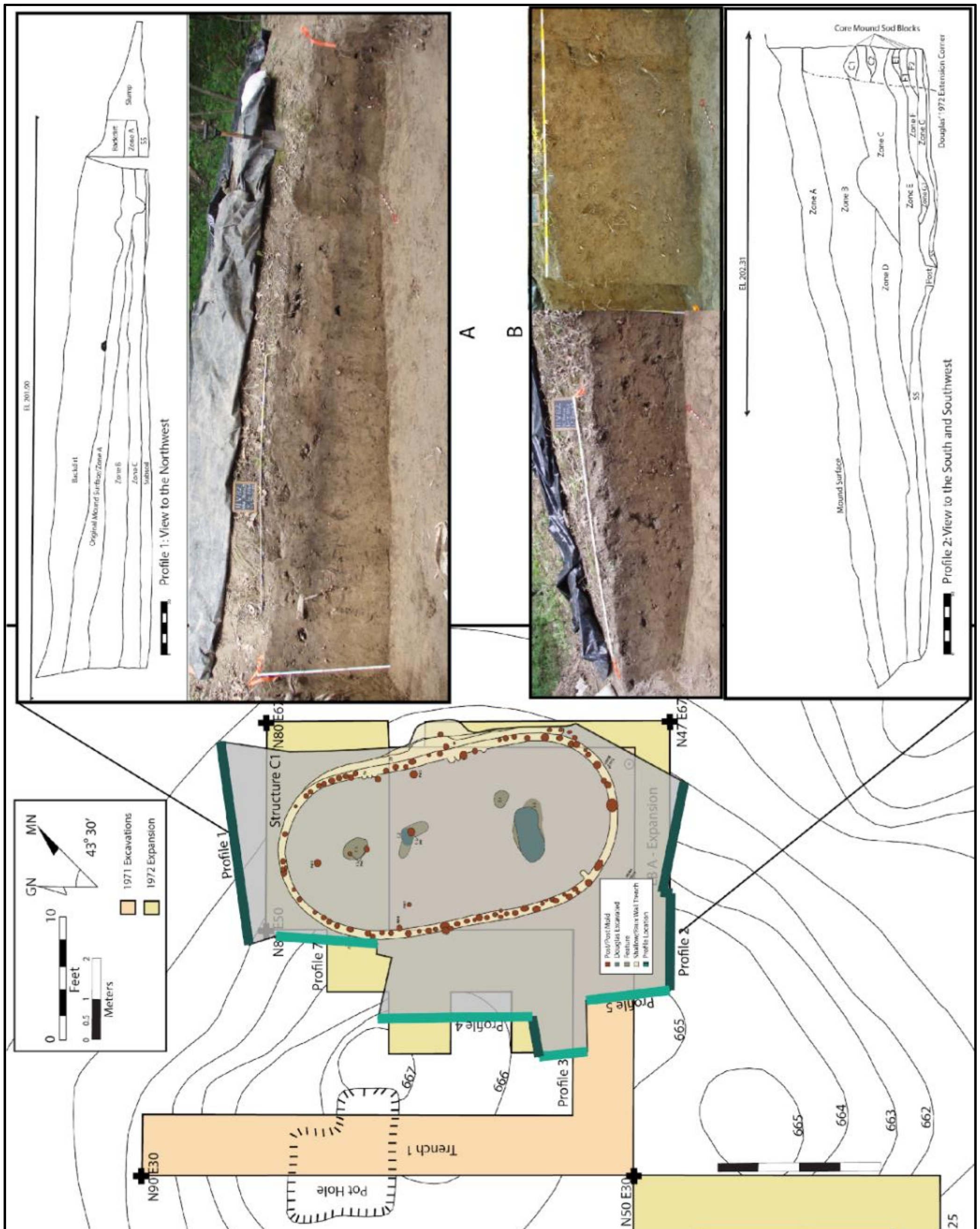


Figure 3.3. Flank Profiles of Mound C: A) Profile 1 – View to the Northwest; B) Profile 2 – View to the South and

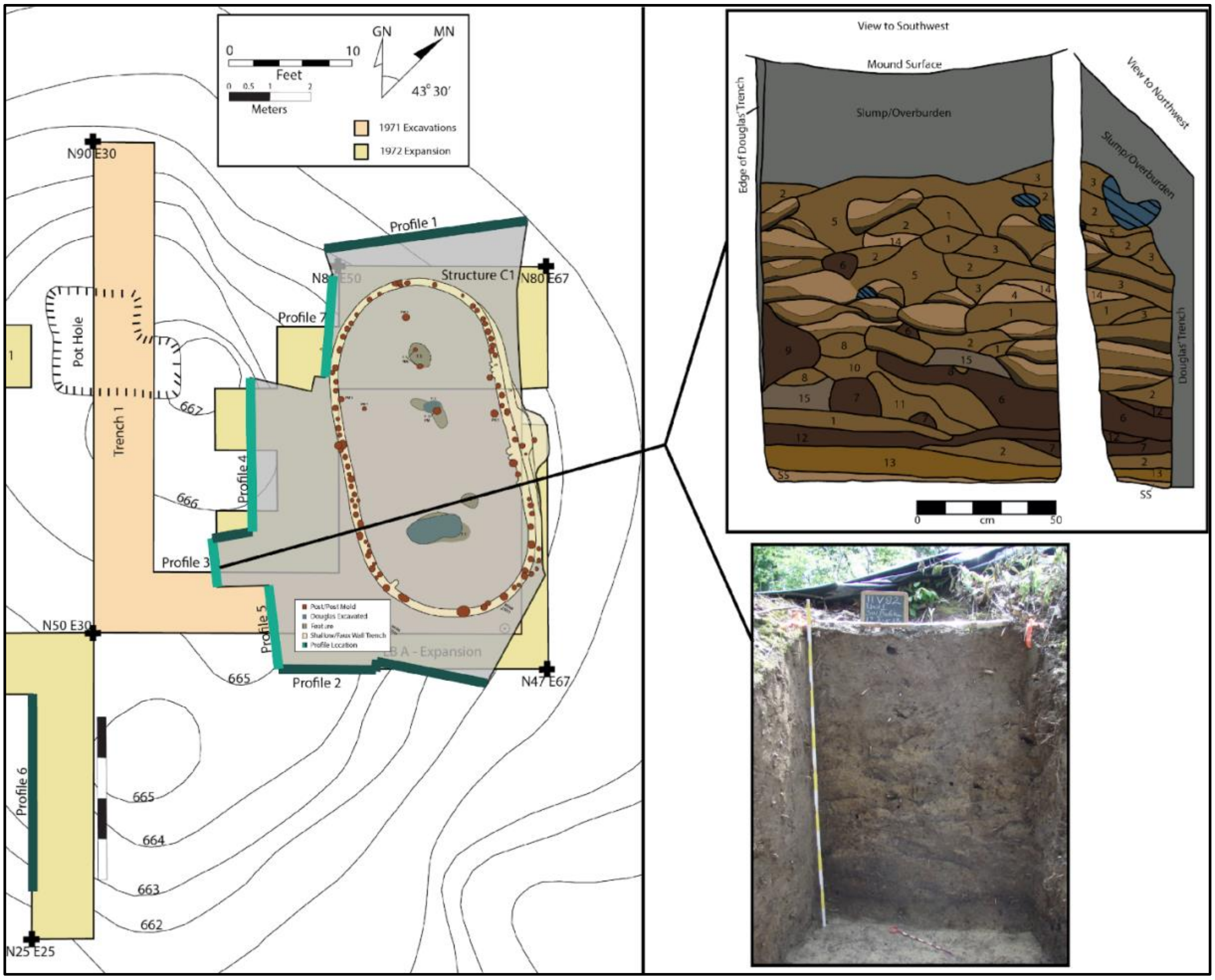

Figure 3.4. Core Mound Profile of Mound C: Profile 3 shows the sod block construction technique.

*Core Mound Construction (Stage 4)*

Profile 3 was subject to severe slumping, but once cleaned it revealed a clear window into the core mound construction. In addition to the basket loads Douglas (1976) identified, the primary construction method for the core mound was distinctly sod block. In sod block construction, pieces of sod are cut and stacked, humus layer down, one atop the other in a kind of brick-like fashion, creating alternating lenses of light and dark soils. This stacking method often preserved the A horizon (dark band) with the intact and lighter B horizon, now inverted above the humus layer, on each individual block (see Figure 3.5), creating the desired alternating soil color pattern with relatively minimal effort.

A similar construction technique is reported for both pre-Mississippian and Mississippian mounds (e.g., Hall 1997) and is common at Cahokia, Emerald Acropolis, and the Angel site in southwest Indiana (Monaghan and Peebles 2010: 943-944; Sherwood and Kidder 2011). Each individual block could be seen in profile and provides a unique picture of a known Mississippian construction method. Such a method results in a relatively quick and stable base build in addition to maintaining the alternating dark/light soil markers within each block (Monaghan and Peebles 2010). The sod block and basket loaded mound core was centered to the west of the covered temple remains. Profiles 1, 2, and 5 (Zone B) show that a mound apron was built directly over the temple remains and lead up to the sod block core mound. However, the sod block method was not used for mound apron construction (Figure 3.5).

*Capping and Closing (Stage 5)*

The final stage of Mound C was a capping event that likely coincided with the final capping of Mound A and subsequent site abandonment by Collins' human caretakers (Douglas 1976). Profiles 1, 2, 6, and 7 (Zone A) (Figure 3.3a, 3.3b and Figure 3.6) show a 17-28 cm cap of unconsolidated loess which covered the entirety of the mound. Douglas' profile (1976:Figure 8) showed this cap as well, but he incorrectly included the now identified mound aprons in their entirety into the finalized capping event. The 2013 excavations showed definitively the sequence described above. Future work using magnetic susceptibility[15] is intended to establish if any

15 Magnetic susceptibility is a near surface geophysical method that measures a "material's ability to be magnetized" (Dalan 2006: 161). This technique is proven useful in a variety of archaeological contexts including locating buried A-horizons and thus buried sites, locating buried features, or documenting stable layers with developed horizons in mound construction (Dalan 2007). Dr. Dave Grimley of the Illinois State Geological Survey was invited to the Collins Complex to use his Bartington MS2F point probe sensor to assess the continuity between the scribed mound layers and the magnetic susceptibility data in addition to revealing if any mound layers underwent pedogenic processes. Readings were taken every five cm down each profile face. Early results correspond well to the mound profiles and overall substantiate the updated mound construction sequence, but future lab corroboration with collected soil samples is needed.

mound stage was a stable surface long enough for pedogenesis, providing insight into the relative speed of construction.

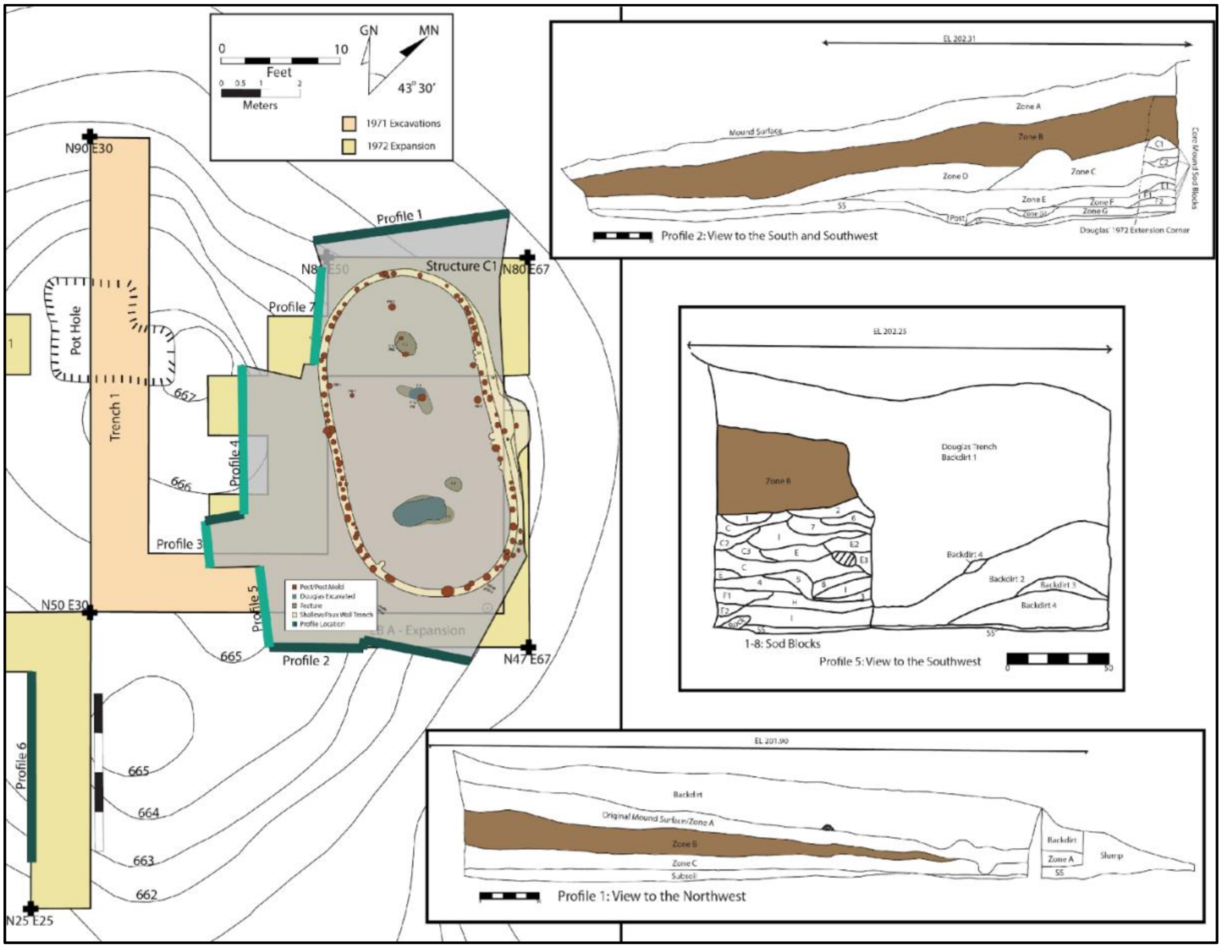


Figure 3.5. Mound C Apron (Zone B) Profiles: A) Profile 2 – View to the South and Southwest; B) Profile 5 – View to the Southwest; C) Profile 1 – View to the Northwest.

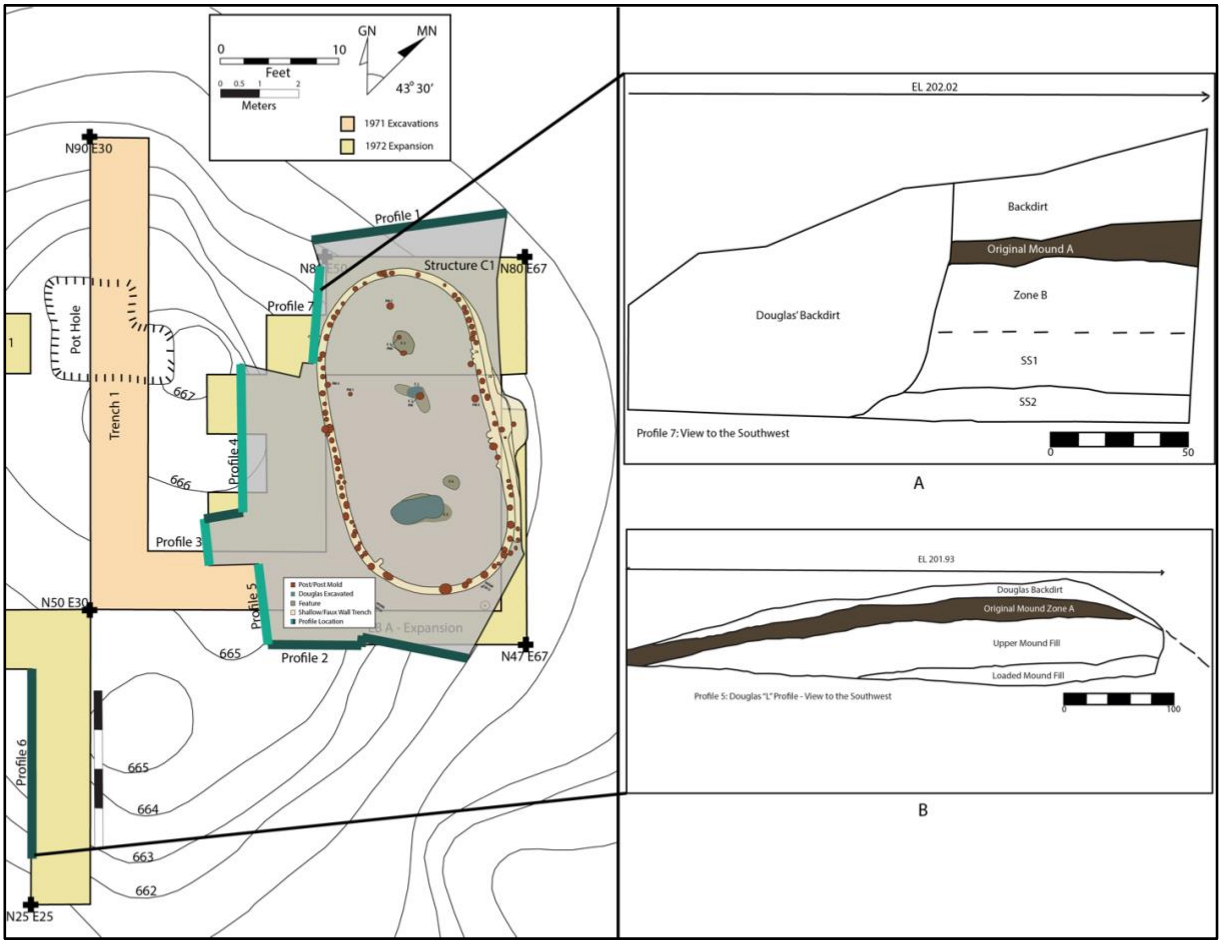

Figure 3.6. Mound C Cap (Zone A) Profiles. A) Profile 7 – View to the Southwest; B) Profile 6 – View to the Southwest.

*Summary*

The data from the 2013 excavations required a few corrections to the story of Mound C. The first is the designation of Structure C1 being a true structure in lieu of a temporary pyre surrounding an internal scaffold leading Douglas to interpret a temporary construction. The presence of both shallow wall trenches with single post construction was a surprising find. It is both familiar and unfamiliar. Familiar in that this construction method – faux wall trench - is noted at other early Mississippian sites as a blending of both Mississippian and Late Woodland (Alt 2006a:82). Unlike other faux wall-trench buildings however, Structure C1 is unique in shape and size. The only other known submound structure that has both linear, long walls and semi-circular ends and uses both wall trench and single post construction[16], is Structure 5 beneath the Northeast Mound at the Aztalan site in southern Wisconsin (Richards and Zych 2018). The second correction is that Structure C1 predates the original mound and was *not* built next to the core mound. Last, after Structure C1 was burned and obscured with the first mound layer construction, two more building episodes were evidenced in profiles. In sum, the 2013 re-examination of Mound C helped clarify the biography of this mound and is summarized here.

1. Pre-mound - Prior to construction, the preparation of the submound surface included clearing all humus and leveling the area, maintaining a consistent base (within seven cm) (see Figures 3.3 and 3.4).
2. Pre-mound Ancestor Temple - Structure C1 (description found in Chapter 4) was found to be a substantial submound structure built prior to the core mound (see Figures 3.3-3.4) and rebuilt once. Its construction sequence is as follows, a shallow (7-24 cm deep) wall trench is dug and then individually set posts are placed – many at quite severe angles inward, a shallow entrance ramp is built, the northeast wall and entrance is rebuilt, five interments are placed in the building and according to Douglas (1976) likely placed on a raised cedar platform and subsequently burned. It is unknown if any other structures were built during this phase as the true center of the mound remains unexamined. However, Profile 2 (Figure 3.3b) shows a possible feature with a post that was likely contemporaneous with Structure C1. Profile 4 (see Figure 3.6) also indicates a possible post that is below Douglas' limits of excavation in the trench. In other words, Structure C1 was likely not the sole structure on Mound C.

16 There is one other similar structure in shape and size from the Poole Site in Arkansas. This structure is only reported as being single post construction and is fully rectangular, however, it has seven internal center posts running down its center. This structure is compared in great detail in Chapter 4.

3. Mound Platform - The first mound layer, a mantle of soil 10-17 cm (see zones C and zones C & D in Profiles 1 and 2 [Figure 3.3a and 3.3b]) thick is deposited over the still smoldering building (Douglas 1976) as well as the area to the southwest to create a platform surface for the subsequent mound. Possible structures on top of this surface (See Figure 3.3b).
4. Core Mound - The primary core mound was completed using a combination sod-block and basket loading construction technique to a height of ~1.5 m (See Figure 3.5). The core mound is not built directly over the buried temple remains, but to the west of it. In the end, Douglas was technically correct about the spatial layout of the mound and the temple, but he missed the prepared soil surface separating the two features. In other words, the center of the core mound was built next to the burned temple, but the temple was covered over by the unconsolidated soils of the mound apron visible as Zones B in Profiles 1, 2, and 5. (see Figures 3.3 and 3.5).
5. Capping - The final construction sequence was a mantle of loess, 15-18 cm thick, closing or capping the mound (Douglas 1976). This sequence is evidenced in profiles 1-3 (Figures 3.3 and 3.4).

**Mound D (11V394)**

Mound D is located 85 meters directly north of Mound C following along the bluff top of the Collins Complex (See Figure 3.1). This mound was documented with the state in 1976 by David Carmichael during an upland archaeology survey and therefore unknown to Dr. John Douglas during his work at the Collins Complex. Mound D and the surrounding blufftop were the focus of excavations conducted by Dr. Riley and a University of Illinois at Urbana-Champaign field school in 1977. While Mound D was not a focus of my excavations, as a communally built burial mound and the 3rd largest mound in the Collins Complex, it is important to place it within the overall Collins Complex occupational history as we understand it. A short description of the mound and Riley's excavations follows. Substantial sections will be directly quoted or paraphrased from Riley et al. (1978) report to the state.

Riley Excavations (1976)

Riley et al. (1978:46) described Mound D as "a small earthen mound with associated depression and is situated on the east bluff of the Middlefork River." He goes on to state

> The mound is basically oval in form with dimensions of 8 m east-west by 10 m north-south. It is a fairly low, truncated earthen structure rising, at its maximum, .50 m above the surrounding forest floor. The western edge of the mound terminates at the edge of the bluff slope. Undoubtedly a portion of the mound has been lost to erosion down the slope but just how much is unknown (1976:48).

Their detailed location description follows,

> V-394 (Mound D) is approximately 366 m northeast of the V-15 mound (Mound A) and at an angle of ca. 20° east of north. V-82 (Mound C) is situated along the bluff edge ca. 85 m southeast of V-394 (Mound D). The nearest water source to V-394 (Mound D) is the Middlefork River which flows some 170 m to the northwest (all updated mound designations are mine) (Riley et al. 1978:46).

The associated depression is a borrow pit excavated until reaching the natural clay layer nearly a half meter below the surface (Riley et al. 1978) (see Figure 3.1). The loess taken from this borrow pit was likely utilized, at least in part due to size, for the core mound and capping sequence of the Mound C. Riley et al. (1978:49) provided the dimensions of the borrow,

> The associated depression is roughly square and at its closest points lies 2 m from the bluff edge and 1 m northeast of the mound perimeter. The depression dimensions are roughly 16 m by 19 m. The depression reaches its greatest depth of .45 m on the bluff side and decreases to the northeast to about .10 m.

Mound D is a burial mound with a single interment of a "tightly flexed burial [that] was laying on its left side [facing the river valley to the south] in a north-south orientation." (Riley et al. 1978: Appendix 3). Due to poor preservation, no determinations on sex or age is available. However, they do report the absence of a cranium and in fact reported a soil stain for the body, but no such stain for a cranium, indicating that the individual was buried without one. Similar burials without craniums or hands are documented at Cahokia's Mound 72 and Dickson Mounds, both within Mississippian contexts. It is unknown if the individual in Mound D was buried without hands as none were recovered, but preservation was extremely poor.

Riley (et al. 1978: 52-53) discerned four stratigraphic levels (Figure 3.7):

I. The primary artificial mound fill of loess, likely taken directly from the borrow pit to the northeast.

II. The original blufftop floor – cleaned and prepared for the mound layer that followed (I). This similar preparation is seen at Mound C. There is a very slight natural rise seemingly utilized for the mound base.

III. Natural blufftop layer into which the burial was interred.

IV. Sterile soil – the natural clay layer found throughout the blufftop.

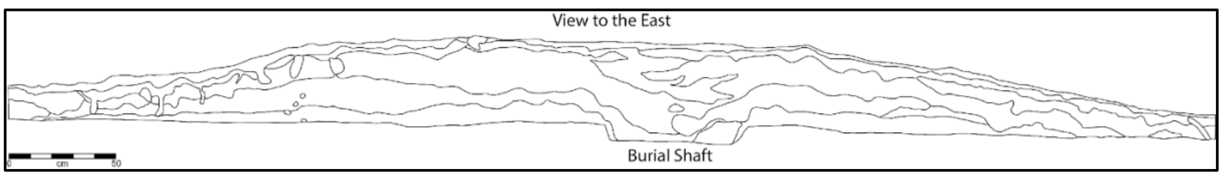

Figure 3.7. Mound D Profile - view to the East.

The overall biography of Mound D and the associated borrow pit is as follows according to Riley et al. (1978:69):

> A slight, natural hump was utilized for the mound base. Old organic humus material was cleared from the area and an obtuse angled pit was dug through the natural loess, into the underlying clay. A single individual was placed in the west wing in a flexed position facing the river to the south. No grave goods were placed with the burial and it is possible that the skull may have been missing. An initial layer of mixed loess and clay was put over the burial and then a loess cap was mounded over the area.

He notes the loess cap was mounded into a roughly oval shaped truncated mound. While no diagnostic materials were recovered from the mound itself, Riley et al. (1978) noted that a pre-mound occupation was destroyed with the digging of the borrow pit in addition to the surrounding area of the mound at the blufftop level. Albee[17] associated projectiles and ceramics were recovered and were likely the associated group prior to and possibly after mound construction (Wells 2008). Additionally, tightly flexed burials are primarily associated with Terminal Late Woodland (TLW) burial practices and are a noted practice at contemporary mound burials at the Fisher site in northeast Illinois and at the Secondino Mound in western Indiana (Emerson et al. 2019; Strezewski 2003; White 1998). Mound D may have been one of the earliest mounds constructed at the Collins Complex.

**Mound A (11V15)**

The primary mound in the Collins Complex is Mound A, a roughly 76 x 46-meter, 1.2 meter high, "more or less" rectangular platform mound (Douglas 1976:164) (Figure 3.8). Mound A was constructed atop an artificially filled and flattened ridge on a floodplain terrace of the Middlefork of Vermilion River (Douglas 1976; Riley et al. 1978). Mound A was likely between 1.5 - 2 meters in height but cannot be confirmed as a result of nearly a century of farming prior to earlier excavations. Like Mound C, Mound A follows a WNW-ESE long axis (Douglas 1976). Unlike Mound C, Mound A exhibits complex stratigraphy and a wide variety of features and deposits. Mound A was a focus for earlier investigations at the Collins Complex and yielded data indicating a locus of Mississippian activity. Douglas and Riley both report that the mound was constructed with a prepared yellow clay floor with primary features built atop this layer and subsequently capped with another layer of yellow (olive) clay. My excavations corroborated and built upon the legacy excavations and indicated that Mound A was the locus of Mississippian

17 In Well's 2008 dissertation, he synthesizes a regional interpretation of Vincennes Phase peoples – "Mississippianized" Late Woodland groups in the Wabash, Kaskaskia, Embarrass, and Middlefork river basins. He states that Albee is the likely cultural predecessor and contemporary (for groups in Indiana continuing in a Late Woodland subsistence) with Vincennes. Based on this synthesis, he hypothesizes that the Late Woodland group being proselytized at Collins was the Albee culture. Further discussion on the Vincennes Phase region can be found in Chapter 1.

missionary work and the axis mundi of the site. This mound was unequivocally the intersection of missionary activities, centering and orienting worlds, bodies, things, substances, and practices.


Figure 3.8. Aerial photo from 1976 showing the outline of Mound A, Douglas' trench (not backfilled) and excavation scars, along with some potential circular anomalies.

John Douglas Excavations

In 1970, John Douglas was the first academically trained archaeologist to formally excavate Mound A. Douglas focused his efforts on large-scale data recovery prior to the slated construction of the Middle Fork Reservoir and subsequent flooding. Much of his work relied upon fellow graduate students and volunteers. Excavating a total of four seasons (1970-1973), he started out with exploratory hand units both on Mound A and the area surrounding it. His primary interest in Mound A was an examination of the clay cap described to him by both the former farmer and site namesake, Andrew Collins and local amateur archaeologists. Douglas was also interested in locating any village or habitation area of the site and built those goals into his site plans. In 1971 he tested the efficacy of a menagerie of heavy equipment to open up large areas of the site, having successes with some and failures with others. He humbly admitted in his dissertation that information was likely lost with any number of the trials due to several factors. In all, Douglas opened up 17 machine cut blocks surrounding Mound A, ranging from 2500 – 10,000 $ft^2$ (232.3 – 929 $m^2$) (Figure 3.9).

Excavations of 1970-1972

Douglas' initial examination of Mound A in 1970 utilized a strategy of hand excavations of an "east-west 5 x 100 ft. cut through the plow zone across the top of Mound A. Following this, the trench was divided into 20 – 5x5 ft. units and every other block was excavated into sterile subsoil" (1976:117-118). Each unit was mapped and profiled to provide data for future excavations into Mound A. In profile, Douglas located the clay cap described above in addition to what he designated as a clay floor. The initial units seemingly showed no discernable continuity in profile, either with the clay layers or any mound layers, and heavily influenced his interpretation and future excavation plans at the time.

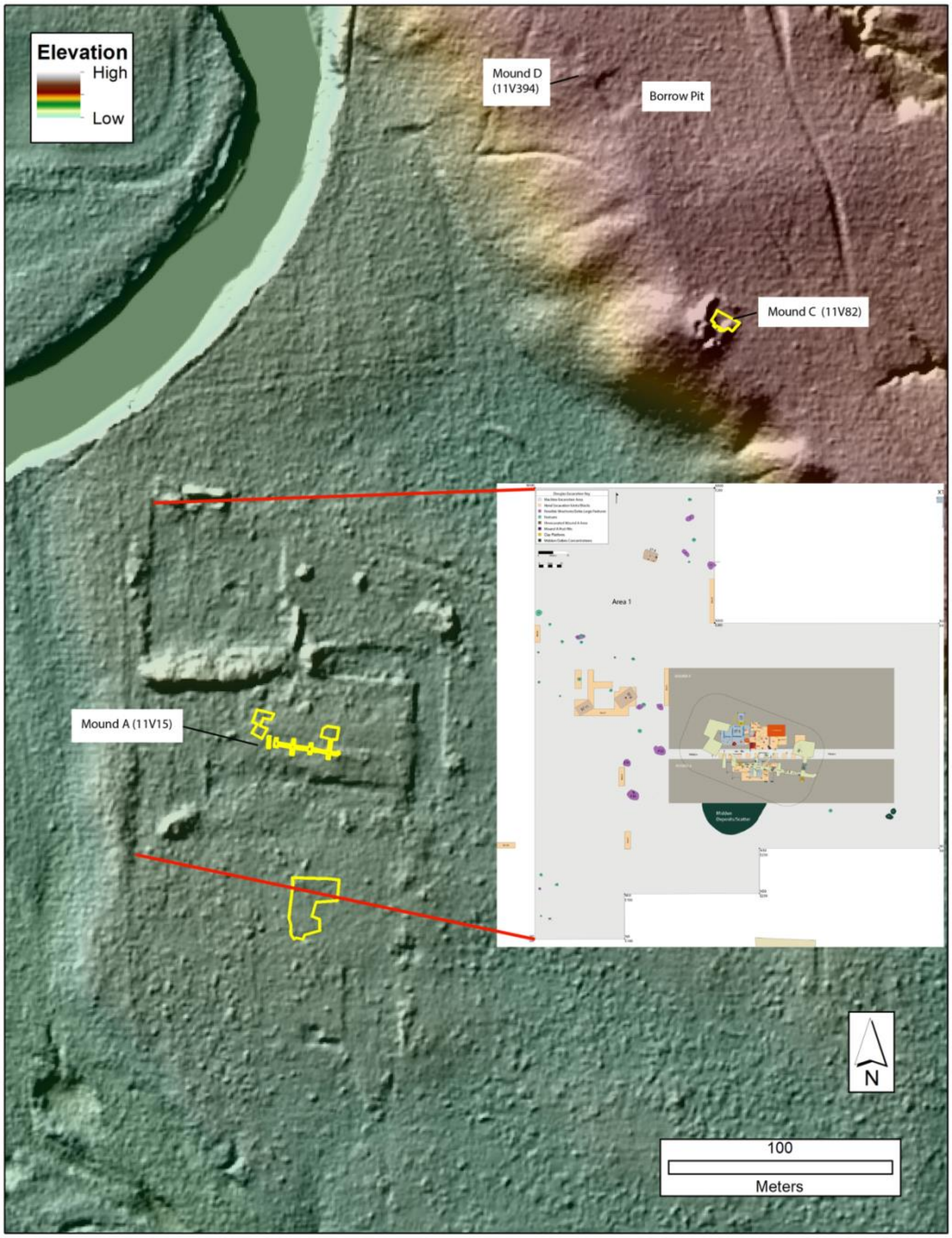

Figure 3.9. LiDAR image highlighting Douglas' excavation scars, which were never backfilled. Inset image shows a map of his excavations.

What would become a disheartening norm throughout his excavations at the Collins Complex, the hand dug mound units were left open after a request for them to be backfilled after the finished 1970 season fell through and they were thoroughly vandalized. Douglas' work on

Mound A during that first season led him to initially misinterpret Mound A. Douglas (1976:119) states,

> On the basis of the incomplete evidence accumulated during 1970, I interpreted Mound A as an unplanned accumulation of midden which did not conform to the customary formal sense of 'mound," and so reported it. By logical extension, if this large accumulation of midden were present, then the surrounding flat must contain a village site of considerable size, duration, and importance. These interpretations, which proved erroneous, affected my thinking about the site for the next two years, and had much to do with further excavation strategies - and a great deal of puzzling over ineffective predictive hypotheses.

Informed by his misinterpretation of Mound A—that it was not a mound but merely a midden pile—Douglas employed heavy equipment to excavate the mound in 1972 in lieu of more careful hand excavations. Deciding an end loader would be the safest and most effective means of mass soil removal without damaging the walls of the trench, Douglas cut the remains of the 1970 hand dug units, totaling over 250 feet in length (76.2 m). The width of the trench would be the width of the end loader, averaging 2.5 m. Using the test units from 1970 as a guide, Douglas' 1972 goals were to follow horizontally, the yellow clay bands visible in profile and to map a continuous profile of the newly cut trench. Before Douglas was able to map the pristine profile walls of the entire trench, they were carelessly vandalized once again. Douglas (1976:135) bemoaned, "the north wall looked like a vertical bomb crater field and I was very near defeated." While a colleague rallied Douglas and they eventually mapped a continuous profile, the only profiles of Mound A found in the legacy document collection are the test unit profiles. Douglas (1976:135) also opened up "a series of 10x10 ft horizontal units north of the cut to attempt to trace the aerial extent of the clay floor."

*Features*

Douglas identified five features within the hand dug units along the trench (Table 3.3) (Douglas 1976). Four features were listed as pits, or possible pits, and one as a possible post pit. All of the pits or possible pits were relatively shallow and were shown with only single zones.

| Year | Feature # | Feature Type | Feature Dimensions (E-W x N-S m) | Feature Location | Comments |
|---|---|---|---|---|---|
| 1976 | ST 1 | Wall Trench | 7 (EW)x 3.5 (NS) m Oriented N-S | X-107 | Double Compartment (Fea 19-21; 11-12; 23-24; 26 are the walls) |
| 1976 | ST 2 | Wall Trench | Oriented NW-SE | X-107 | No notes. Only mentioned in his final report and sketched in on his V15 sketch map |
| 2016 | 9 | Structure (WT) | Oriented NW-SE | TU 3 + TU 4 | Includes 4 WTs and Fea 8. Large rebuilt (3x) WT structure with possible screen/alcove. |
| 2016 | 16 | Structure (SP Circular) | | TU 13 + TU 14 | South half excavated. Directly above the old pulled Post Pit Fea 14. May be associated/contemporaneous with pit Fea 17 |
| 2016 | 18 | Structure (WT) | Oriented NW-SE | TS 3 + TU 13 | Single WT visible in TS3 plan and TU 13 East wall & N wall profiles. Built over Post Pit Fea 15 |
| 2016 | 23 | Wall Trench | Oriented NE-SW | TU 6 | Single WT. |
| 1970 | 1 | Pit? | 46 x 46 | Mound A | Only a plan map, no feature report; shallow (24 cm) pit |
| 1970 | 2 | Posthole? | 24 cm | Mound A | Only a plan map, no feature report; 21 cm deep |
| 1970 | 3 | Pit | 47 NW x 24 SE | Mound A | 29 cm deep; Fill is listed as red and yellow clay |
| 1970 | 4 | Pit | 109 cm N-S x 95 cm EW | Mound A | Irregular bottom and flat to sloping sides; Lots of artifacts listed - shell, fcr, sherds, chert, etc. |
| 1970 | 5 | Pit? | Irregular | Mound A | Irregular shaped and not fully excavated |
| 1970 | PH 1 | Posthole | 15 x 15 | Mound A | 49 cm deep; About 15 cm Northwest of Feature 2 |
| 1972 | P1 | Post Pit (Possible) | | Mound A | North of Trench |
| 1972 | P2 | Post Pit (Possible) | | Mound A | North of Trench |
| 1972 | P3 | Post Pit (Possible) | | Mound A | North of Trench |
| 1972 | P4 | Post Pit (Possible) | | Mound A | North of Trench |
| 1972 | P5 | Post Pit (Possible) | | Mound A | North of Trench |
| 1972 | P6 | Post Pit (Possible) | | Mound A | North of Trench |
| 1972 | P7 | Post Pit (Possible) | | Mound A | North of Trench |
| 1972 | P8 | Post Pit (Possible) | | Mound A | North of Trench |
| 1972 | P9 | Post Pit (Possible) | | Mound A | South of Trench |

Table 3.3. Mound A features from all excavations

| | | | | | |
|---|---|---|---|---|---|
| 1972 | P10 | Post Pit (Possible) | | Mound A | South of Trench |
| 1972 | P11 | Post Pit (Possible) | | Mound A | South of Trench |
| 1972 | P12 | Post Pit (Possible) | | Mound A | North of Trench |
| 1972 | P13 | Post Pit (Possible) | | Mound A | North of Trench |
| 1972 | P14 | Post Pit (Possible) | | Mound A | North of Trench |
| 1972 | P15 | Post Pit (Possible) | | Mound A | North of Trench |
| 1972 | P16 | Post Pit (Possible) | | Mound A | South of Trench |
| 1976 | 9 | Hearth - Formal clay hearth - multiple reuses (Fea 1-8 collapsed into 9) | 160 x 160 | X-107 | Bottom of basin at 71 cm BST; Reused hearth with white, yellow, and red clay; mound alignment |
| 1976 | 10 | Pit | 80 N-S x 65 EW | X-107 | Shallow pit filled with ash. - Red slipped water bottle rim sherd |
| 1976 | 13 | Pit - Irregular | 34 N-S x 43 EW | X-107 | Defined by burnt clay and charcoal flakes - possible fire/burn area |
| 1976 | 14 | Hearth - Formal clay hearth | 90 N-S x 60 EW | X-107 | Red circular stain surrounded by white clay |
| 1976 | 15 | Other - Pot Hunter Hole | | X-107 | Given a feature number for artifacts coming out of it. |
| 1976 | 16 | Other - Burned clay cap and clay cap of Fea 17 | | X-107 | Above Feature 17. Notes say it continues into LOE - This is the clay cap for Fea. 17 |
| 1976 | 17 | Pit | 310 EW x 120 NS | X-107 | Underlying Fea. 16 (clay cap). I suspect this feature cuts through an earlier post pit |
| 1976 | 18 | Midden Deposit | | X-107 | Extensive bone, burned seeds, nuts, and other burned materials |
| 1976 | 22 | Other - Clay basin | | X-107 | Overlays Fea 27 |
| 1976 | 25 | Pit | 183 EW x 180 NS | X-107 | Large Pit |
| 1976 | 27 | Pit | | X-107 | Irregular shallow pit; Underlies Fea. 22 |

Table 3.3 (Cont.). Mound A features from all excavations

| | | | | | |
|---|---|---|---|---|---|
| 1976 | 28 | Pit - Post pit? | | X-107 | Vertical pit |
| 1976 | 29 | Pit - Post pit? | | X-107 | Vertical pit |
| 1976 | 30 | Pit | 30 N-S x 54 E-W | X-107 | Shallow Clay pit - debris within |
| 2016 | 4 | Post Pit Ramp | | TU 6 | Likely ramp for Fea 22 |
| 2016 | 5 | Hearth | 188 NS | TS 3 | Formal hearth surrounded by clay. 27 cm deep circular basin ~230 cm diameter. Clay rectangle (140 cm NW-SE x ~100 cm NE-SW) |
| 2016 | 6 | Pit | | TU 10 | Shallow (12 cm) trash pit on top of clay |
| 2016 | 7 | Other - Burn Zone | 21 x 46 | TU 15 | Shallow (5 cm) burn fill that was placed into the mound via re-excavation |
| 2016 | 8 | Other - Floor Deposit | Irregular | TU 3 | Floor deposit of Fea 9. Thin (15 cm) floor deposit where bone scratchers were recovered |
| 2016 | 10 | Pit | 51 NS x 44 EW | TU 10 | 15 cm deep pit either associated with one of the rebuilds of the wall/palisade or prior to the wall builds |
| 2016 | 11 | Hearth | | TS 3 | hearth superimposed by the larger Fea 5. Possibly associated with Fea 18 (WT ST) based on elevations |
| 2016 | 12 | Pit/Basin? | | TU 11 | Unable to determine if a pit feature or a burn zone within a larger basin |
| 2016 | 13 | Wall Trenches | Oriented NW-SE | TU 10 | Very large rebuilt wall (13a and 13b) oriented NW-SE. Rebuild is over 50 cm wide. |
| 2016 | 14 | Post Pit | ~143 cm deep | TU 13 | Contemporaneous with Fea 15. Prior to mound. Pulled together. |
| 2016 | 15 | Post Pit | ~71 cm deep | TU 13 | Contemporaneous with Fea 14. Prior to mound. Pulled together. |
| 2016 | 17 | Pit | 142 cm wide. 84 cm deep | TU 13 + TU 14 | Bell shaped pit |
| 2016 | 22 | Post Pit | | TU 6 | Post pit, with likely associated ramp (Fea 4) |

Table 3.3 (Cont.). Mound A features from all excavations cont.

While the clay floor was not given a feature number of its own, it bears further dissection here. Douglas was the first trained archaeologist to recognize the distinct clay layers of Mound A. He first hypothesized that the clay ‘floor’ as he called it, was a continuous clay layer specifically deposited as a platform for occupation. Douglas followed this clay platform horizontally and discovered that it was not a fully uniform deposit, but a composition of different clays of varying thickness specifically deposited as a kind of clay platform. He did identify that the clay platform follows the same orientation of both Mound A and Mound C. This orientation is particularly visible on the northwest portion of the mound (see Figure 3.10). Through many scrapings, Douglas (1976:167) exposed nearly “42% of the former summit.”

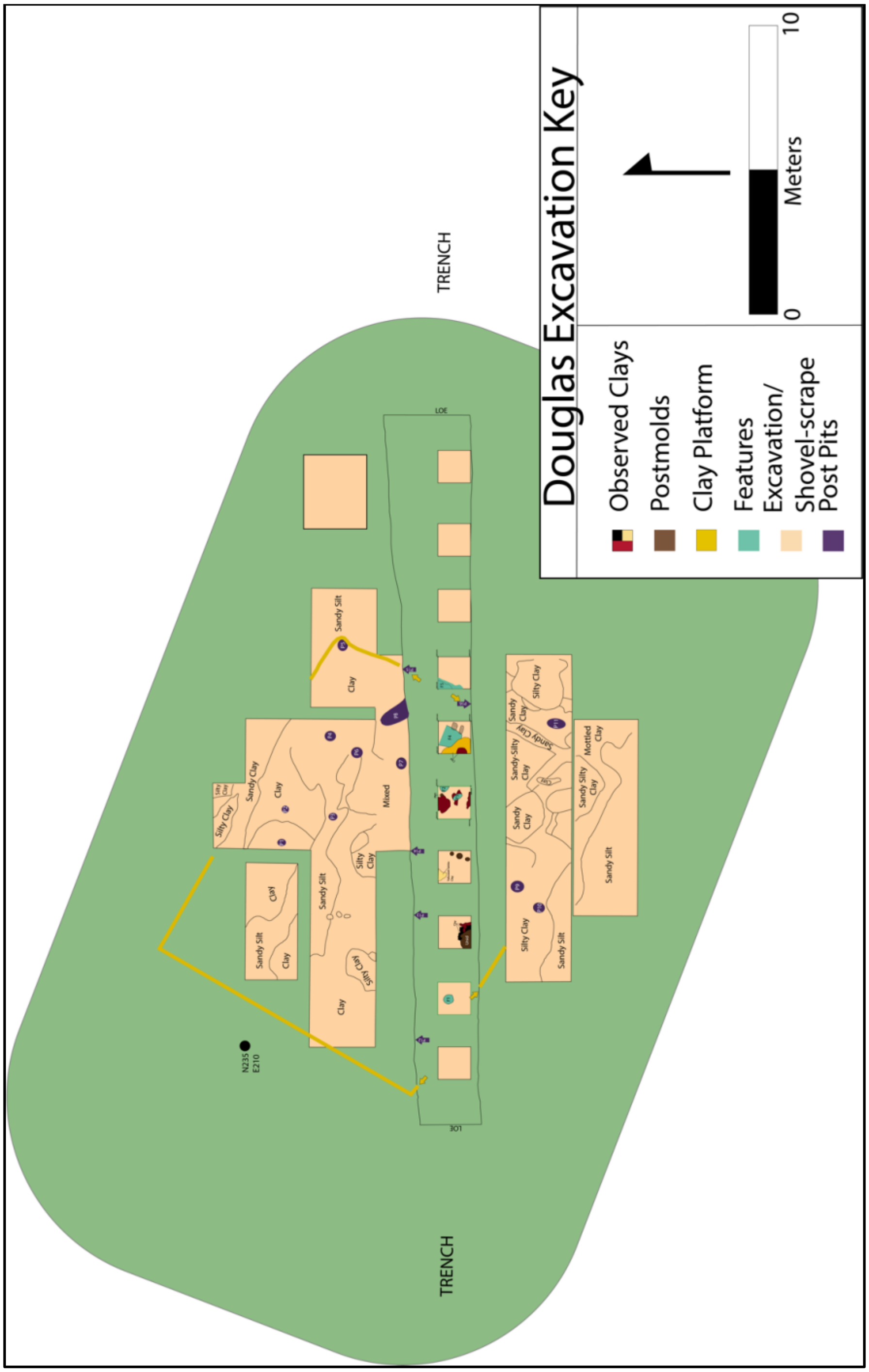


Figure 3.10. Map of Douglas Mound A excavations

*Stratigraphy and Interpretations*

With the entire profile visible immediately after the end loader cut, Douglas (1976:134) adjusted his original Mound A interpretations,

> Examination of the north wall revealed that I had been mistaken in my interpretation of the interrupted 1970 profiles, and that quite significant stratigraphic unity did exist in the mound. At a maximum depth of 2.0 ft. below surface, clay bands which had appeared earlier to be discontinuous clay lenses proved to be quite continuous, representing the ‘clay floors’ that Henry and Nichols had told me about. Although color, composition and thickness changed with lateral extent, these clay bands had obviously been purposely deposited as units, extending in a nearly level plane for a distance of nearly 55 ft.

With these new interpretations in hand along with his analyzed data, Douglas’ (1976) interpretation of Mound A construction is summarized as follows:

1) A low mound was constructed with discontinuous buried clay lenses possibly indicating earlier clay floors – unknown specifics, but he hypothesized that these early clay floors deteriorated through use and then were covered over with new fills.
2) A layer of yellowish olive clay of variable thickness was deposited to generate a level floor 17 m x 15 m and oriented WNW-ESE, the same as the mound itself and Mound C.
3) Douglas intuited that no buildings were constructed on the mound, although he left open the possibility. However, he identified in plan or trench profile over 20 post pits. Post pits and the mound itself are monumental and Douglas hypothesizes that some of the posts may have been markers for cosmological alignments, but certainly markers of place.
4) After its use, but before the clay floor was allowed to erode (as Douglas hypothesized the earlier floors were), a largely uniform (~60 cm) blanket mantle of silty-sandy soil was deposited.
5) A final clay cap was laid down, but no dimensions were reported by Douglas (1976) and mentioned only in passing.

However, Dr. Thomas Riley (Personal Communications 2018), his excavations discussed below, noted that Collins (the farmer the site is named for) said that whenever he ran his plow over the mound it would “bounce off of the surface.” Riley believed this was due to the clay cap. By the time Douglas excavated Mound A, that cap was eroded from prior agriculture practices and pot hunters, but still recognized by Douglas as a cap.

Thomas Riley Excavations

In 1976-1977, Riley took up additional work at the Collins Complex following Douglas’ excavations as the proposed reservoir continued to threaten the area. As a member of the now Dr. John Douglas’ dissertation committee, Riley was well informed of the investigations Douglas completed. Riley conducted two lengthy archaeological field schools at the site and the 1976 season encompassed his work on and around Mound A. The entirety of that work is solely documented in a report to the state of Illinois Conservation Department (Riley et al. 1978) (see Riley and Apfelstadt 1978 for the one published exception). I will quote several portions of that report at length here for clarity on Riley’s investigations at the Collins Complex. Riley’s excavations on Mound A were a continuation and expansion of that by Douglas’. More specifically, Riley attempted to better understand the number of occupations between Douglas’ described clay floor and clay cap, in addition to any occupation below the clay floor. A primary interest was to determine which occupation the Mississippian ceramics, and therefore component, could be attributed (Riley et al. 1978).

Excavations of 1976-1977

Riley’s excavations on Mound A were the last to be completed in the 1976 field season. They began by examining trench profiles to locate occupation layers to follow horizontally. Riley et al. (1978:34) states,

> Work on the mound began with cleaning Douglas' trenches and shovel scraping the old surfaces of the excavations to get a clear view of the surface of the occupation zone. The excavation floor exhibited the same characteristics that Douglas has described (1976), discontinuous lenses of olive brown or yellow clay, patches of brown silt sand, some of them oxidized from burning, and a series of apparent features, including firepits, a large wall trench structure on the western end of the prepared surface, and a large midden heap of well-preserved faunal remains a the northeast end of the site.

Riley recut and cleaned three separate profile faces, assigned Face A, B, and C, into the north wall of Douglas' trench (Figure 3.11). I can empathize with Riley's description of the three faces as having "different characteristics from one another" (Riley et al. 1978:28), something that plagued Douglas and then myself when searching for continuity within the very complex Mound A. The Face C profile showed the greatest complexity and the sought-after clay layers. They hoped for a continuous clay layer that would serve as a time marker for site occupation; however, they found the clay to be discontinuous over the site and therefore, made an unreliable time marker (Riley et al. 1978).

Despite the lack of a reliable marker or feature to follow horizontally, Riley re-shovel-scraped Douglas' earlier examinations north of the trench to identify features on top of the discontinuous clay floor. He also opened up five 2x2 meter squares in the same area of the mound, north of the trench. In addition to his north trench excavations, Riley's team cleaned up and re-scraped the south side of the trench down to Douglas' excavation boundaries. No features were excavated on the south side of the trench. However, Riley did map surface anomalies and the main trench profile was drawn from the south wall of the trench.

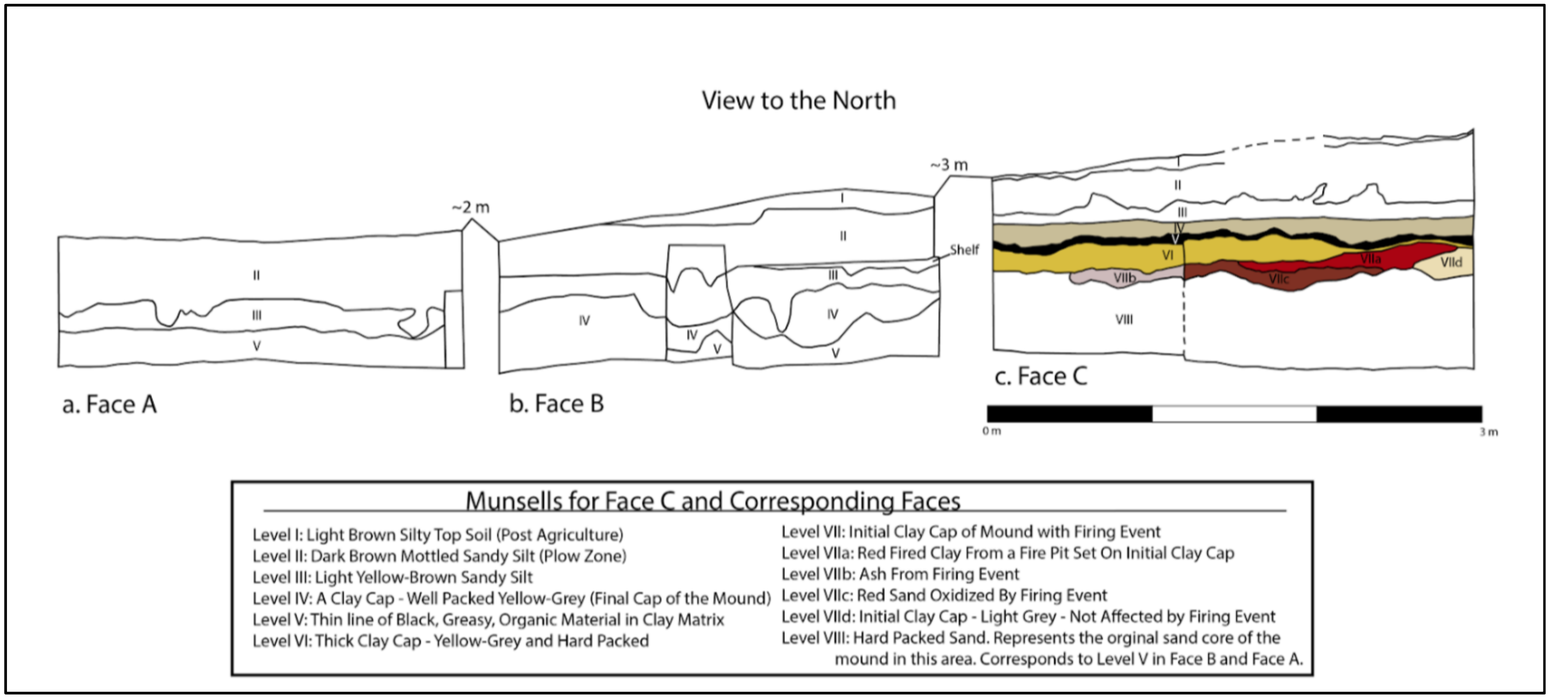


Figure 3.11. Riley’s Test Profiles of the North Side of Douglas’ Trench – A) Face A, B) Face B, C) Face C.

*Features Identified*

Riley and his team identified 12 features and 2 structures on and within Mound A (see Table 3.3). The 12 features include six pits/basins, two formal hearths, two pits/possible post pits, one clay cap of another feature, and one midden deposit. Riley et al. (1978) discussed two wall trench structures in their final report. Both structures will be discussed in greater detail within the subsequent chapter on architecture (Chapter 4). Riley excavated eight individual wall trenches and gave each one a feature number. In order to discuss all the architectural features across all excavations, I renumbered all structures for clarity. Following this system, the two structures excavated by Riley are Structure 5 and Structure 6 respectively.

The only structure with plan and profile maps or notes was Structure 5. Structure 5 was a large (7 m EW x 3.5 m NS), two-compartment/room wall trench structure located at the western end of the prepared clay platform (Riley et al. 1978:35) (Figure 3.12). No internal features were discerned, and a possible rebuilt south wall was the only rebuild noted. A single human tooth was recovered from the central wall trench and as I discuss in Chapter 4, may indicate this building as a bone house/temple. Structure 6 is mentioned only in passing by Riley et al. (1978:76) in the final report saying there was "…a possible wall trench structure at the eastern end of the prepared clay floor, oriented in the direction of the mound itself." This structure was likely identified via shovel scraping on the mound area south of Douglas' trench. No maps or further notes are known other than a sketch map. I have tentatively identified this structure in Riley's profile using his available coordinates (see Figure 3.15 below).

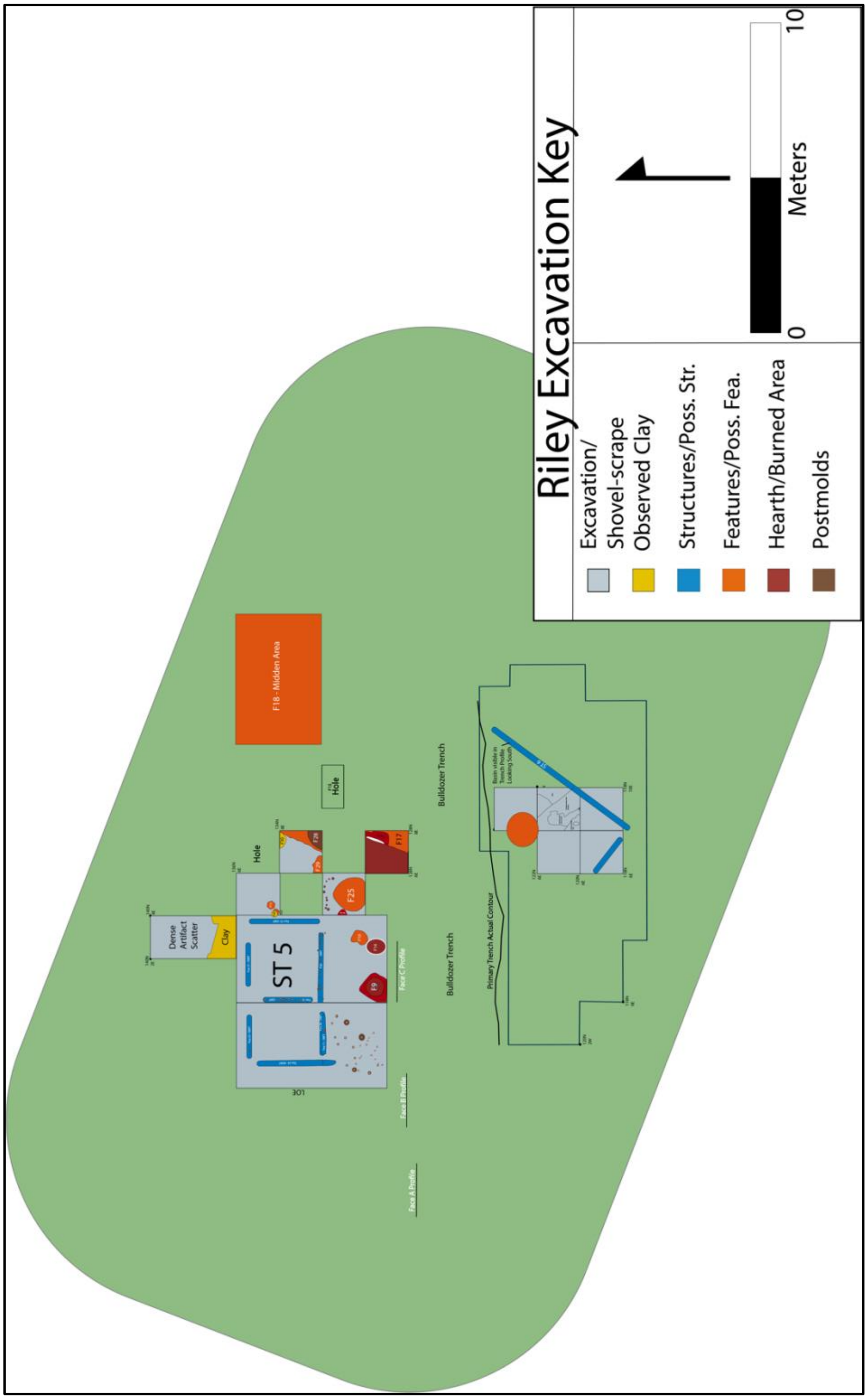


Figure 3.12. Map of Riley's Mound A excavations

In addition to the two structures, relevant features for further discussion were the hearths (Fea. 9 & 14), two pits (Fea. 17 & 25), and the midden (Fea. 18). Feature 9 was identified in the profile of Riley's Face C cut into Douglas' north trench wall. Riley et al. (1978: 34) originally describe Feature 9 (see Figure 3.11 and 3.12) as,

> [A] series of 3 pits dug into the silt-sand natural surface of the floodplain. The three pits were superimposed on one another and had been the locus of burning. Layer VII of Face C represented the earliest clay lining of this pit series. After use, the pits were each filled and packed with olive clay, and then another pit would be dug in approximately the same area. Shell, bone, and charcoal were found in these features.

Based on this description, their notes, maps, and profiles, Feature 9 was more likely a series of puddled clay hearths. Also of note is that Feature 9 was rectangular in shape with the long axis oriented perpendicular (NE-SW) to the mound axis (NW-SE). This feature was recognized in Douglas' plan map but was never excavated. It is unknown if the series of puddled hearths were ever inside a structure. While none were noted or excavated, Riley was excavating in units, therefore missing any larger structure not immediately visible in between open units. Feature 14 was another likely puddled hearth feature located two meters to the east of Feature 9. It was described on the feature form as a shallow, basin shaped, red circular stain surrounded by white clay. A shallow basin filled with ash was likely associated with Feature 14 and was immediately to the north.

Features 17 and 25 were very large pits, particularly for being on a mound. Feature 17 superimposed an earlier post pit not noted by Riley (Figure 3.13). Once Feature 17 was filled in, it was capped with two distinct layers of clay (this cap was given a separate feature number -16- by Riley), a similar practice with many features seen by Douglas, Riley, and me. Both pits were described as being filled with refuse, some of which was burned (Riley et al. 1978), but neither had an abundance of material. Riley et al. (1978) noted that both pit features were below the clay platform/prepared surface.

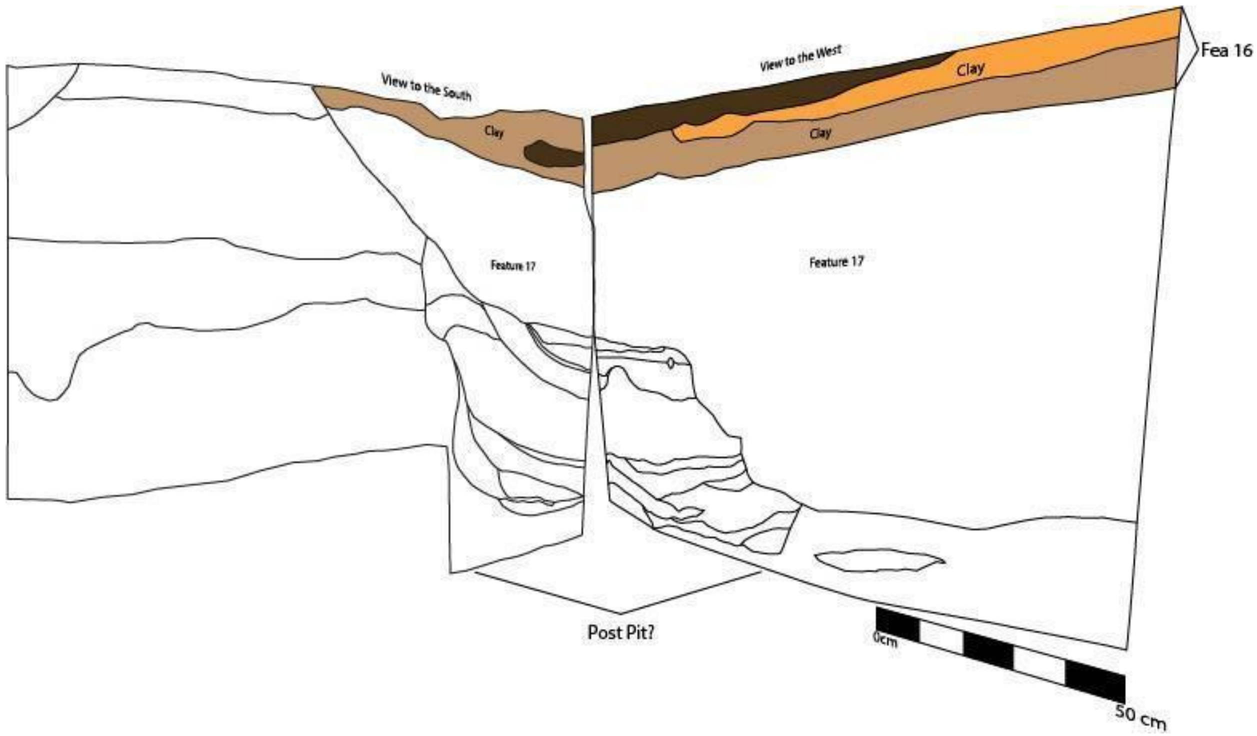

Figure 3.13. Riley's Feature 16 and 17 Profile. Highlights the clay cap (Feature 16) over Feature 17, a large pit superimposing a possible post pit.

The final noted feature from Riley et al.'s (1978:35) excavations of Mound A, was Feature 18 (See Figure 3.12).

> Feature 18 was located in the northeast corner of the excavated area. It was an area of dense faunal midden debris and trash located at the edge of the prepared olive clay floor at V-15. The midden scatter covered an area of 4 m x 5 m. This feature yielded the major part of the faunal remains recovered from the site. It also yielded most of the shell tempered pottery as well as worked stone and bone tools. Feature 18 showed the heaviest signs of economic activity at the site and was apparently a specialized trash dumping area for the prepared platform.

The Feature 18 area was likely a midden dump used to build up/add to the mound. Riley noted that it was likely that basket loads of refuse were deposited off the edge of the prepared clay layer. A blanket mantle eventually covered over this area prior to capping.

*Stratigraphy and Interpretations*

Excavations of Mound A by Riley were thorough. Stratigraphically, Riley and his field crews revealed the complexity of Mound A construction and several architectural features (Figure 3.14). Riley et al. (1978:76) distills Mound A to a two-stage build:

1) pre-prepared clay platform

2) post prepared clay platform

The occupation at V15 appears to have had two primary phases. The first and earliest of these is a pre-prepared clay floor occupation of short duration marked by pits, trenches and fill areas on both the north and south sides of Douglas' trench. This is followed by the prepared floor occupation which has on it a large two compartment E-W oriented wall trench structure at the west end as well as a large firepit area that had been reconstructed and used at least 3 times, a midden area located at the northeast corner of the prepared clay floor, and a possible wall trench structure at the eastern end of the prepared clay floor, oriented in the direction of the mound itself (Riley et al. 1978:76).

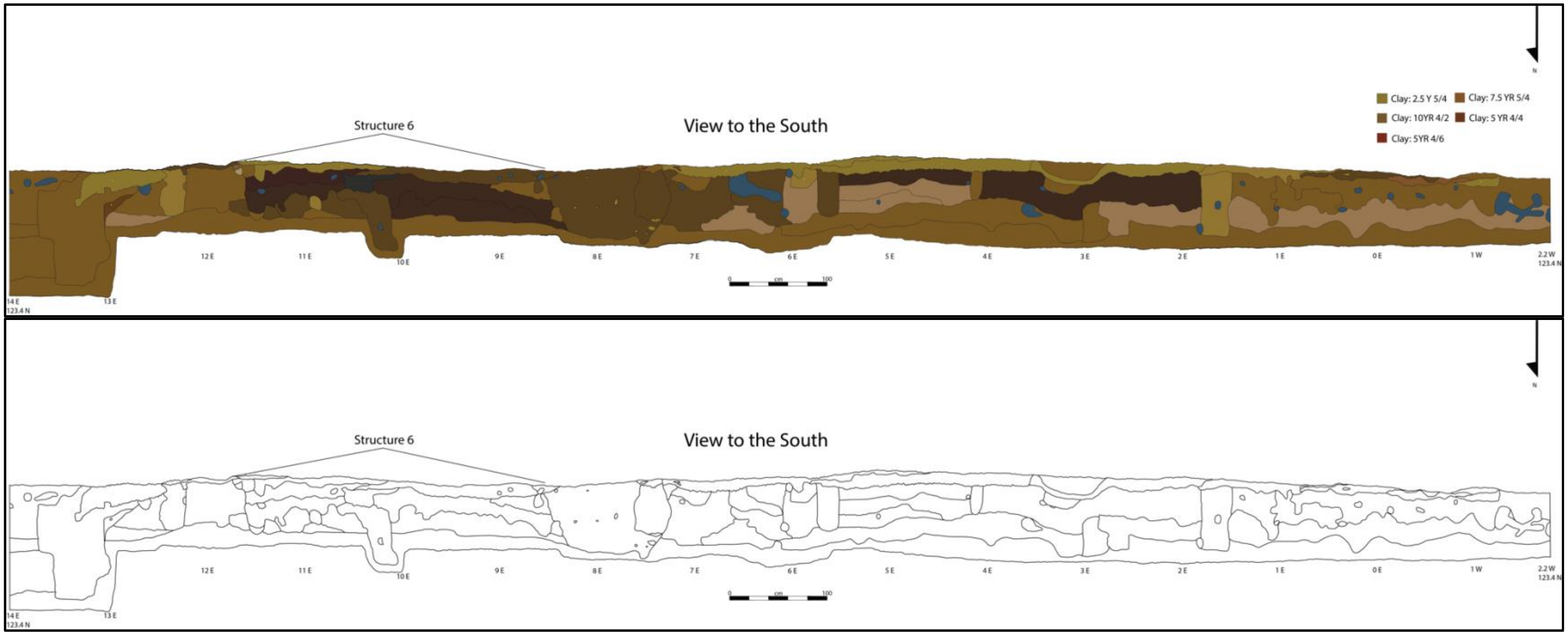


Figure 3.14. Riley's Mound A Profile of the South wall of Douglas' Trench: Top image is in color to highlight the clays noted by Riley.

Neither Riley nor Douglas obtained dates to construct a chronology of Mound A. The primary interest for both Riley and Douglas before him, was the varying layers of clay, believed to be the best stratigraphic markers for a chronology.

> The floor preparation was seen by us and by Douglas before us as being associated with the orientation of V15 with V82 on the bluffs toward the rising of the sun during the winter solstice, an apparently Mississippian characteristic predominantly in a Late Woodland site. (Riley et al. 1978: 28).

Riley's excavations confirmed the existence of an oriented clay layer that was particularly visible at its edges. However, their excavations also confirmed that the clay platform seemed to be discontinuous in many places. Where it was visible, Riley noted that the surface as a whole seemed to be swept clean of debris, noting the midden along the northeast portion of the clay platform. Riley's best description of mound stratigraphy came from the initial three profiles he cleaned up in the north wall of Douglas' trench. Moving West to East, each of the three profiles saw increased complexity (see Figure 3.11a-b). A summary of Mound A construction sequence as Riley understood it is as follows (paraphrased from Riley's map notes of Face C Profile):

1. Construction of sand fill core of mound – seen in Face B (See Figure 3.11b). A Cahokia red slipped body sherd was recovered from the sand core, suggesting initial construction at 900-1050 CE.
2. Initial clay cap – may have been put on the sand core right away.
3. A firing event on top of an initial clay cap, affected some of the sand in the core. *This event was later revealed to be a puddled clay hearth (Feature 9) used and filled on three separate occasions.
4. A second clay cap (VI) was placed on the mound, followed by a narrow band of black organic soil (V).

5. The third and final clay cap (IV) was laid down, representing the last refurbishing of this part of the mound.
6. A water deposited sand covered the mound after abandonment.
7. Plow zone
8. Topsoil developed after agricultural abandonment.

<u>2016 Excavations</u>

In 2016, I resumed investigations at the Collins Complex with excavations on the terrace mound, Mound A. The original goal, like that of 2013 at Mound C, was to locate Douglas' old trench, re-excavate, clean the walls and reexamine the mound stratigraphy. The strategy was to obtain a more robust understanding of the mound construction and chronology to better comprehend the Mississippian influence based on Douglas' (1976) and then Riley's expanded interpretations (Riley and Apfelstadt 1978).

While the goals seemed straight forward, locating the actual trench proved to be a complicated journey. Prior to excavations, in 2015, the Glenn Black Lab of Indiana University loaned me their magnetometer and an operator to better pinpoint the old trench. The full extent of excavated areas and stripped plow zone from earlier excavations was unknown to us at that time since the legacy maps and paperwork had not been located. The magnitude of disturbance from previous excavations created noisy results and were mostly inconclusive. The data did indicate several circular anomalies that were added to our excavation goals for ground truthing.

The inconclusive magnetometry results and newly recovered legacy documents allowed an attempt to pinpoint the trench by using Riley's old site grid. Riley's original datum for V-15 had long rotted away and the area was completely overgrown, but we had a general orientation. The LiDAR confirmed accounts that Riley's units, as well as Douglas' machine scrape scars surrounding the mound, had been left open after excavation with the only exception being the mound trench (see Figure 3.9). In early April of 2016, Kennekuk County Park helped facilitate access to a Brush Hog – the only tool strong enough to mulch the thick brush and scrub trees that had overtaken the site. The crew's thorough work opened a large swath of the terrace, resembling more closely to the fallow field excavated in the 1970's. Riley's excavation block (X101) south of Mound A was uncovered after the brush clearing and also identified in the LiDAR due to its unique shape. Using the old grid system and the LiDAR, we attempted to pinpoint a general location of the Douglas trench by measuring the expected distance from the northwest corner of X101 to the Mound A trench. This provided a baseline to follow.

With the aid of a small track hoe and operator, moving West to East, a series of five North-South test strips were cut across the area believed to be Douglas' trench, followed by a nearly 30-meter-long, 1-meter-wide trench using lines of dark fills/disturbed soils as guidance. Two small excavation blocks to the northwest and northeast of the trench were opened in an attempt to ground truth the circular anomalies visible in the magnetometry data. Block 1 encompassed a machine stripped area of nearly 38 $m^2$ and Block 2- 58 $m^2$. Less than 20 cm below the surface in the trench we hit intact features and mound fill, and the new primary goal shifted to concentrate on documenting any new features and drawing 'pristine' profiles. To obtain these goals, we opened 12 - 2 x 1 meter test units and two smaller units within the new 2016 trench and the two corresponding excavation blocks (Figure 3.15).

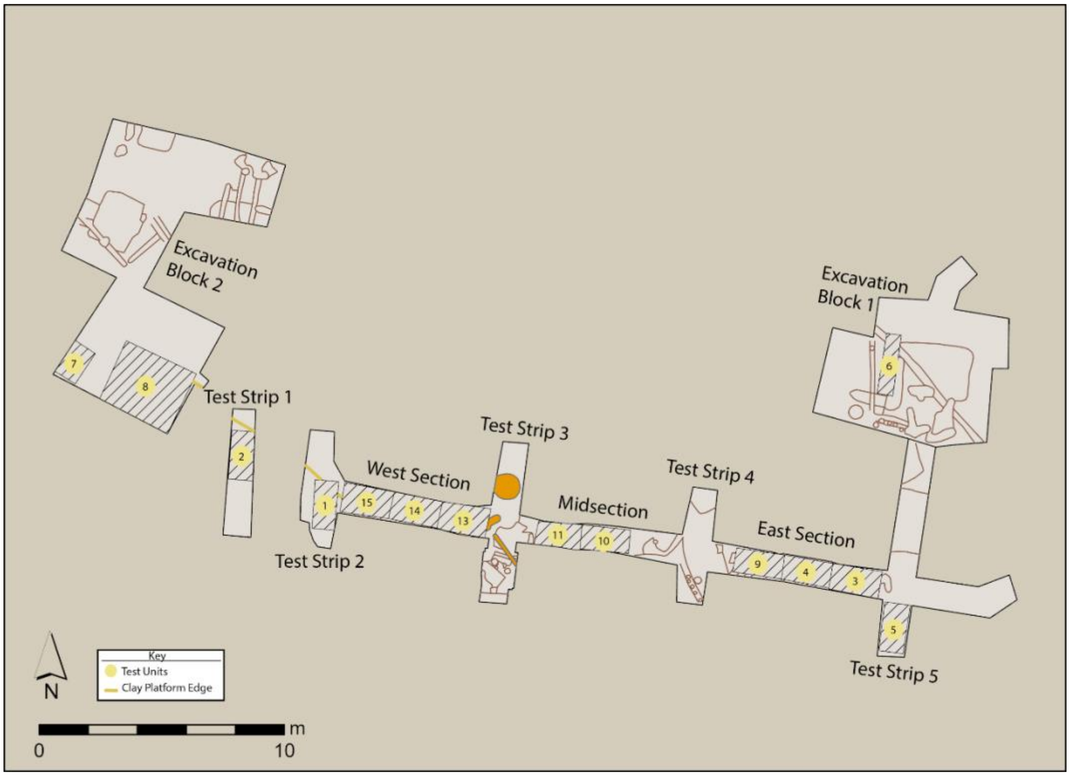

Figure 3.15. 2016 Trench, excavation blocks, and test units.

The 2016 trench location in relation to the original Douglas trench is not clear, even now after excavations, mapping, and researching the legacy documents and maps. However, based on field observations and mapping overlays, it seems as though the 2016 trench was South and further East of the Douglas trench. Based on Douglas' original observations that Mound A was a more or less level platform, the elevation difference of observable features and the machine scraped surface from East to West was 53 cm. After reviewing the old maps and documents, I believe the eastern portion of the 2016 trench represented a portion of the mound previously unexcavated and thus, accounting for the elevation difference. The 2016 trench can be discussed in three sections (facing North), East section, Midsection, and the West section. We uncovered old grid string, broken stakes, and tarp from Riley's excavations in the Midsection and West sections only, further corroborating the assumption that the trench was south of the original Douglas trench as Riley's final excavations in 1977 were only on the south side of the trench.

The data indicated that within the middle and west sections of the 2016 trench, our excavations were below the limits of excavations for Riley, but in the East section we excavated an intact mound. Again, combined with a map compilation of all excavations of Mound A that used the same X101 unit and LiDAR for alignment, the data point to the 2016 trench was situated to the South and East of Douglas' trench (Figure 3.16).

*Features Identified*

A total of 13 features and 4 structures were identified from Mound A excavations (see Table 3.3) in addition to many posts and possible wall trenches visible in profile. Again, the 2016 trench can be referred to in three sections (facing North), East section, Midsection, and West section. Features and anomalies were also recovered within Block 1 and Test Strips 1-3, and 5. Beginning with the 2016 trench and moving East to West, I will discuss the features within each section before moving on to the features in Block 1.

The East section of the 2016 trench (Figure 3.17) revealed the western wall trenches of a very large, rebuilt (three times) wall trench structure. Nearly the entire eastern half of the trench section was basin fill for Structure 9[18]. Feature 8 was an internal floor deposit feature of the structure. 11 bone scratchers were recovered from this floor deposit – a laminated silt layer (see Chapter 5 for further details about the scratchers). Structure 9 followed the same orientation as the mound itself as well as that of Mound C and submound Structure C1.

18 As I mentioned earlier, for the sake of a cohesive discussion of all architecture, I have changed structural features to a streamlined system. Feature 9 will be referred to here as Structure 9.

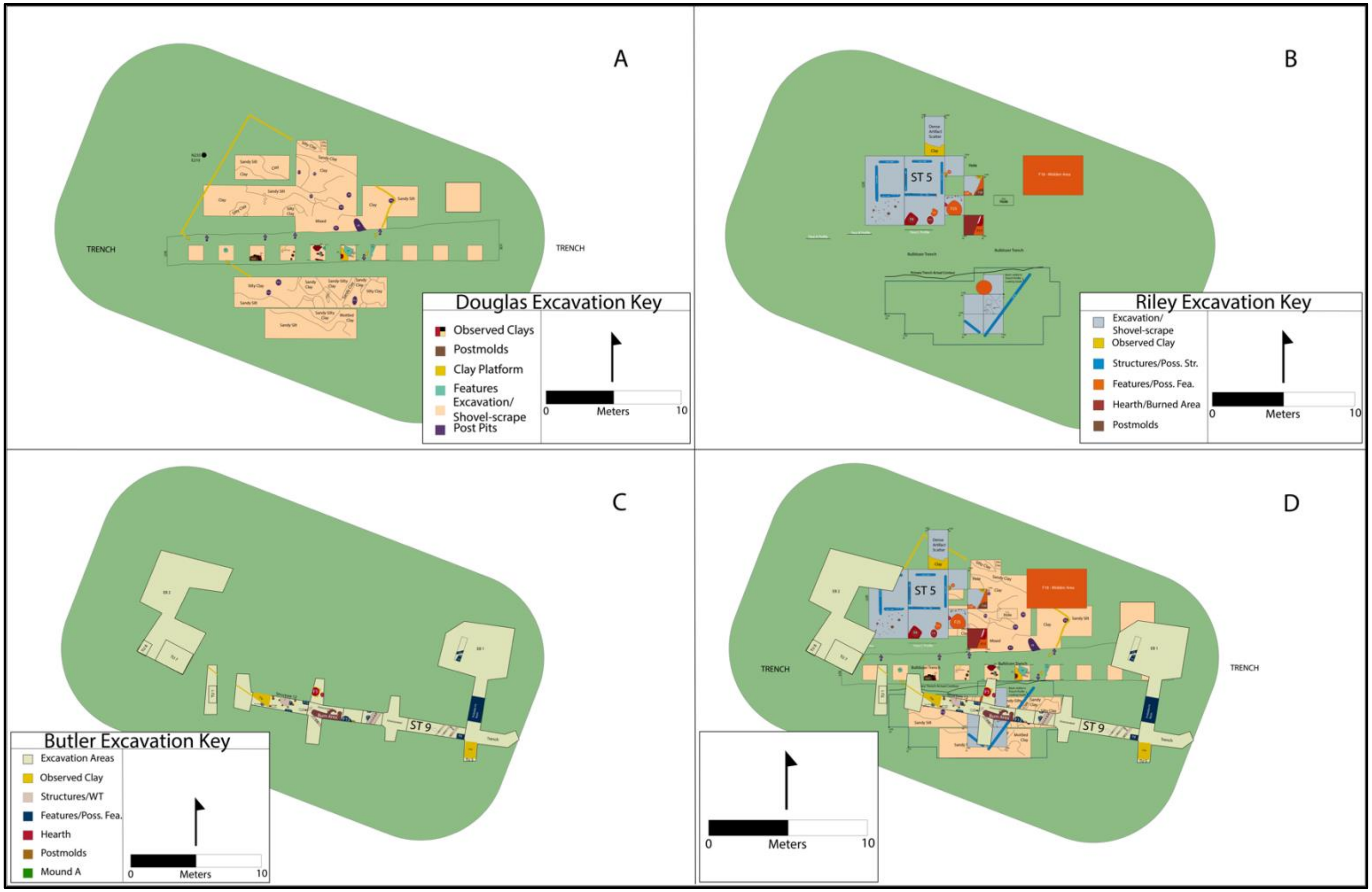


Figure 3.16. Maps of All Mound A excavations. Locations are approximate. A. Douglas' Mound A Excavations; B. Riley's Mound A Excavations; C. 2016 Mound A Excavations; D. Composite of All Mound A Excavations.

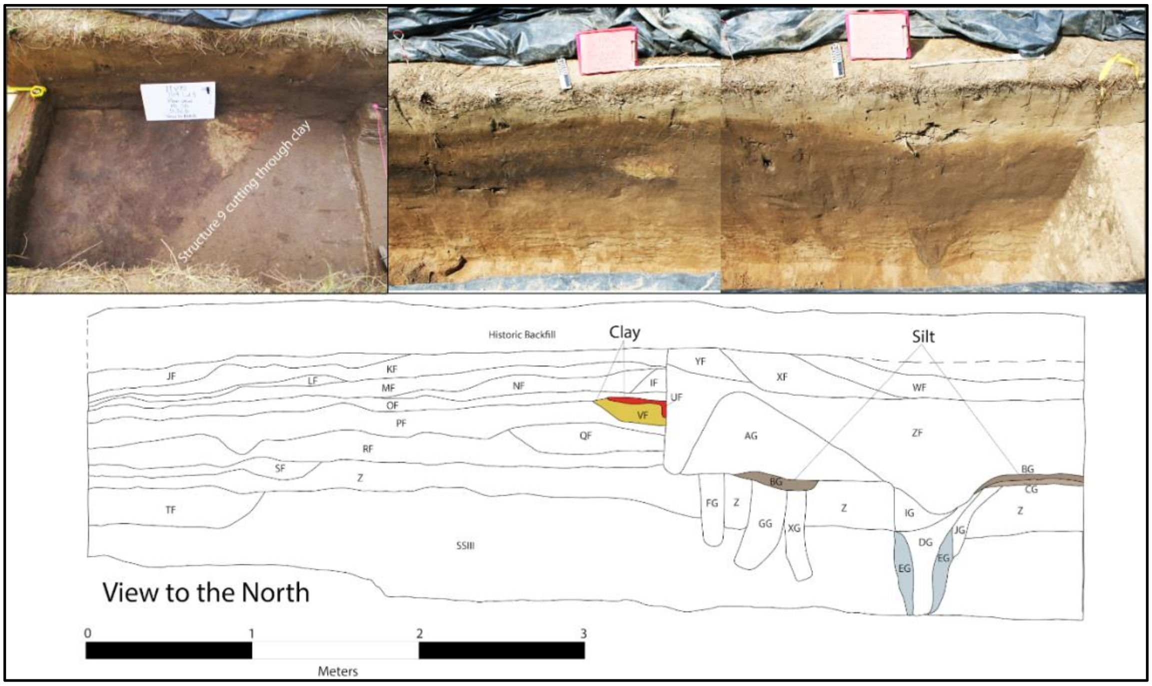

Figure 3.17. 2016 Trench North Profile of East Section showing mantle deposits and Structure 9 profile. Also shows Structure 9 basin cutting through clay deposits and the silt floor deposit (BG and CG) of Structure 9

Features identified from within the midsection of the 2016 trench include three pits and a rebuilt wall trench. The predominant feature in this trench section was Feature 13, a substantial wall that was rebuilt once. The rebuild was nearly 50 cm wide and oriented NE-SW, the perpendicular of the mound's long axis. Such a large wall trench indicates either a very large fortification or very large building. The wall was pulled and filled in and a layer of yellow clay capped both the original and the rebuild. At a later point, a shallow (12 cm) pit (Feature 6) was dug into the clay layer and a small deposit of burned refuse was deposited directly over the Feature 13 rebuild (WT B). Pit Feature 12 was located to the west of Feature 13. A great quantity of burned stone, fauna, and ceramics were recovered from this pit. Once the southern profile wall was cleaned it was possible that Feature 12 was a pit within a structure (Figure 3.18). The third pit from the Midsection of the 2016 trench was Feature 10, a pit (51 x 44 cm) in use prior to Mound A's construction and superimposed by Feature 13 (Figure 3.19). A grit tempered and cordmarked sherd provided the only indication of component.

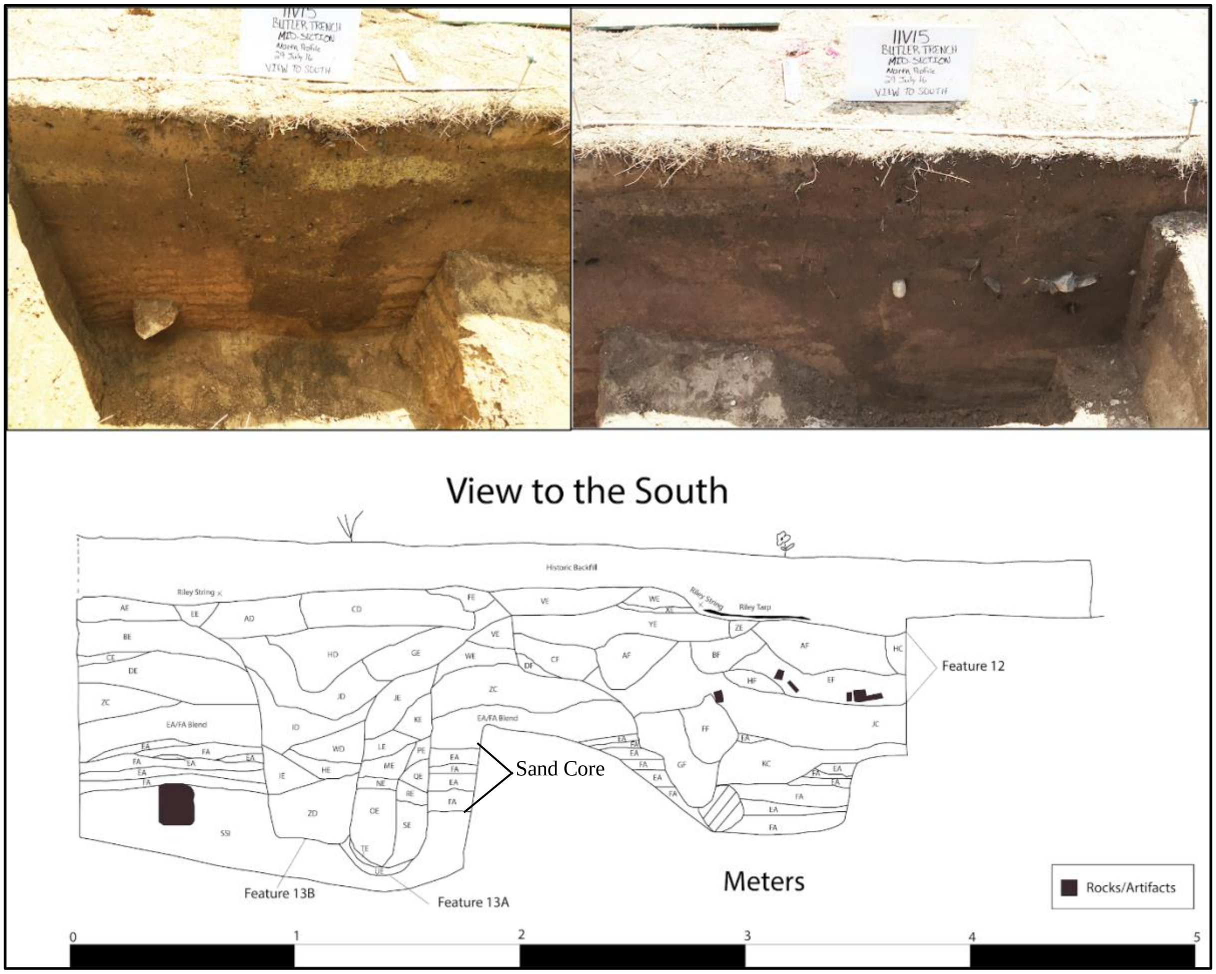

Figure 3.18. Midsection South Profile of 2016 Trench showing pit feature 12 and wall feature 13a and 13b.

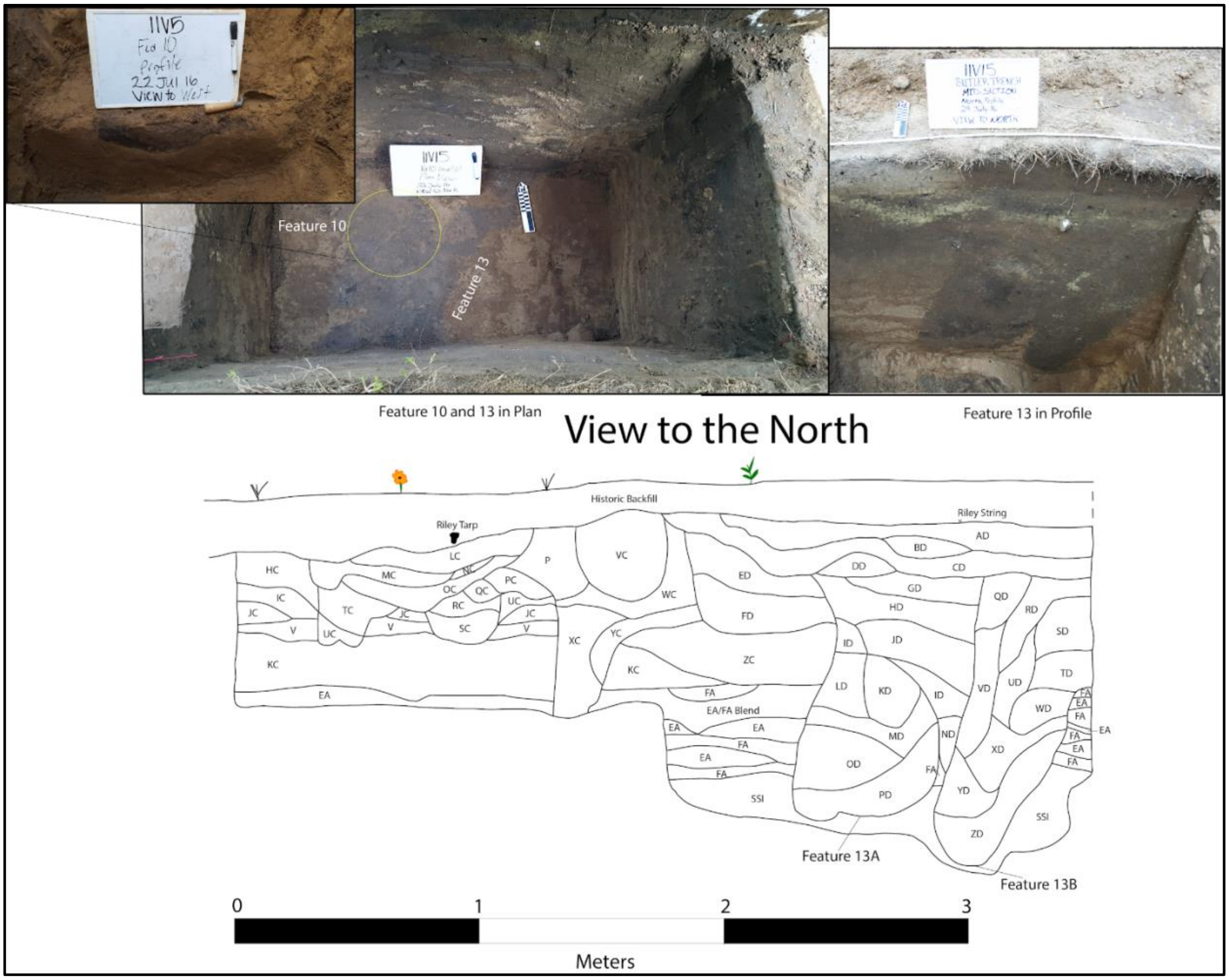


Figure 3.19. Midsection North Profile of 2016 Trench showing wall Feature 13 in profile and plan. Also shows pit Feature 10 in profile (inset) and plan.

Moving West, there were three features within Test Strip 3. Like Douglas and Riley before me, my excavations of the 2016 trench recognized many burn areas, oxidized soils, ash zones, and red and yellow clays particularly within Test Strip 3 at the machine scraped surface. One of the first features we encountered as we attempted to locate Douglas' trench, was a hearth feature – Feature 5. Feature 5 was a puddled hearth and located in the northwest portion of Test Strip 3. A rectangular clay platform oriented with the mound (NW-SE) and a fire basin (27 cm deep) at least[19] 230 cm in diameter were set within it. Feature 5 superimposed a second hearth,

19 Feature 5 measurements are not exact due to being clipped both horizontally and vertically in the East ½ of the feature during machine stripping.

Feature 11. This feature did not have a formal clay platform like Feature 5. Once the hearth, Feature 11, was no longer used, it was capped with mound fill. It is unknown at present, if either hearth feature was associated with any structure or other features. The last feature identified in Test Strip 3 is a single wall trench, Feature 18. Feature 18 was the wall trench for a structure oriented with the mound. Feature 18 ran NW-SE and continued across the northeast corner of the 2016 trench West section. Several wall trenches were visible in 2016 trench profiles near Feature 18, but any other associated walls were unidentified without further excavation outside of the 2016 trench.

Finally, the West section of the 2016 trench (Figures 3.20 and 3.21) uncovered five features, including a single post circular structure, two post pits and two pits. The south ½ of a single post circular structure (Feature 16) was identified within the West section. Faunal remains were recovered from the posts for this structure. Two contemporaneous post pits, Features 14 and 15 (see Figure 3.20), predate the mound and were pulled/removed at the same time before being filled in. Feature 17 was a large (142 cm wide) bell-shaped pit 84 cm deep identified in the south wall of the West section. Last, a shallow (6 cm deep) pit/burn zone, Feature 7, was recovered at the machine scraped surface of excavations within this section. A midden area was also recognized in the southwest ¼ of the West section. It was not given a feature number, but all materials were piece plotted. The midden followed along the West line of yellow clay that ran NW-SE in the far western portion of this 2016 trench section. Both Riley and Douglas described a midden of feasting residues just off the eastern edge of the Mound A clay platform. Our 2016 excavations verified this practice of feasting middens at the edge of the clay platform. After feasting episodes, the basket loads of debris were dumped off the apron becoming part of subsequent build-outs of the mound after the clay platform. While not given a feature number

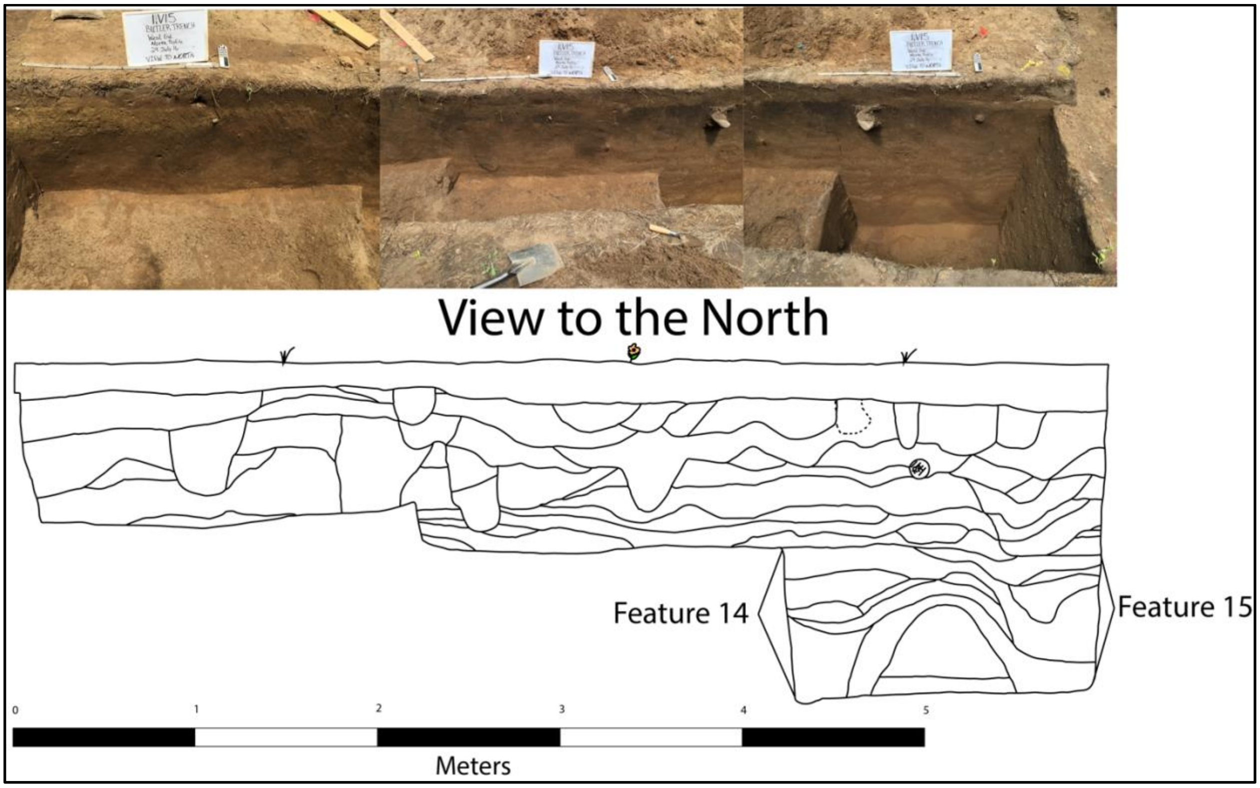


Figure 3.20. West Section North Wall Profile of 2016 Trench showing Features 14 and 15.

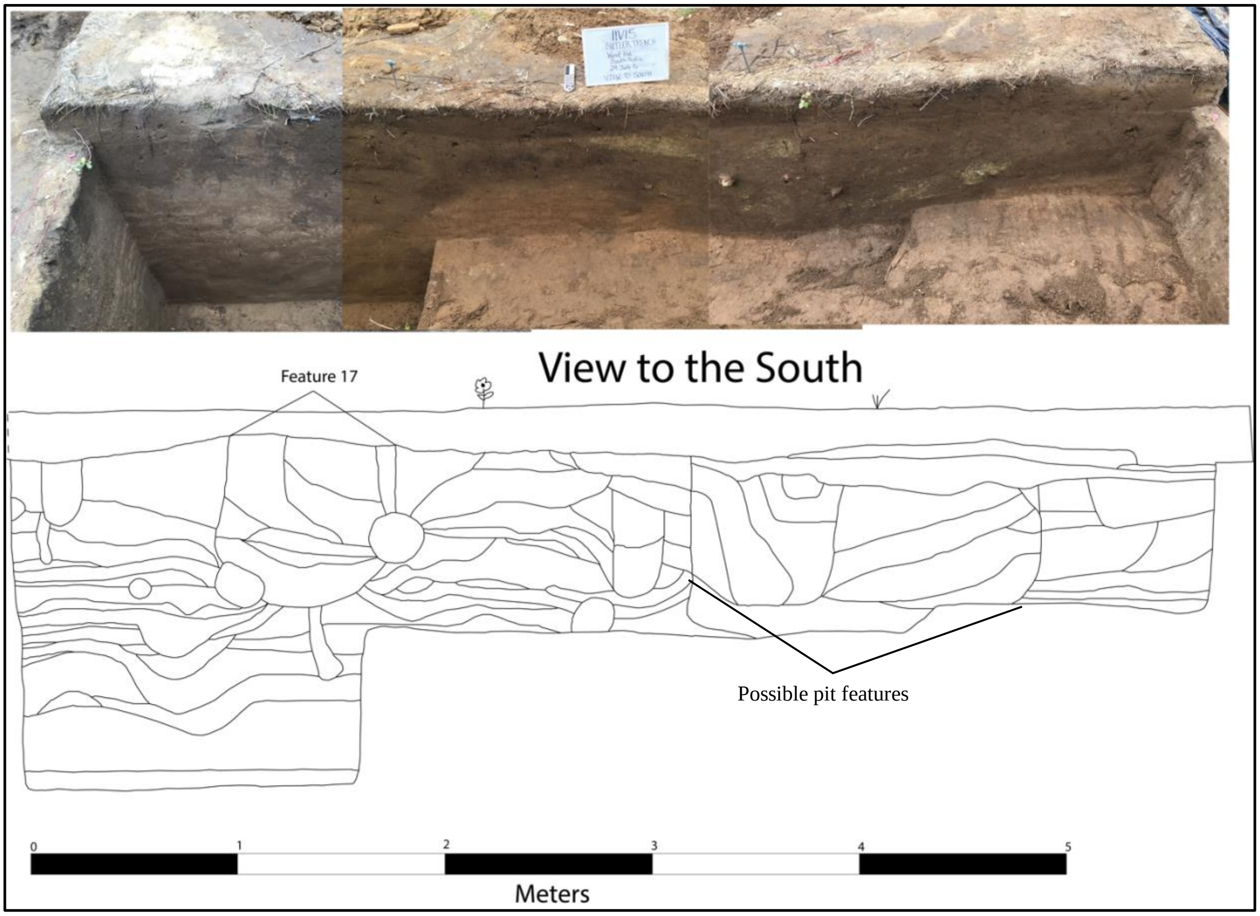

Figure 3.21. West Section South Profile of 2016 Trench showing Feature 17 and possible pit features

A third post pit was recovered in Block 1 along with a single wall trench, Feature 23. The single wall trench (18 cm wide) ran NE-SW and predated the post pit. The post pit Feature 22 was well over 77+ cm deep. The diameter of this post was potentially very large. We excavated the NW ¼ and the potential radius was 108 cm. Further excavation is needed to verify the size of this post.

*Stratigraphy and Interpretation*

The stratigraphic biography of Mound A as I currently understand it is as follows (Figures 3.22 and 3.23).

1) Submound features, including post pits (Features 14 & 15) and pit Feature 10, were constructed and engaged prior to Mound A construction. These features overlay a natural

rise in the terrace, part of an old channel of the Middlefork – verified in deep cores (fluvial sands with ferric lenses).

2) The posts were pulled simultaneously, and a series of thin blanket mantles of alternating light and dark sandy loams were laid down – seen as zones EA and FA in the Midsection and West section of the 2016 trench profile. This stage is likely the sand “core” that Riley hypothesized in his mound stratigraphy sequence. Several structures (including Feature 16 built directly over the pulled post pit Feature 15), posts, and pits were built at this early stage – many recognized only in profile of the 2016 trench. The large wall trench (Feature 13) is hypothesized to be in use and then decommissioned and capped with clay at this stage as well.

3) A rectangular clay floor or platform was constructed with its long axis orientation following that of the mound, NW-SE. Riley’s Structure 5 (possibly Structure 6 as well) and both puddled hearths, Riley’s Feature 9 and my Feature 5, were built on this clay platform. Also associated with this clay platform was a midden (Riley’s Feature 18) located off the eastern edge of the clay platform and another midden off the western edge. It is unknown at this time if the clay platform was the sole summit of the mound or if there was additional mound summit that is not clay surrounding the clay platform – particularly to the east.

4) Using elevations, I hypothesize that much of the eastern portion of the mound was added during or after the use of the clay platform. Blanket mantles of soil were deposited with few features. At this stage, Structure 9 was in use near the eastern edge of the mound.

Prior to filling in, the structure was left open to the elements creating a layer of silt on the floor[20].

5) Structure 9 was filled in. Following Riley's stratigraphic interpretations, a final clay cap was laid down.

6) Riley believed the sandy silt layer above the clay cap was a natural deposit that became the plow zone.

20 This is a significant event and will be discussed in greater detail in Chapter 4.

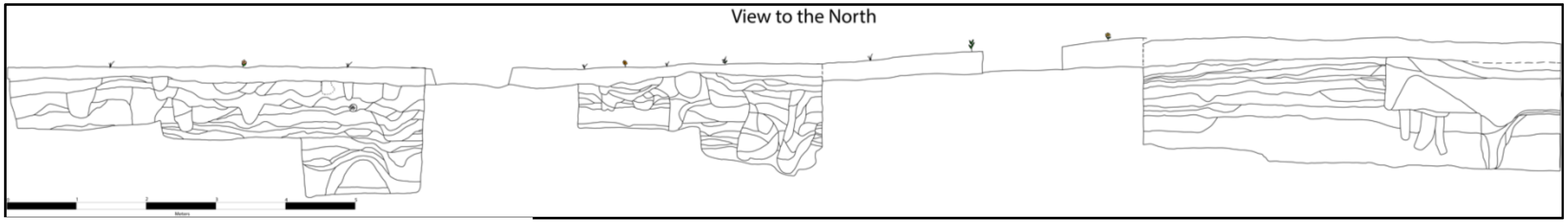


Figure 3.22. Mound A 2016 Trench: North

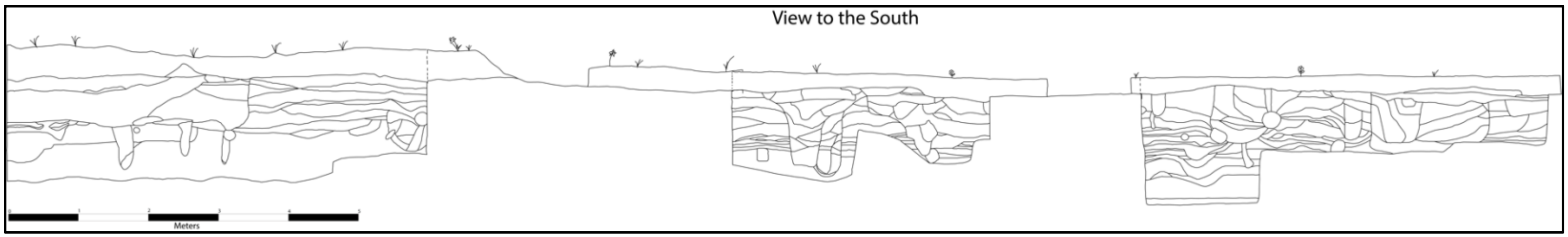


Figure 3.23. Mound A 2016 Trench: South

Clay was an important element to Mound A, not just in construction, but in color and context. Riley's excavations in 1977 revealed the blufftop as the likely source of the yellow clay utilized so specifically within and on Mound A. Lenses/layers of clay in colors of yellow, red, and grey/white were identified throughout the 2016 trench and Test Strips, as well as during the legacy excavations. None were given feature numbers as I determined none to be a single deposit/layer (the possible exception being in Test Strip 2 and continuing into TU 15). Three of the deposits provided a useful guide in understanding the overall mound stratigraphy, in addition to orientation of our excavations in relation to the legacy excavations by Riley and Douglas. Beginning in Test Strip 5, a 4 cm thick clay layer marked the highest elevation of all clay deposits at 185.03 m. This deposit was a good candidate for a remnant of the clay cap of Mound A discussed by Riley et al. (1978) and Douglas (1976).

Moving West, a substantial clay deposit (17 cm thick) of yellow clay topped with red clay was cut by the basin for Structure Feature 9 (see Figure 3.17). This clay deposit was a similar elevation to the 10-18 cm yellow clay deposit capping the wall Feature 13 in the Midsection of the trench at 184.85 m and 184.82 respectively (see Figure 3.19). The lowest elevation for a clay layer/deposit was found in the West section of the 2016 trench at 184.70 m (see Figures 3.20 and 3.21). This layer was 28 cm thick in places and follows a NW-SE orientation, like the mound itself. The layer continues West at a NW angle out of the limits of excavation of the 2016 trench. This clay deposit may be the clay floor discussed by both Riley et al. (1978) and Douglas (1976). It is a substantially more robust layer, oriented to the mound orientation, and extends beyond the limits of excavation. Using this clay line as a guide and acknowledging significant spatial error between the legacy maps and my real-world coordinates, I can more confidently place the 2016 trench in line with Douglas' original mapping of the clay platform outline. The other clay deposits are hypothesized to be explicitly placed over specific features, closing or capping the feature itself.

## **<u>What do the Mounds of Collins *Do*?</u>**

Each of the primary mounds at the Collins Complex were distinct, bundled, gathered and engaged differently. There is no radiometric date for Mound D, but it was likely one of the earliest or possibly contemporaneous with the very beginnings of Mound A and the plaza. The grave shaft and cleaned area of Mound D cut through an Albee Phase ‘occupation’, though occupation should be viewed generously, as the people who are identified as such are likely contemporaneous with and possibly participants in the Collins Complex (Riley et al. 1978; Wells 2008). While the flexed burial style is strongly associated with TLW practices (see Emerson et al. 2019; Wells 2008; and White 1998), the distinctly truncated form of the mound (see Figure 3.7) is not as common.

Everything about Mound A speaks to it being the heart of the mission of the Collins Complex. Based on the chronology as I currently understand it, Mound A was foundational to the Collins Complex mission. A date obtained from the 2016 excavations of a hickory shell from Feature 12 (see Figure 3.18) yielded a median date of 1042 CE (1016-1050 CE at 1$\sigma$ confidence interval) (see Table 1.2). This situates the construction of the mound itself before this date, as the feature is well above the ‘sand core’ Riley identifies as the initial mound core.

Similar to Mound 72 at Cahokia, contemporaneous with Mound A, and the East Saint Louis Precinct, large marker posts were some of the earliest features prior to mound construction (Brennen 2018; Emerson 2018; Pauketat 2019). At Collins, the earliest posts (Features 14 and 15) suggest that *place* was being established or possibly appropriated (if Mound D was a prior construction) during the Edelhardt phase (1000-1050 CE). Once the initial mound, a low platform was built, a host of features were being engaged with. An important moment for Mound A engagement was the construction of the clay platform – sealing in/capping over previous Mound A moments. Riley et al.'s (1978) and my own excavations noted the clay platform was kept clean, with its caretakers dumping or sweeping refuse off the edges. Special temples and other large buildings were constructed on this surface and after it (Structure 9 to the east). After decommissioning the last temple/s, a final clay cap was explicitly deposited over the entirety of the mound, closing/protecting it and others.

The temporal flows of the mounds were also very different. Mound A was *slow*, deliberate, and fine-grained with its basket offerings - small lenses of soils/clays, feasting residue accumulations, and re-excavations. Discrete depositions or basket loads of feasting debris were often specifically placed in shallow clay lined pits (Riley's Feature 30) or into clay layers that capped previous features (Feature 6). Debris was deposited off the edges/aprons of the clay platform and then covered over and included into the enlargement of the mound summit. In each archaeologist's examination of Mound A, it is clear that every aspect of this mound, from its location, alignments, additions and constructions, soils, and features, was meaningful and planned.

Mound D was constructed quickly with a very specific purpose. The area was cleaned and prepared, a shaft was dug into the clays that were so significant on Mound A, and a single interment was placed. Thick mantles were laid down in quick succession followed by the formation of a truncated top.

Mound C was somewhere in between, which is appropriate given the portal or "in-between-ness" that the submound temple potentially opened with its burning. The temple was up long enough to have some minor rebuilds/repairs before being burned sometime around 1114 CE (average of three ‘good’ median dates) and immediately covered with a mantle of soil as a preparation platform for Mound C.

The core of Mound C was built quickly using a sod block stacking technique followed with quick ‘mantle’ deposits making up the mound aprons. There may have been a brief slow-ness or lull before a final capping of both Mound C and Mound A on the terrace below. Mound C’s final shape is uncertain, but due to descriptions of it appearing “saddle shaped” (Douglas 1976), it may have been a ridge top or ‘loaf’ topped mound, similar to those at Cahokia. Mound A is covered with one final blanket of yellow clay. This final ‘cap’ could be seen as an inverse burial respective of Mound D. At Mound D the human person is placed *into* the clay of the bluff (natural mound) and loess and sand deposits are built over the person. At Mound A, clay is placed *onto* a vibrant place built from clays, loess, sand, animal bones, and ash.

The Collins Complex shares the practice of capping mounds with clay, in many cases yellow clay, with numerous sites throughout the Mississippian region such as Mounds 49, 69, and 72 at Cahokia, the Feltus site in Mississippi, and the Irene site in Georgia for example (Fowler 1997; Kassabaum et al. 2014; Thompson 2009). In a way, this practice can be seen as wrapping or closing a bundle of experiences, engagements, things, substances, portals, and powers. Their caretakers may have discontinued the daily labors of dwelling with and caring for the mound, but they continue (Bloch 2019; Pauketat 2003). They are living places and they continue to be entangled with and by the world around them.

To close, I want to briefly discuss a likely Collins Complex Plaza. Douglas’ extensive machine excavations surrounding Mound A draw attention to the fact that all of his features were recovered West of Mound A. Similarly, Riley’s sample excavations of the terrace also indicate that no features were present to the southeast of Mound A. While neither explicitly states that

Collins has a plaza, I would argue that the evidence (or specifically the lack thereof regarding features) signifies that a plaza did exist to the southeast of Mound A. Further work would need to verify this but based on the combined excavations (mine included), it seems to show that when structural features (and pits) are present, they are at the edges of where this plaza would be.

The significant evidence (Douglas 1976; Riley et al. 1978) across all excavations corroborating extensive feasting residues and the suggestive line of evidence following an important entanglement of feasting and plazas from Chapter 1, suggests that the Collins Complex likely had a plaza – a place that gathered and encouraged convergences. This fits with a mission blueprint of a plaza (gathering place) and mound/s (gathered place) religious core. As I mentioned above, Mound A is foundational to Collins, and I would argue that the plaza is as well. While the specific combination of mound and plaza has been recognized as an important Mississippian component long ago, their animating forces were missing – the *why*. Removed from their religious tethers they become objects, pieces of site furniture that *do* nothing. This chapter has argued differently.

# CHAPTER 4: ARCHITECTURE AND THE ORIENTATIONS OF A MISSION

"When darkness came on, Man-with-supernatural-Powers took a bunch of grass in his hand and blew upon it, and put it on the ground, and there was the first grass-lodge."

-Ahahe (Waco)

"Architecture is the assemblage of elements" (Bille and Sørensen 2016:3). This quote perfectly orients one toward the next components of the mission bundle: architecture and cosmic alignments. At first architecture seems very straightforward, singular, static, ripe for categorization. Yet, as the quote intimates, architecture is an assemblage of lively and vibrant things, sometimes a bundle in its own right. Some architectures transmogrify through flame, and some migrate. Posts can be unposted and entire structures can be disassembled, moved and then reposted and reassembled – possibly with/in an entirely different field of relations. As I laid out in Chapter 1, Cahokia was the first mission and as I discussed in Chapter 3, the essence or core of a Mississippian mission includes a plaza (gathering place) and mound/s (gathered places) whose animate existence actively orients the ways in which the mission is experienced, especially when those orientations are cosmological. Continuing along this thread, specific structures and posts assembled along and into such spaces can be pulled into similar missionizing potentialities, while also connecting them to a wider and multidimensional animic geography via cosmic alignments.

Past discussions of architecture in archaeology tended to begin and end with morphology and perceived function, lending itself to a fixed placement along a rigidly unilinear focus on technology change (e.g., Collins 1990; Meher 1995; Meher and Collins 1995). These typological approaches, while important as a descriptive base from which to begin broader interpretations, focus on the "solid, bounded materials at the expense of the mud, plaster and mortar holding the building together…architecture is rarely – if ever – a socially and functionally compartmentalised [sic] occurrence" (Bille and Sørensen 2016:6). In other words, the typological gaze "tends to turn 'building' from verb to noun, and in doing so transforms it from *active* process to passive object" (Bille and Sørensen 2016:7). Seeing architecture as passive objects also transforms mission from active process to passive place.

I argue in Chapter 3 that mounds and plazas are the animate religious core of a mission and that the active building/gathering is missionizing in real time. This mission blueprint includes specific architectural bundles and forms, particularly in relation to mound versus off-mound structures. Temples, shrines, sweat lodges, priest houses, charnel structures/ancestor temples, marker posts,and communal buildings are all recognizable and functionally assigned Mississippian architectures. I reiterate once again however, that a better discussion lies in asking what these architectures *do*. I would argue that specific architectural bundles and forms oriented to distinct cosmological alignments, are different scales of active missionizing. If mounds and plazas are the religious core of a mission, then the architectures and alignments are the active participants and thus, underlying means of that missionizing.

## The Mission of Mississippian Architecture

Using structure morphology as a litmus for presence or absence of groups of peoples (Late Woodland/Mississippian) participating within the Mississippian worldview, particularly in its beginnings, boxes the interpretation into an either/or framework and immediately implicates unilinear temporal assumptions (i.e., before/after or even degree of participation/success). This is especially the case when dealing with cursory identification of construction techniques - Late Woodland style single post construction versus Mississippian wall trench construction. In several examples, including the Collins Complex, there are contemporaneous architectures of both wall trench technique and single post technique and in some cases a combination of both (see Alt 2006a, 2012; Alt and Pauketat 2011, 2017; Pauketat and Alt 2005, 2017).

It is documented at Cahokia, that the adoption of wall trench architecture is "abrupt and total at ca. AD 1050" (Pauketat and Alt 2005:224). Data from the East St. Louis site and the Emerald Acropolis suggest that, particularly during the Edelhardt (1000-1050 CE) through Stirling phases (1100-1200 CE), single post structures as *domestic* spaces are phased out and swapped for wall trench constructions (Betzenhauser and Pauketat 2019; Pauketat et al. 2005), but with some variability in timing based on location (see Alt 2006a). Single post constructions do not go away however, they continue, but as temples and shrines (Alt and Pauketat 2017). In other words, Mississippians were reassembling and appropriating histories via architecture.

How does such an 'instant' housing transformation take place? One way would involve work crews constructing new homes in rapid succession (Alt and Pauketat 2011). I would argue that another way, particularly important at outliers such as Collins, would be for priests to appropriate and elevate single post architectures (particularly rectangular styles) into the religious realm of the Mississippian mission (see Alt 2006a, Pauketat and Alt 2005, 2017; Pauketat 2013a). Alt and Pauketat (2011:111) have argued that wall trench structures were "inextricably linked" to the religious boom emanating from Cahokia. Again, the appropriation and reorganization of built spaces subvert daily practices, which facilitates conversion (Comaroff and Comaroff 1991; Wagner 2014). This reordering includes cosmological alignments and realignments at both the dwelling level and city/town/village/site level (Baires 2014a, 2017; Betzenhauser and Pauketat 2019; Pauketat 2013a, 2020a; Pauketat et al. 2017; Romain 2015a), connecting the wider Mississippian and cosmic world. To summarize, I fall back to Bille and Sørensen (2016:13):

> Architecture may appear as the most stable, but that is to forefront its material qualities in a short timescale. This leaves aside the way it gathers the world: the past and the process of making, the future and the ideals and ideas that came into being before and during its construction, and the sensuous encounters that define its immediacy.

The Collins Complex is an animate place brimming with non-human persons, plants, animals, ancestors, substances, and elements. Religious specialists or priests carry the esoteric knowledge required to gather the necessary elements for specific architectures such as charnel structures, temples, medicine lodges, etc. They also orient those architectures along specific cosmic alignments. In order to gain a better understanding of what the architectures and alignments of a mission *do*, this chapter examines the architectural assemblages and cosmological alignments at the Collins Complex. The architecture is organized into two groups – houses and residues of celebrations followed by temples and animic spaces. Within these groups I present,

1) the morphological basics of each structure to better understand the various architectural elements and how they were specifically gathered or might continue to gather,
2) introductions to any related materials or important artifacts that might speak to what the structure was doing,
3) relevant ethnographic data for useful contexts.

Following these examinations, I discuss the cosmic alignments of Collins architectures. Before this however, I provide some basic housekeeping.

Like the mound data, the source for all descriptions and data concerning the legacy excavations came from a combination of the Douglas' salvage report (1970) and dissertation (1976), Riley and coauthors' report (1978) along with original field notes, plan and profile maps, and images that could be located (on file at the Illinois State Archaeological Survey). Due to differing collection methods, reporting styles, and missing files/photos/maps, some information cannot be included into a larger synthesis of the Collins Complex to date. However, when enough information is present and relevant to the discussion, I have included it. For all excavations where possible, I obtained floor length and width by measuring center point to center point (on posts) for single post structures and inner trench to inner trench for wall trench structures. Not all excavators provide consistent post mold numbers, diameters or depths, but the data are included when possible.

There is overlap in feature or structure number assignment between the previous excavators and myself, so for the purposes of the present analysis, I assigned each structure a new number (see Table 4.1). I assigned labels for Douglas' machine and hand excavations surrounding Mound A as all other excavation areas from subsequent years have designated names (see Figure 4.1).

| St. # | Location | Original Desig. | Const. Type | Burned | Basin | Internal Feat. | Special Deposits | Long Axis Align. | Long Axis Azimuth (degrees) | Length (m) | Width (m) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | X101 | Structure 1 | SP | - | - | - | - | E-W | - | 3.5 | 1.5 |
| 2 | X101 | Structure 2 | WT | - | - | Yes | Yellow lined posts | EW/NS | - | 4.9 | 3.35 |
| 3 | X101 | Structure 3 | WT | - | - | - | - | NW-SE? | - | - | - |
| 4 | Block 1 | Feature 4 | SP | - | Yes | Yes | Offerings + in-situ burn areas | NE-SW | 41 | 4.32 | 2.7 |
| 5 | X107 | Structure 5 | WT | - | - | - | Human tooth in center wall post | E-W | - | 7 | 3.5 |
| 6 | X107 | Structure 6 | WT | - | - | - | - | NE-SW | - | ~12 | ~8 |
| 7 | Block F | Feature 7 | SP | - | Yes | Yes | - | NE-SW | - | 7.1 | 4.2 |
| 8 | Area 1 | Feature 41 | SP | Yes | Yes | Yes | - | NW-SE | 110 | 5 | 3.4 |
| 9 | 2016 Trench | Feature 9 | WT | - | Yes | Yes | Water laid silt deposit on floor; bone scratchers; ark clam, marginella bead; bald eagle cranial element | NW-SE | 45, 50, 43 | - | - |
| 10 | X101 | Feature 1 | SP | - | - | - | - | - | - | 1.44 | 1.43 |
| 11 | Block F | Feature 11 | SP | - | Yes | - | - | NE-SW | - | ~ 5.5 | 3.4 |
| 12 | TU 13, Butler Trench | Feature 16 | SP | - | Yes? | - | fauna in postmolds | - | - | - | - |
| C1 | Indian Springs Mound | Feature 1 | SP + WT | Yes | - | Yes | Interments | NW-SE | 315 | 8.01 | 3.9 |

Table 4.1. Architecture metrics from all excavations.

| St. # | Basin Depth (m) | Floor Area (m2) | W/L Ratio | Shape in Plan | X-Section | Excavator | Comments |
|---|---|---|---|---|---|---|---|
| 1 | - | 5.3 | 0.42857143 | Circular/Ovoid | Flat | Riley (et al. 1978) | Basin lost to plow |
| 2 | - | 16.4 | 0.68367347 | Square | - | Riley (et al. 1978) | Basin lost to plow; floor possibly lined as well |
| 3 | - | - | - | - | - | Riley (et al. 1978) | Only 1 corner exposed/mapped |
| 4 | 0.36 | 11.6 | 0.625 | Rectangular | Sloping/flat | Butler | Repairs + internal benches |
| 5 | - | 24.5 | 0.5 | Rectangular | - | Riley (et al. 1978) | Two rooms |
| 6 | - | 96 | 0.66666667 | Rectangular | - | Riley (et al. 1978) | No paperwork |
| 7 | 0.58 | 29.8 | 0.5915493 | Rectanguloid | Sloping/flat | Douglas (1970) | |
| 8 | 0.49 | 17 | 0.68 | Rectangular | - | Douglas (1976) | |
| 9 | 0.76 | - | - | Rectangular? | Straight/Flat | Butler | |
| 10 | - | 2.1 | - | Circular | - | Riley (et al. 1978) | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 11 | 1.1 | 18.7 | 0.61818182 | Rectanguloid | Sloping/flat | Douglas (1970) | |
| 12 | - | - | - | Circular | - | Butler | Only ¼ of the structure excavated |
| C1 | - | 31.2 | 0.48689139 | Ovoid | - | Douglas (1976)/Butler | |

Table 4.1 (Cont.). Architecture metrics from all excavations.

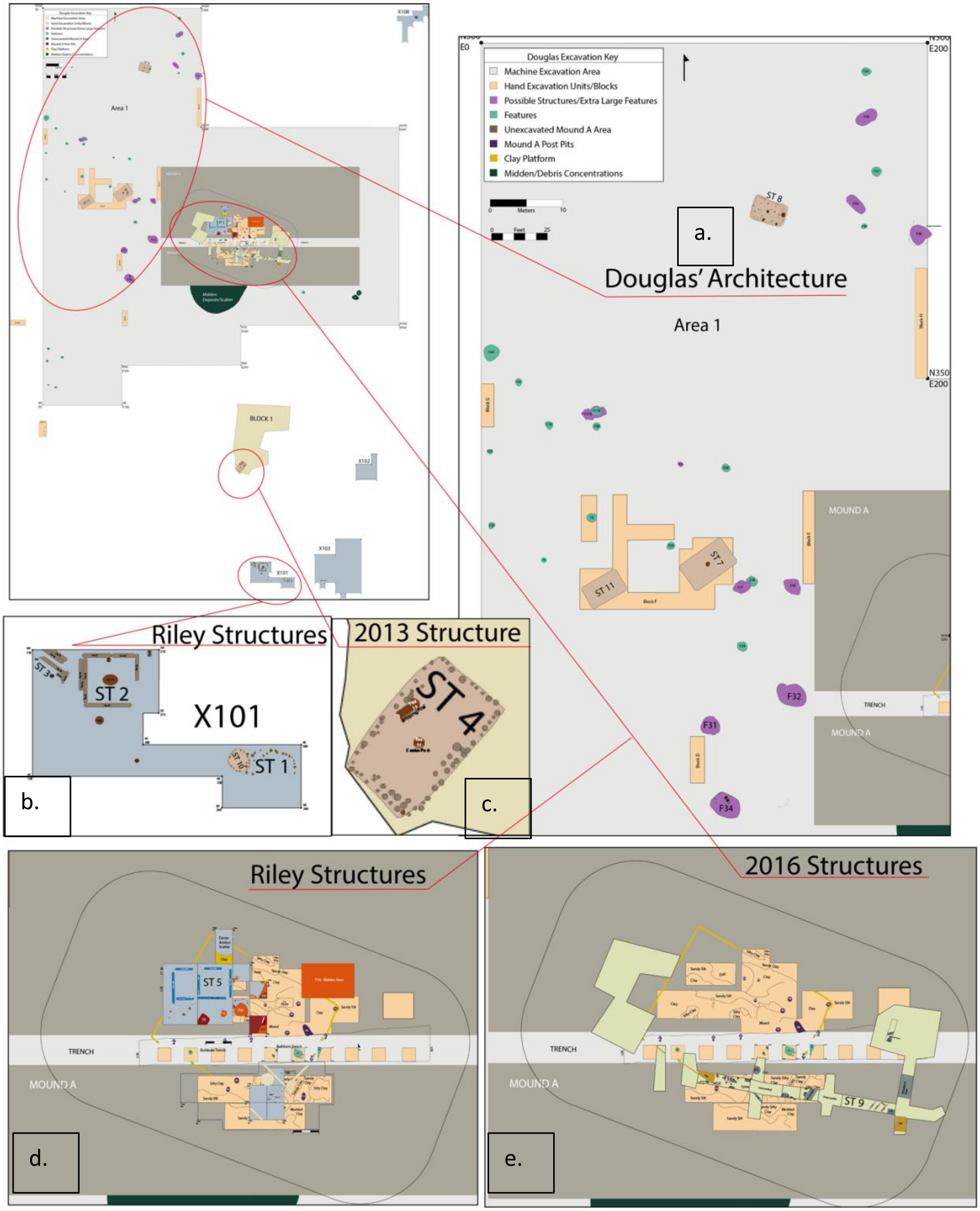


Figure 4.1. Spatial locations of structures from all excavations with in-sets highlighting specific areas. Off-mound structures - a. Area 1 structures defined by Douglas; b. Excavation unit X101 structures defined by Riley; c. Block 1 structure defined by Butler. Mound A structures – d. Structures defined by Riley; e. Structures defined by Butler.

**Houses and Residues of Celebrations**

Of the off-mound houses and features from Douglas' excavations and from our 2013 excavations, a total of four houses consisting of single post construction were excavated in the area to the west (Area 1) and south (Block 1) of Mound A (see Figure 4.1). All four structures were either dismantled (ST 4) or burned (ST 8) and subsequently used as garbage repositories for feasting debris. Additionally, I include nine large structure-like features excavated by Douglas (1970, 1976). I provide a brief description of each structure followed by a discussion of the possible relationships of these structures with the wider Collins Complex.

Structure 4

Structure 4 was a rectangular single post construction located on the terrace of the Collins Complex and ~77 m south of the Mound A Butler Trench (Figure 4.1c). It has a semi-subterranean basin and measures 4.3 x 2.7 x 0.36 m. Structure 4 has a long axis orientation of northeast/southwest, which is perpendicular to the mound. Recovered during the 2013 excavations, Structure 4 was first identified as an "amorphous ovoid feature" at the machine scraped surface (mss). However, the northeast corner of the structure became clear at 29 cm below the surface. Several extension cuts were made to determine the location and direction of the basin remainder. Douglas (1976) encountered the same difficulty in identifying structures/structure basins from ovoid or otherwise amorphous features, which likely resulted in an undercount of structures.

At the floor level, a total of 65 posts were defined along with two internal features, a center post (F11) and a stepping post (F12) (Table 4.2). Feature 12 was located along the northwest wall and had an associated insertion or reposition ramp (Figure 4.2). Five post molds (pm) (7, 11, 13, 14, and 38) along the center of the southeast wall are either a rebuilt/renewed section of wall or more likely an interior bench. A similar section of posts is visible along the southwest wall toward the south corner of the structure. An AMS (accelerated mass spectrometry) date taken from a maize kernel recovered from pm 50 returned a calibrated median date of 1088 CE (calibrated two-sigma range 1040 – 1165 CE) (see Table 1.2).

| Structure 4 Post molds | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **PM #** | **Diameter (cm)** | **Depth (cm)** | **PM #** | **Diameter (cm)** | **Depth (cm)** | **PM #** | **Diameter (cm)** | **Depth (cm)** |
| 1 | 13 | 34 | 26 | - | 35 | 51 | 8 | 23 |
| 2 | 10 | 28 | 27 | 18 | 47 | 52 | 10 | 35 |
| 3 | 9 | 25 | 28 | 20 | 50 | 53 | 11 | 37 |
| 4 | 10 | 40 | 29 | - | 36 | 54 | 11 | 25 |
| 5 | 11 | 31 | 30 | 14 | 31 | 56 | 10 | 34 |
| 6 | - | 28 | 31 | - | 27 | 57 | 12 | 36 |
| 7 | - | 33 | 32 | 9 | 40 | 58 | 10 | 23 |
| 8 | - | - | 33 | 12 | 53 | 59 | 12 | 44 |
| 9 | 11 | 41 | 34 | - | 46 | 60 | 12 | 24 |
| 10 | 9 | 47 | 35 | 10 | 46 | 61 | 19 | 31 |
| 11 | 15 | 32 | 36 | 9 | 17 | 62 | 14 | 26 |
| 12 | 9 | 53 | 37 | 7 | 29 | 63 | 14 | 37 |
| 13 | 14 | 25 | 38 | 12 | 19 | 64 | 17 | 36 |
| 14 | - | 27 | 39 | 9 | 15 | 65 | 12 | 38 |
| 15 | 13 | 26 | 40 | 11 | 19 | **Avg.** | **12** | **31.968254** |
| 16 | 7 | 30 | 41 | 9 | 19 | | | |
| 17 | - | 23 | 42 | 9 | 22 | | | |
| 18 | 10 | 31 | 43 | 16 | 36 | | | |
| 19 | 12 | 33 | 44 | 14 | 36 | | | |
| 20 | 11 | 32 | 45 | 9 | 13 | | | |
| 21 | 14 | 40 | 46 | 17 | 43 | | | |
| 22 | 16 | 38 | 47 | - | 18 | | | |
| 23 | 13 | 37 | 48 | 14 | 15 | | | |
| 24 | 15 | 32 | 49 | 13 | 36 | | | |
| 25 | 11 | 35 | 50 | 11 | 16 | | | |

Table 4.2. Post mold metrics for Structure 4.

The basin of Structure 4 was debris loaded with many artifact concentrations. Four burned areas along with two bone concentrations were encountered at ~12.5 cm below the surface on the northeast half of the structure. The concentrations are a combination of basket dumps of burned debris and in-situ burning evidenced by oxidized and burned soil surrounding the concentrations. The profile suggests this is either a dense floor midden (Zones $B_1$ and $B_2$ in Figure 4.2) or prior to dismantling and removing the walls, there was an initial midden dump and in-situ cooking/burning – burn zones and burned bone concentrations are at the top of Zones $B_1$ and $B_2$. Five of a total six Cahokia-style projectile points were found in the northeast half of the structure and at the top of or just within the same zone/s of the burn areas and bone concentrations. Three points came from the north corner near Burn Zone 3, a fourth came from the west wall near the structure midpoint, a fifth came from the opposite wall (East) at a similar structure midpoint, and the sixth point came from the center of the southwest half of the structure. These placements were likely intentional and possibly part of the closing of this space. Similar placements were noted at the Trempealeau site in southwest Wisconsin, though they recovered snapped Cahokia points (Pauketat 2013 personal communication). Eight Cahokia points were recovered within associated feasting debris noted in the sub-mound 51 feasting pit (Pauketat et al. 2002).

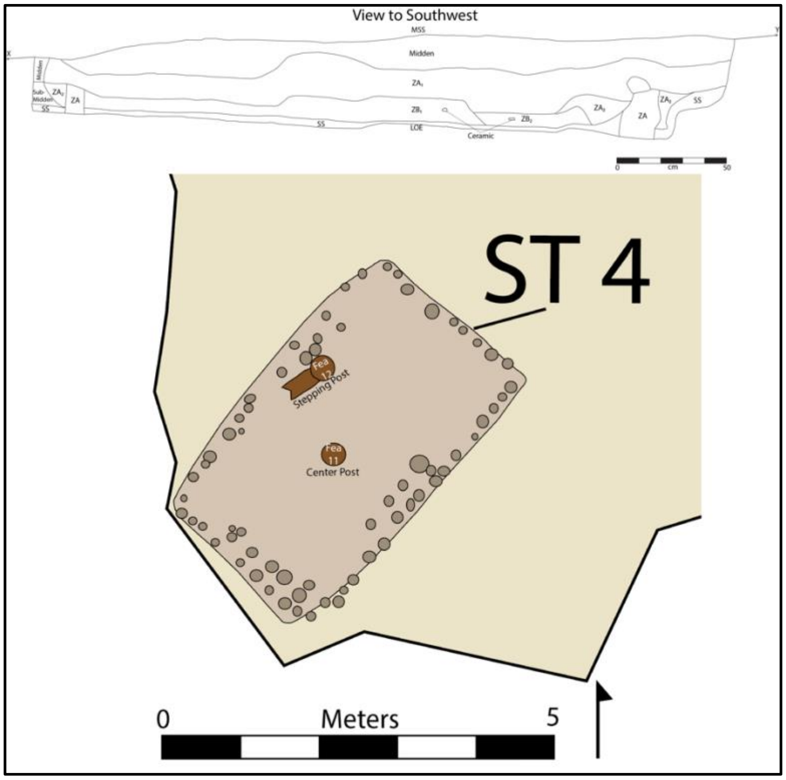

Figure 4.2. Structure 4 and its internal features and cross section profile.

Materials from the $B_1$ and $B_2$ midden zone make up over 20 percent by weight of overall basin materials. A total of 143.4 kg (316.2 lbs) of lithic, ceramic, and bone were recovered from the basin fill (Table 4.3). The botanical remains from flots are still being analyzed, but the presence of burned corn kernels and a burned cob were noted during excavation of the basin. Nearly 78 percent (by weight) of recovered materials come from fire cracked rock and rough rock. Over 3000 ceramic sherds were excavated from the basin fill, including rims to 38 ceramic vessels. In addition to the six Cahokia projectile points, other notable artifacts were 38 ceramic vessels including a large shoulder portion of a grit tempered version of a Powell Plain jar, a broken gorget made from black shale, an etched piece of cannel coal, a shaped sandstone disk, and a large chunk of ground galena. These items are discussed in further detail in Chapter 5.

| | Total Number | Total Weight (g) |
|---|---|---|
| **Chipped Stone** | 1997 | 5403.7 |
| **Non-Chipped Stone** | 16258 | 130917.7 |
| **Ceramics** | 3151 | 7093.2 |
| **Fauna** | 853 | - |
| **TOTALS** | **22259** | **143414.6** |

Table 4.3. Structure 4 material summary.

Structure 4 had no subterranean storage pits and only a minimal number of artifacts identified from the floor contexts – 81 percent coming from FCR, rough rock, and minerals. The possible interior benches and relatively clean floor – the majority of activity is reflected in the $B_1$ and $B_2$ zones – indicate this structure was not domestic, at least not in the way we typically associate the designation. It is possible it was priestly residence deliberately closed by removing certain elements (wooden walls) while gathering an assemblage of others - concentrated fire, Cahokia points, cooking and food debris, minerals, adornments (broken black shale gorget) and/or charms (etched cannel coal item) (Baltus and Baires 2012). All of these were deposited within the empty basin in at least three episodes (see Figure 4.2).

### Structure 7

Structure 7 was excavated by John Douglas and was described as a large (7.1 x 4.2 x 0.58 m) rectangular single post (probable) construction located to the west of Mound A (see Figure 4.1a). Douglas (1970) noted that the profile showed sloping sides and a flat bottom. The long axis orientated northeast/southwest, a similar orientation as Structures 4 and 11. While no post molds were identified, Douglas did interpret this feature as a structure. He stated,

> Fea. 7 is tentatively identified as a house basin, an excavation for a semi-subterranean living unit, probably a post-construction frame laced with smaller branches and daubed with clay mud. After its occupants abandoned it, the excavation was filled in with refuse, presumably fairly quickly. This identification of function is based on less positive evidence than is usually desirable, since no post molds were recovered, but size, shape, and the presence of a floor feature, possibly a fire basin, help substantiate the probability of the interpretation (Douglas 1970: 20).

Given its orientation, size, and amount of material recovered from the basin fill in relation to the fully excavated structure basins (ST 4 and ST 8), I agree with his interpretation and am treating this feature as a likely single post structure. Unfortunately, neither Structure 7 nor Structure 11 were mapped. However, Douglas notes three internal features were identified within Structure 7: two irregular pits and one central feature. Douglas tentatively identifies the central feature as a small basin-shaped pit, possibly a fire basin, based on the materials recovered.

Like Structure 4, the basin fill from Structure 7 "was extremely rich in debris" (Douglas 1970:20). More than twice the amount of materials were recovered from the basin fill of Structure 7 than from other known or suspected house basins from off-mound structures (Area 1 and Block 1). A total of 327.1 kg (721 lbs) of lithic, ceramic, and fauna materials were excavated from the basin fill (Table 4.4). Douglas noted over 2000 ceramic sherds and 96 rims were recovered in addition to two Cahokia points, one Madison point, two hafted drills, and over 12 kg of ground stone. These materials are discussed further in Chapter 6.

| Material | Weight (g) | Count (if available) | Comments |
|---|---|---|---|
| Ceramics | 16035.5 | 2000 | Sherds |
| Rims | - | 96 | 74 drawn |
| Fired Clay | 849.9 | - | |
| Anvil/Metate | 11339.8 | 1 | |
| Ground Stone | 12797.4 | - | |
| Limestone | 31144.2 | - | |
| Fired Sandy Siltstone | 28.3 | - | |
| Unid. Porous Rock | 226.8 | - | |
| Chert Debris | 9278.9 | - | |
| Hafted Bifaces | - | 5 | |
| Hafted Bifaces | - | 1 | Knife |
| Bifaces | - | 2 | Blades only; missing tips and bases; completed |
| Chert Object | - | 1 | Unidentified, bifacially flaked chert object |
| Drills | - | 2 | |
| FCR | 205453.9 | - | |
| Gravel | 31710.0 | - | |
| Cobbles | 6710.5 | - | |
| Bone | 1526.0 | - | |
| Shell | 0.8 | - | |
| **TOTALS** | **327102** | **2108** | |

Table 4.4. Structure 7 material summary.

### Structure 8

Structure 8 was a single post structure measuring 5 x 3.4 x 0.49 m and oriented northwest/southeast. Structure 8 is located ~120 m to the northwest of the western edge of Mound A (see Figure 4.1a). This was the most complete house structure excavated and mapped by Douglas. Unfortunately, Douglas did not discuss the excavation of Structure 8 in any great detail. In fact, the only place he recorded that the structure was burned was in the figure caption for the structure (Douglas 1976: 294). The plan map (Figure 4.3) shows 87 post molds with a possible rebuild of at least two walls (east and south) along with possible screens or alcoves in the southwest and northwest corners. There are four internal features – two possible pits (Features 44-45), a center post (F46), and a likely stepping post (F47).

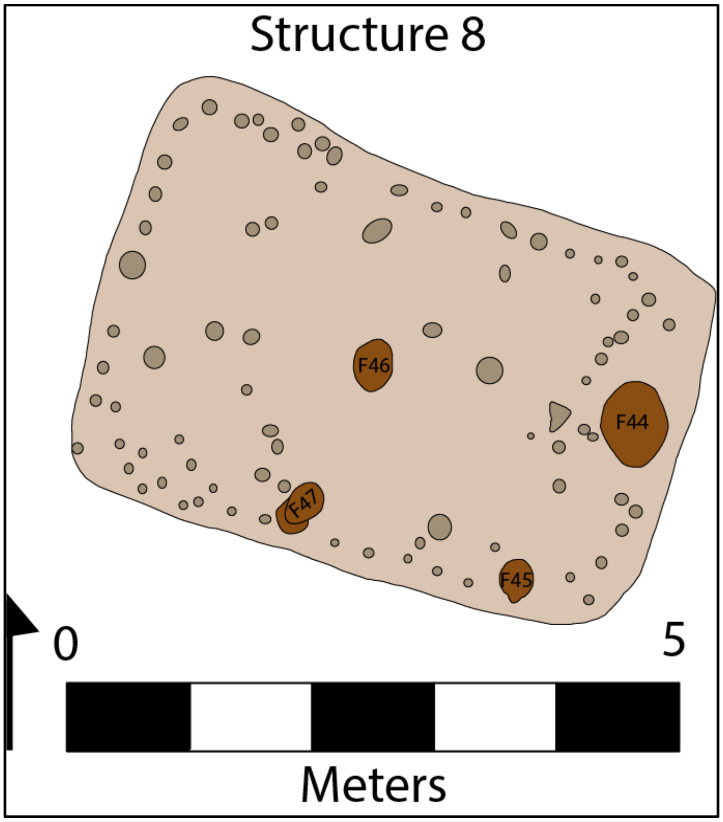

Figure 4.3. Structure 8 from Douglas' excavations.

The basin fill for Structure 8 was either not as dense as the other house basins, or it is possible that some of the basin was scraped away with the various heavy machinery during Douglas' excavations (1976). A total of 51.2 kg (112.8 lbs.) of ceramic and lithic debris was recovered from the basin fill (Table 4.5). Only 8 ceramic rims came from this basin, a significantly lower number than the other single post house basins. No known tools were recovered from the basin fill of Structure 8. Douglas did not state if he recovered any materials from a floor context. He suggested that this structure was domestic based on the form but notes there was very little domestic debris recovered.

Based on the corrected radiocarbon collected by Douglas, Structure 8 had a median date of 1086 CE with a two-sigma range of 949 – 1223 CE. This was a nearly identical date to

Structure 4, indicating contemporaneity. The lesser concentration of basin debris coupled with burning of the structure contrasted with the dismantled and heavy basin fill concentration from Structure 4.

| **Material** | **Weight (g)** | **Count (if available)** | **Comments** |
|---|---|---|---|
| FCR | 32446.4 | | |
| Gravel | 11551.8 | | |
| Cobbles | 4332.7 | | |
| Limestone | 311.8 | | |
| Fired Clay | 28.3 | 4 | |
| Ceramics | 1340.6 | | |
| Rims | - | 8 | 7 drawn |
| Chert Debris | 1172.5 | | |
| **TOTAL** | **51184.1** | | |

Table 4.5. Structure 8 material summary.

### Structure 11

Structure 11 was also excavated by Douglas to the west of Mound A and near Structure 7 (see Figure 4.1 a). Structure 11 was similar to Structure 7, in that it was tentatively identified as a house basin (likely single post) based on its size, shape, and orientation. Douglas (1970: 20) stated,

> In the southwestern portion of the same complex of trenches was another deep feature, Fea. 11. The problems encountered in the excavation of Fea. 7 were far worse in the case of Fea. 11; margins were completely indistinguishable, as color and texture differences between fill and subsoil were virtually nil. Following excavation, the shape of the feature was obviously so completely altered as to make it unmappable. Fea. 11 too is tentatively interpreted as a house basin, fundamentally because it seems too large to be a pit (approximately 11 x 18' {feet} and 3.5' {feet} deep) and shares a NE-SW orientation with Fea. 7. Recovery of debris, although good, was less spectacular than that from the neighboring basin.

Structure 11 was neither mapped or recorded on a feature report. However, based on Douglas' description of the size, shape, orientation, and amount of material from the basin fill, I am including it here as a structure. The size alone firmly puts it into the house basin category at 5.5 x 3.4 x 1.1 m. In addition to the same orientation as Structures 4 and 7, the basin fill from Structure

11 was full of debris (Table 4.6). A total of 130.5 kg (287.7 lbs) of ceramics, lithics, and bone were excavated. Twenty-nine rims came from the basin fill, but no other tools or special items.

| Material | Weight (g) | Count (if available) | Comments |
|---|---|---|---|
| FCR | 39949.0 | - | |
| Gravel | 70442.3 | - | |
| Cobbles | 3992.5 | - | |
| Limestone | 9315.1 | - | |
| Fired Clay | 85.0 | - | |
| Fired Sandy Siltstone | 56.7 | - | |
| Bone | 31.9 | - | |
| Ceramics | 5241.1 | - | |
| Rims | - | 29 | 20 drawn |
| Chert Debris | 1365.8 | - | |
| **TOTAL** | **130479.4** | | |

Table 4.6. Structure 11 material summary.

## Probable Structures: Feature 32, 34, and 38

An additional three (probable) structures are described here as they are the most likely to be structures of some kind (Table 4.7). All three are from Douglas' excavations (1970, 1976).

| Feat. # | Location | Length x Width x Depth (m) | Shape in Plan | Long Axis Orientation | "Floor" Area ($m^2$) | W/L Ratio | Cross Section |
|---|---|---|---|---|---|---|---|
| 32 | Area 1, west of Md A | 4.5 x 3.2 x 0.37 | Comp. Oval | NW-SE | 14.4 | 0.71 | Sloping/ Flat |
| 34 | Area 1, southwest of Md A | 4.1 x 3.1 x 0.34 | Rectanguloid | NW-SE | 12.71 | 0.76 | Sloping/ Flat |
| 38 | Area 1, north of Md A | - | - | - | - | - | irreg./flat |

Table 4.7. Feature information for Features 32, 34, and 38. Possible structures from Douglas' excavations.

| Feature # | El. Of Top (m) | El. Of Bottom (m) | Comments |
|---|---|---|---|
| 32 | 183.39 | 183.02 | |
| 34 | 183.67 | 183.31 | |
| 38 | 184.01 | 183.73 | Only partially excavated by Douglas. Likely hit the width (profile) but did not chase the structure limits. |

Table 4.7 (Cont.). Feature information for Features 32, 34, and 38. Possible structures from Douglas' excavations.

Some were not completely excavated, and others were unable to be classified during excavations/analysis due to poor field conditions. I have not assigned them a structure number due to the tentative nature of their identification (Figure 4.4).

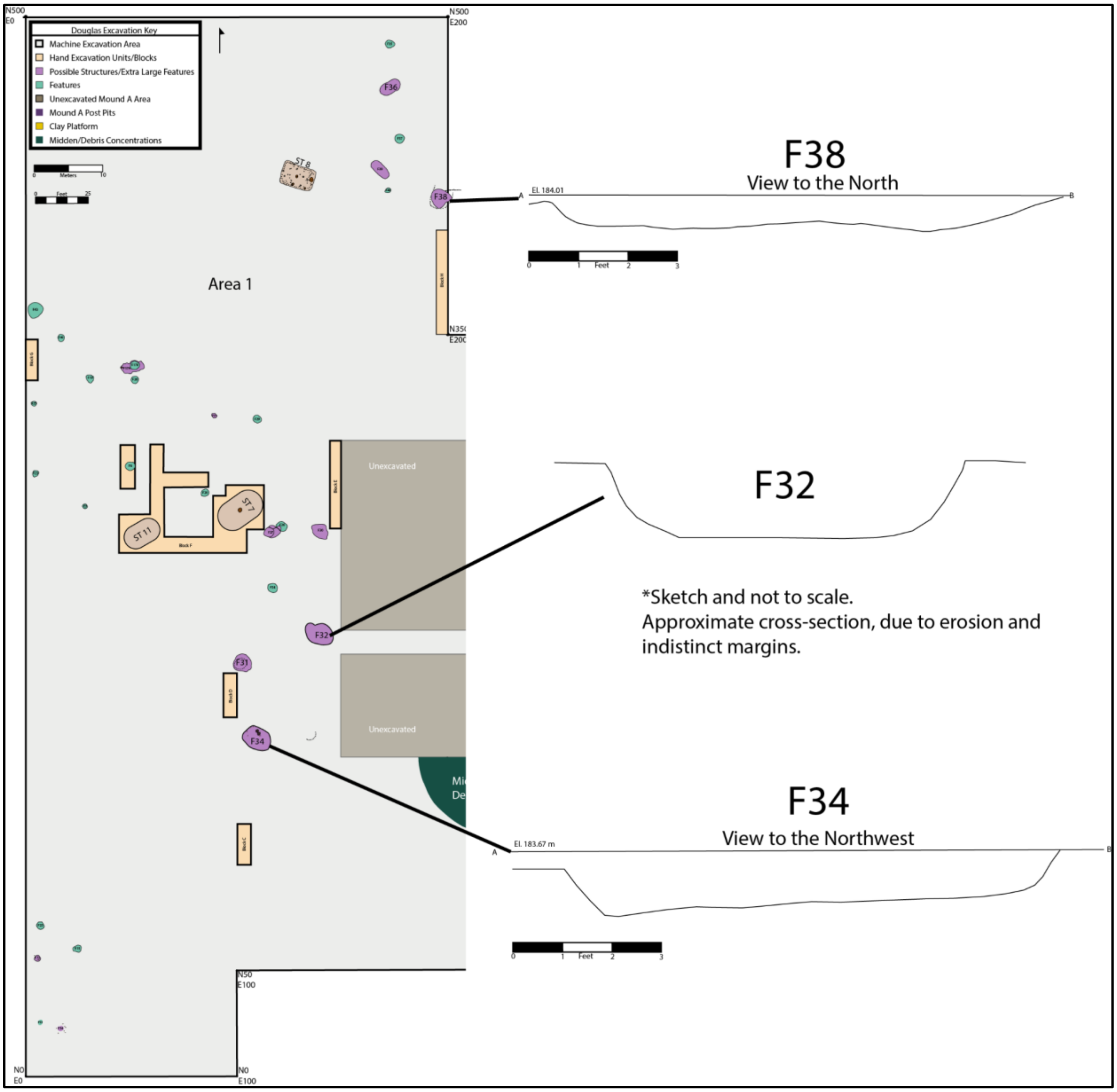

Figure 4.4. Plan map locations for Douglas' Features 32, 24, and 38 with cross sections.

Douglas (1976) described Feature 32 as a compound oval in plan, generally measuring 4.5 x 3.2 m with inslanted and rounded sides and a flat bottom in cross-section. He noted that the feature margins and dimensions were approximate, and no profile or cross-section was drawn due to erosion and indistinct margins. It is possible that Douglas simply did not have the time or labor to dig deep enough to locate more clear basin boundaries. The identification of Feature 34 being a structure is bolstered by its probable orientation. The long axis of the feature as drawn in plan, followed a northwest/southeast orientation matching Feature 34, Mounds A and C, as well as Structures 8 and C1. The fill was similarly high in material density as the other single post structures described above, yielding over 87.6 kg (193 lbs.) in materials, including one Cahokia projectile point, 33 rims, ceramics, fired clay, FCR, and bone. Based on the parallels with the other off-mound structures including size, cross-section description, orientation, and a materially dense fill, Feature 32 was likely a structure.

Feature 34 was located directly to the south of Structure 7 and south-southwest of Structure 11. Douglas (1976) described the shape in plan as “rectanguloid” and measured 4.1 x 3.1 m with inslanted sides and a flat bottom (see Figure 4.4). The amount of material recovered from this feature was in line with that of the verified structure basin fills and supported the hypothesis that Feature 34 was likely a structure. Over 96 kg (212 lbs) of material, including 37 ceramic rims, 1 Cahokia point, ceramics, maize, FCR, bone, and mussel shell, came from the fill. Douglas also identified seven post molds (six around the feature perimeter) and two ‘stains.’ The feature form noted that the heaviest concentration of materials came from the western half of the feature, where the stains were identified. In addition to size, shape, cross-section, and material density, the long axis of Feature 34 (as shown in plan) is northwest/southeast; the same orientation as Mound A, Mound C, and Structures 8 and C1.

Feature 38 was not fully excavated by Douglas, and he was unable to fully define the feature in plan (see Figure 4.4). The cross-section showed a shallow (28 cm) basin with a mostly flat bottom. Materials recovered were not as dense as the other potential structures with 55.2 kg of lithics, chert debris, limestone, ceramics (1 rim), and bone, but if this is a structure and only a portion was excavated, this number would be in line with the other off-mound structures.

**Discussion**

Twenty-six of the 41 features[21] that Douglas excavated from Area 1 were one meter or larger in size (Table 4.8). Douglas (1976: 180) described the difficulty in defining feature limits. This was partly due to the well-drained sandy soils that comprise the Collins Complex terrace. During the 2013 excavations, we battled the same conditions to define diffuse or patchy feature-like outlines at the surface. Nearly all of these features could not be verified in profile. Douglas (1976), Riley et al. (1978), and our own excavations corroborated a thick midden deposit (12-23 cm) (Figure 4.5) that blanketed much of the site surrounding Mound A, which added to the difficulty in feature definition.

| Feat. # | Feature | Dimensions (ft) | Dimensions (m) | Shape | X-Section | Comments |
|---|---|---|---|---|---|---|
| 6 | Fire basin | 4.8 x 4.1 x 0.7 | 1.5 x 1.2 x 0.21 | Ovoid | Basin | |
| 7 | SP House | 23.2 x 13.7 x 1.9 (NE-SW) | 7.1 x 4.2 x 0.58 | Rectanguloid | Sloping/flat | |
| 8, 9 | Irregular Pits | - | - | Superimposed by or on by Fea. 7 | - | |
| 10 | Fire basin? (Center post? AJB) | 2.5 x 2.3 x 0.7 | 0.76 x 0.7 x 0.21 | Circuloid | Basin | |
| 11 | SP House | 11 x 18 x 3.5 (NE-SW) | 5.5 x 3.4 x 1.1 | Rectanguloid? | Sloping/flat ? | |
| 12 | - | 3.0 x 2.9 x 0.8 | 0.91 x 0.88 x 0.24 | Circuloid | Sloping/flat | |

Table 4.8. All off-mound features from Douglas' excavations.

21 There are other very large features excavated by Douglas (1970, 1976) that I did not include as possible structures, though some may indeed be so. These include, 17a, 24, 26, 27, 30, 31, 36, and 39.

| | | | | | |
|---|---|---|---|---|---|
| 34 | - | 13.5 x 10.2 x 1.1 | 4.1 x 3.1 x 0.34 | Rectanguloid | Sloping/flat |
| 35 | Pit | 4.7 x 3.8 x 0.5 | 1.4 x 1.2 x 0.15 | Irreg. Ovoid | Sloping-basin/flat |
| 36 | - | 10.4 x 5.7 x 0.6 | 3.2 x 1.7 x 0.18 | Elong. Oval | Shallow Basin |
| 37 | - | 4.6 x 4.4 x 0.9 | 1.4 x 1.3 x 0.27 | Circular | Sloping/flat |
| 38 | - | No Limits | - | Ovoid? | Irreg./flat |
| 39 | - | 10.3 x 4.7 x 2.2 | 3.1 x 1.4 x 0.67 | Elong. Oval | Asymm. Basin |
| 40 | - | 2.9 x 2.2 x 2.3 | 0.88 x 0.67 x 0.70 | Oval | Irr. Vert./rd. |
| 41 | - | 16.3 x 11.2 x 1.6 | 5.0 x 3.4 x 0.48 | Rectangular | Sloping/flat |
| 42 | - | 3.5 x 3.2 0.6 | 1.1 x 0.97 x 0.18 | Circuloid | basin |
| 43 | - | 7.7 x 7.2 x 1.3 | 2.3 x 2.2 x 0.40 | Circuloid | basin |
| 44 | - | 2.3 x 1.8 x 0.6 | 0.70 x 0.55 x 0.18 | Ovoid | Asymm. Basin |
| 45 | - | 1.0 x 0.9 x0.9 | 0.30 x 0.27 x 0.27 | Circular | Asymm. Sloping/Irreg. |
| 46 | - | 1.4 x 1.0 x 0.5 | 0.43 x 0.30 x 0.15 | Oval | Sloping/irreg. |
| 47 | - | 1.5 x 0.9 x 1.0 | 0.15 x 0.27 x 0.30 | Comp. Ovoid | Comp. slope/flat |
| DC 1 | Debris Conc. | ~6 x ~7 x 1.5 | - | - | - |
| DC 2 | Debris Conc. | ~9 x ~6.5 x 1.2 | - | - | - |

Table 4.8 (Cont.). All off-mound features from Douglas' excavations.

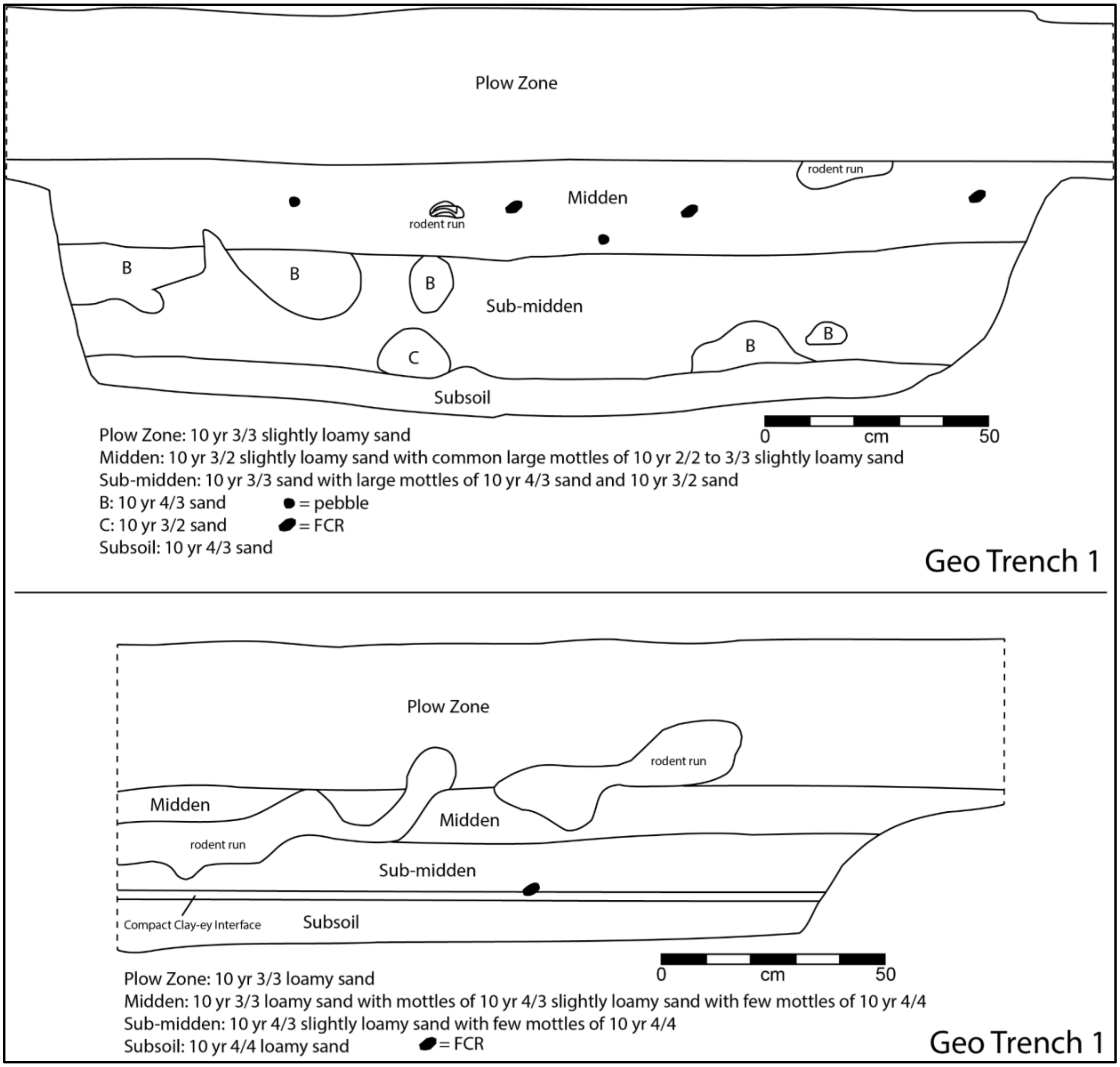

Figure 4.5. Geo Trench profiles from the 2013 excavations showing the thick midden deposits.

The biography of Structures 4, 7, 8 and 11 (this likely includes Features 32, 34, and 38) began as an assemblage of materials and elements and likely engaged with as houses before around CE 1086/1088 (median date reported from ST 8 and 4 respectively). The building was dismantled or burned, followed by a succession of fill episodes (seen in Structure 4 profile) deposited into the open basins. These fills constituted refuse from numerous gathering events and celebrations. The pattern of episodic feasting (often first with plazas) in association with mound construction was traced from the earliest Coles Creek and Formative Caddo places in the Southeast and reiterated on a larger scale at Cahokia (Chapter 1). Feasting is a catalyst in bringing people into the mission to be proselytized to (Graham 1998). All excavations recognized midden dumps off the aprons of Mound A, often used as a means to build out the mound. These same thick middens (but not material dense) blanketed the terrace area surrounding Mound A. Feasting was a wide-spread communal celebration at many Mississippian towns, villages, and centers throughout the region and likely tied to the agricultural calendar (Bardolph 2014; Blitz 1993; Emerson 1997a; Friberg 2018; Jackson et al. 1992; Pauketat et al. 2002). Similar patterns of gathering feasting debris and elements in the dismantled basins of structures is also noted at the Emerald Acropolis (Skousen 2016).

> Apparently, at the end of the feasts, these structures were dismantled and food refuse was dumped in the basins in a single episode, perhaps as part of a termination ceremony. The abundance and variety of pottery vessels and lithic artifacts recovered from these fills (particularly Feature 20) suggests that the vessels and tools used during these feasts were also discarded with the food refuse (Skousen 2016:223).

Feasting and its residues provided a robust dataset from which to think through the communal requirements for missionizing. Each of the structures described thus far became a node or assembling place for residues of bonded social connections, consumption, fire/burning, and broken things. Fire is an important element that continues to weave through the interpretations of the Collins Complex. Fire was a deliberately engaged element within Structure 4 on top of the initial floor midden. The four discrete burn zones were surrounded by two concentrations of burned bone within the northeast half of the building. In addition to requiring an observer/guardian/attendant, the fire’s affective qualities within the basin confines include smoke, heat, the smells of burned earth and bone or the cracking sounds of the fire as it consumes soil and bone. Perhaps the roof had been previously removed, which allowed a direct connection with atmospheres and the cosmos. These small, burned zones were cleaned (no ash or large charcoal pieces), the walls were pulled/dismantled, and the remainder of the basin was filled with more debris.

Structure 8 engaged with fire differently than Structure 4. In addition to the suggested hearth feature on the floor of the building – tamed fire, Douglas noted that this structure was burned. Fire transmogrified and released the structural elements of this building – wood, daub, minerals, grasses, etc. as smoke to the upper world and ancestors/spirits (Baltus and Baires 2012). The median dates (see Table 1.2) recorded for these two events indicate possible contemporaneity. Perhaps they were even part of the same ceremony or celebration. Feasting and fire also thread through the following discussion of temples and their performance within the missionizing bundle of a Cahokia-Mississippian religion.

## **Temples and Animic Spaces**

Temples, specialty buildings or even charnel houses are structural forms often used interchangeably to infer power, elite-ness, and ritual-religious function. Like all architectures, temples are more than their physicality and often animate and gather powerful substances, persons, ancestors, and elements, sometimes regardless of their human caretakers (Pauketat 2013a). The ethnographic record for the Southeast and Plains peoples are full of descriptions and references to temples. Archaeologically, Mississippian scholars have identified these kinds of architecture for decades, though often these are generalized to ‘specialty structure.’ Even less often do archaeologists theorize priests or the idea of a priesthood associated with identified Mississippian temples (for exceptions see Betzenhauser and Pauketat 2019; Baltus and Baires 2012; Douglas 1976; Emerson 1997a, Jackson et al. 1992, Knight 1986; Pauketat 2013a).

Temples, or the recognition of a special space with attendant priests are identified throughout the ethnographic record for many southeastern groups (see Dorsey 1904a 1904b;

Swanton 1922, 1932; Miller 1996). Benchley (1974: 270-273) summarized her examination of data compiled from southeastern ethnohistories and is quoted at length here (Emerson 1997a:168):

> The most often noted special building throughout the southeast was called the temple. The building did not actually function as a temple in the sense of a place where the community worshipped and witnessed ceremonial manipulations of the priests. The temple was a sacred building elevated on a mound which housed both the bones of the deceased community leaders and the eternal fire (cf. Swanton 1911: 158, 159, 162, 167, 260, 269). The temple was a charnel house. The eternal fire was placed in a front room where an attendant watched to make sure that it never went out. The bones of the ancestors and their attendants were stored in baskets or boxes within the building or were sometimes temporarily buried in pits in the temple floor. Attendant burials were also interred outside the building. Sacred objects and treasures were housed in the temple and included stone and wood figurines of humans, animals, and mythical creatures; rock crystals; pearls; copper; pipes; and finely made ceramic dishes. Furniture within the buildings included benches, tables, mats, and baskets, as well as the fire basin. Structures outside the building could have included a small building for the keeper of the fire and an encircling fence. The wall mats on the temple were replaced annually. Emptying and rebuilding the temple, however, took place after longer intervals and evidently occurred when it was full of bones (Bartram 1958: 328). Renewal of the temple and its mound may have actually occurred at precise intervals set by a calendric system or at times when political power shifted from one lineage to another. Ethnohistorical observations, however, were too short live to have recorded evidence for either of these possibilities.

Archaeologically, Mississippian temples are typically identified by size of the structure (either extra-large or extra small, see Alt and Pauketat 2017 for shrine house descriptions), atypical shape (T or L), location (on/below/off mound), internal divisions or alcoves, assemblages deemed non-domestic or extra domestic, internal benches, and post caretaker/priest treatment (Baltus and Baires 2012:177). Emerson (1997a:169) sums up additional data (from Seeman 1997) that would indicate the presence of a temple including evidence of the sacred fire, presence of human remains, idols or ritual objects (similar to extra-domestic), or war trophies and weapons. He also notes, “Composite pictures of temples such as those presented by Benchley, Waring, Swanton, and others represent an artificial ideal and not a standard met by all or even most documented historic examples” (Emerson 1997a:169). I will follow Emerson (1997a:168) here and use the word temple to “refer to the various manifestations of these multifunctional structures." In other words, there can be extreme variation in what a temple is and how it is identified, but the commonality is *what* they do. All of this is to say that identifying these particular types of architectures is critical at getting to the *how* and *who* questions of Mississippian missions and missionaries. The temples themselves, their priests, and the priest's attendance actively missionize and proselytize via the reordering and bundling of space, elements, ancestors, animals, powerful persons/deities, and charged organizing of regular feasting events to bring the people in. The following two sections detail the temples and temple complexes at the Collins Complex.

**Mound Temples**

<u>Structure C1 – Temple</u>

The largest structure excavated at the Collins Complex was Structure C1 (Figure 4.6), a burned submound structure of Mound C. Douglas first excavated C1 in 1972, after encountering burned timbers and soil during the extension of his L-trench to the northeast (see Figure 3.2). His original interpretation of C1 is lacking significant data that the 2013 excavations were able to provide for an updated biography to this very unique temple.

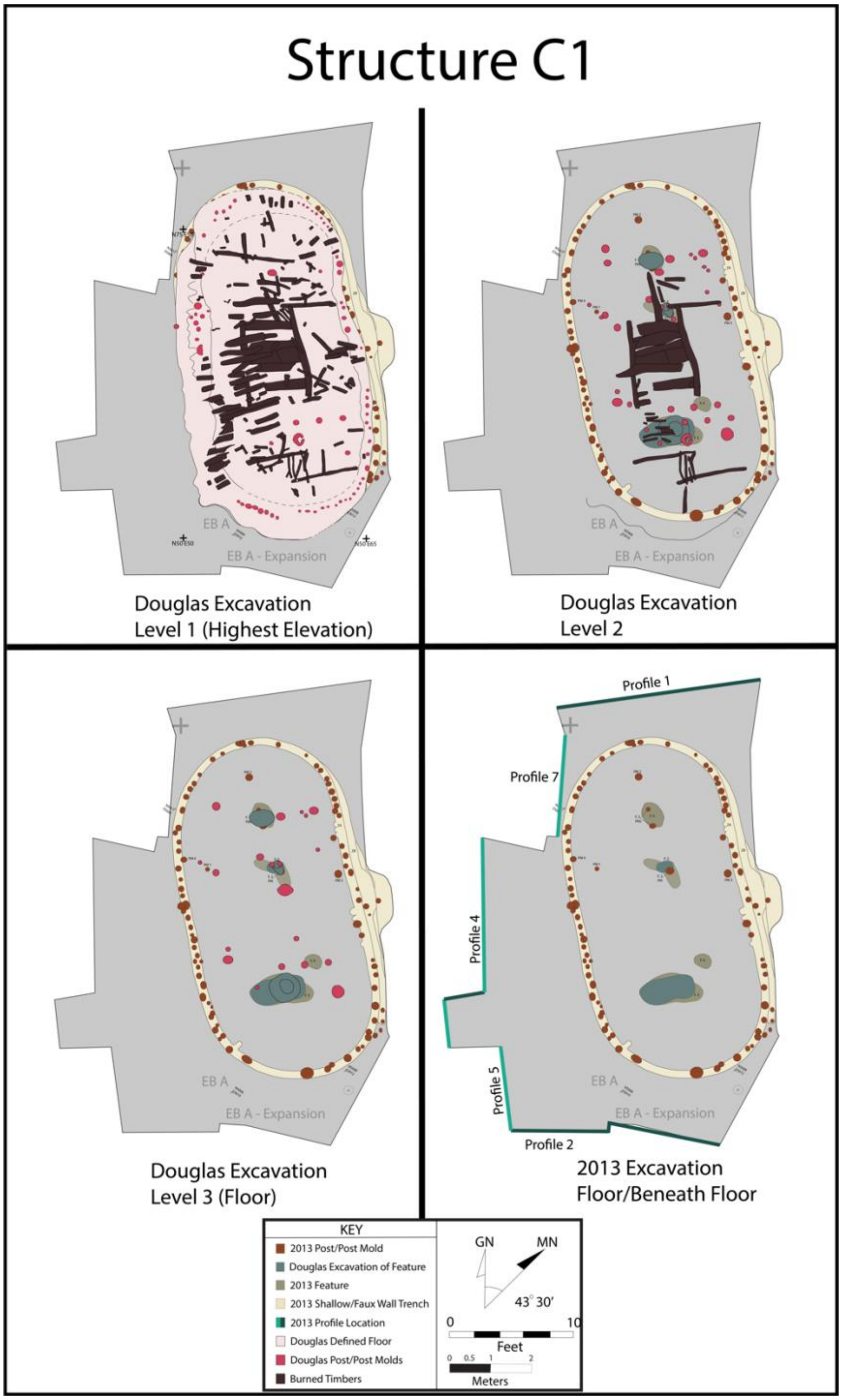


Figure 4.6. Composite of Structure C1 - A-C: Overlay of Douglas' excavation levels on the 2013 digitized map of the rebuilt primary structure - seen in D. A) Level 1 (highest elevation) of Douglas' excavation - Shows loose post perimeter, structural elements (logs) for some walls and the central platform; B) Level 2 of Douglas' excavation - Shows inner posts defined by Douglas along with central platform; C) Level 3 (Floor) - Shows internal floor posts and central posts not fully defined by Douglas; D) Floor/Beneath Floor - Shows the primary structure fully defined with faux wall trenches and rebuilt northeast wall/entrance.

As Douglas was the original excavator, his dissertation provided the most detailed account of his excavation and field interpretations of the burned temple. I reproduced different sections of those descriptions at length here (see Figure 4.6 Levels 1-3).

The scaffold:

> The five broad logs running east-west between the north-south trending "rails" in Fig. 10 are rough-hewn planks of cedar, .1 to .4 ft. in thickness, up to 1.9 ft. in width, forming the main part of the floor of a platform, or scaffold…This platform floor rested on the roughly parallel north-south logs. North and south ends of the platform were floored with small, unsplit logs which were probably lashed together and to the superstructure. The fact that this was a raised platform rather than a wooden floor resting on the ground is indicated by the lower surfaces of the planks, which were deeply charred, as could only occur if they were elevated (Douglas 1976: 155).
>
> It is impossible to reconstruct with complete accuracy the exact dimensions of the crematory platform, as too many clues have been lost to burning, and logs are disoriented as a result of collapse. The major vertical supports, two large uprights set in compound silhouette post pits at the north and south, are 12.8 ft. apart (13.6 ft. center to center) (Fig. 11). The major horizontal support logs are 4.5 to 5.5 ft. apart (outside) and 7.2 and 7.5 ft. in length. What appears to have been a central horizontal support spanning the distance between the two primary vertical supports projects 4 ft. north from below the floor planks. The longest floor plank preserved is 5.5 ft. long. Logs which seem to have been secondary vertical supports range 4 to 5 ft. in length. All figures should be revised upward by an unknown amount to account for the effects of burning (Douglas 1976:157).

Douglas (1976:157) estimated the original dimensions of the scaffold at 10 ft (3.05 m) by 6 ft (1.8 m) and possibly 4.5-5.5 ft (1.4-1.7 m) off the ground. This estimation is based solely on his idea that the perimeter logs were "fuel logs" that rested at severe angles against the central platform like a pyre. The estimated dimensions are the size necessary to support the fuel logs and an assumption that the platform was much larger than was recovered. He placed a heavy emphasis on the angles of the perimeter logs at the time of recovery, yet (correctly) points out "the angles recorded cannot be taken as a precise indication of pre-firing lean and orientation…the original angles having been changed, as a result of burning, collapse, and subsequent covering over with dirt, by an unknown and variable factor" (Douglas 1976:154). He determined that the entire burning/smoldering construction was smothered with soil.

He also identified the entire structure was made from Eastern Red Cedar (Douglas 1976:159). Additionally, he recovered the remains of five individuals who had been placed in the structure/on the platform prior to the firing. He did not describe any burned materials that might be interpreted as a roof, though several of his internal 'circular stains' (see Figure 4.6 Levels 1-3) could possibly be burned offerings/organics that he did not recognize in his effort to focus on the burned timbers. I could not find profiles of any of those posts/stains that were mapped (see Figure 4.6 Levels 1-3).

Douglas interpreted the biography of C1 using the data he had at the time, which is summarized here.

- A central elevated scaffold was constructed using cedar planks atop unsplit logs, raised between a combination of large and smaller vertical posts.
- Powerful people and ancestor bundles (min. 5) were placed on the scaffold.
- Posts were either loosely set in the ground or simply placed around the perimeter – with a steep angle to 'rest' on the central scaffold – creating a pyre.
- The pyre/structure was set on fire – burning hottest along the northeast wall and southeast corner.
- While the structure was still smoldering, a mantle of soil was laid over the construction and was subsumed[22] into Mound C.

Based on Douglas' interpretation of C1, our 2013 excavations did not intend to find structural remains still in-situ. However, we found them to be preserved by remnant polyurethane tarp covered over with 40 years of slump. After rescraping the area, it became clear

22 Douglas (1976) originally reported that Mound C was already built next to Structure C1 (contemporary) and then joined together after the firing event. I provide new data in chapter 3 showing that C1 was in fact a submound structure and that the layer thrown over the smoldering temple remains was in fact the first mound level.

that what Douglas originally believed to be a charnel scaffold/pyre with no fixed foundational elements (posts in-situ in a trench), was actually much more complex (Figure 4.7).

Figure 4.7. 2013 Photos of Structure C1. Left: Defining posts in the faux wall trench; Right: the fully defined structure.

The structure itself measured 8.1 meters long by 3.9 meters wide, having a floor area of 31.24 $m^2$. The shape of the structure was unique, being rectilinear with ovoid poles. There was an entrance ramp in the center of the northeast wall (see figure 4.6 Floor/Beneath Floor) that had been rebuilt. A portion of the southeast wall was also rebuilt once. The long axis was oriented northwest/southeast and follows the natural bluff edge and the subsequent mound built atop it. The temple was not built into a basin, but over a cleaned and prepared surface (Douglas 1976).

The construction of C1 used both wall trench and single post construction techniques, also known as faux wall trenches (Alt 2006a; Pauketat and Alt 2005). The shallowness of the wall trench would not actually provide significant structural support, especially for the extra-long walls, thus requiring additional support from postholes (Alt 2006a:82; Alt and Pauketat 2011; Brennan 2007). The width of the wall trench was around 19 cm and the depth averaged 11 cm (Figure 4.8). These numbers do not include the entrance ramp, part of which was an extension of the wall trench. The trench may be slightly more substantial since we cannot know how much of the floor was removed by Douglas. A total 87 wall posts were mapped in plan (see Figure 4.6 bottom right) and a sample of posts were cut and tested as part of the wall trench cross sections. The average diameter of the posts is 13.6 cm, with some as large as 23 cm. The bottoms of many burned posts remained in-situ, particularly along the northeast wall and corner and along the southeast corner.

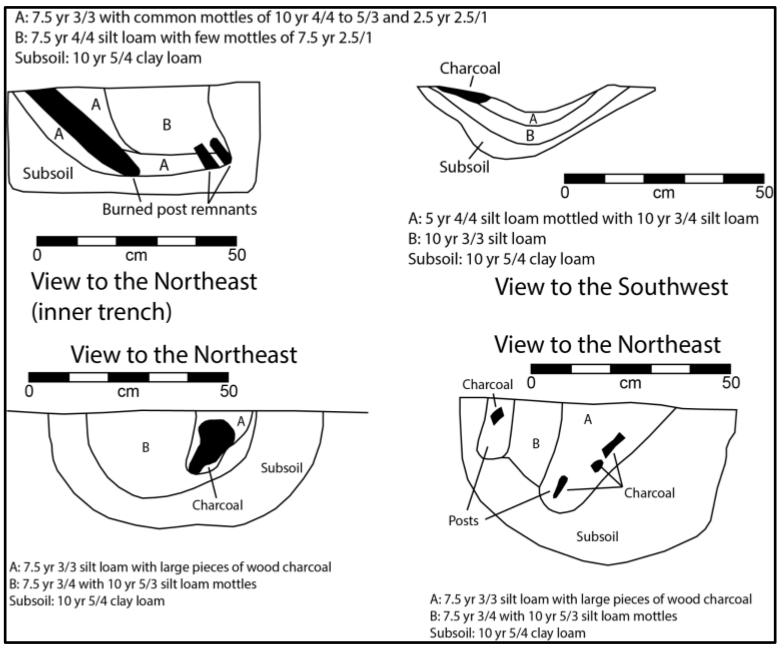

Figure 4.8. Structure C1: Sample of wall trench cross-sections.

A total of four internal features and four isolated post molds were recorded by our 2013 excavations. All three post pits aligned close to the middle length of the temple. Features 3 and 5 were the outermost post pits, nearest to the poll ends of the temple. Feature 2 was just off-center, placing it in the northwest half of the structure. All three features had been partially excavated by Douglas. Each one was cross sectioned and profiled, with notes made of the areas disturbed by Douglas. Feature 3 was the largest and deepest of the three post pits measuring 73 cm in depth (no width due to previous excavation disturbance). There was an insertion or extraction ramp associated with this post pit. Feature 2 was only 16 cm deep and had both an insertion and extraction ramp visible in profile. Feature 5 was located in the northeast half of the temple. This post was only 14 cm deep[23] and also had an insertion or extraction ramp. All three post pit features had associated smaller and shallow post molds either super positioned through a ramp (Feature 2), or a post mold within the feature (Feature 3) itself. Feature 5 had two post molds on either side of the post pit (see Figure 4.6 Floor/Beneath Floor). There were an additional four isolated post molds within Structure C1, ranging in circumference from 12-18 cm. Like the intrusive posts associated with the post pits, the isolated posts were also shallow, ranging in depth from 4-9 cm.

Reconstructing the shape and style of C1 is a challenge as there are seemingly several contradictions. The shallow/faux wall trench indicates that the structure itself was above ground with the help of some minimal support from the wall trench. Many of the posts in profile slanted (see Figure 4.8) toward the center of the structure[24], which would normally signal a flexed-pole construction (Alt 2006a; Alt and Pauketat 2011; Brennan 2007). Brennan (2007:79) describes this style as using "slender, often closely spaced poles of pliable woods such as young oak, hickory, and locust…one wall is flexed inward across the floor and affixed to the opposing wall, creating a single roof/wall element." However, this style is unlikely for two reasons. The first being (following Brennan 2007:Table 5.1) that the average diameter of the posts are 13.6 cm. Experiments by Lacquement (2004) reported that poles with a diameter larger than 7.6 cm were no longer bendable by hand (Brennan 2007). The second issue is that the entirety of Structure C1 is made from cedar, not only a religiously significant wood, but also one typically only used in

23 While we operated under the assumption we were at the floor of the temple, we cannot be certain that Douglas excavated below the floor or removed some of the floor during his excavations, either of which affects the total depth of any internal features. Feature 3 is nonetheless many times deeper than the other two post pits.

24 Douglas (1976) also noted the 'extreme' angles of the posts, leading him to conclude that the posts were actually just leaning onto a central platform/pyre. He did not locate the wall trench, which evidences a more substantial and typical structure.

rigid pole construction styles (Brennan 2007:Table 5.1). The three central post pits, in addition to the post molds documented in the 2013 excavations and at least some of the ones mapped by Douglas, suggest that there was significant internal support for a sizeable roof with rigid walls–likely a gabled roof, but minimally a hipped one (Brennan 2007).

To my current knowledge, there are four documented structures that show some similarities to structure C1 (Figure 4.9), with the most similar structure found at the Aztalan site (see Zych 2015). One structure reported from the Poole Site (see Figure 4.9 Top) near Hot Springs, Arkansas, is an extra-large (8.5 x 30 m) single post rectangular design and is possibly the oldest example – dating to the Fouche Maline period. What makes it similar to C1 is its size and the line of seven large post pits along the central axis as well as the intermittents placed inside. The second example is from the Kincaid Mounds site in southern Illinois. Much data from this structure has been lost to time, but Brennan (2007) provided size estimates of a single post rectangular structure at ~13 x 8 m. Again, note the line of large interior post pits. The last two are from submound contexts at the Aztalan site. Structure 3 was a single post construction with straight walls and an angled inward poll end. Zych (2015) noted it had a width of 5.42 m and was at least 9.15 m in length, as it continued outside of the original excavation block.

The most similar in shape is Structure 5 from Aztalan. It is a wall trench and single post ovoid structure beneath the northeast mound of Aztalan (Richard and Zych 2018; Zych 2015). This structure postdates Structure 3 and is significantly larger, measuring 12.24 m wide and at least 25.10 m in length (extends beyond the original excavation block) (Zych 2015). Post diameters ranged between 12-23 cm and the wall trench was 12-18 cm in width and averaged 18 cm in depth (Zych 2015). Zych (2015) also noted a possible ramp/extension was identified extending to the northwest of the structure. No burned timbers or posts were identified, but the original excavators identified several burned soil areas, suggesting the structure was burned prior to the subsequent mound construction. The Collins submound structure is 1/3 the size of the Aztalan structure. No known burials were associated with the Aztalan structure.

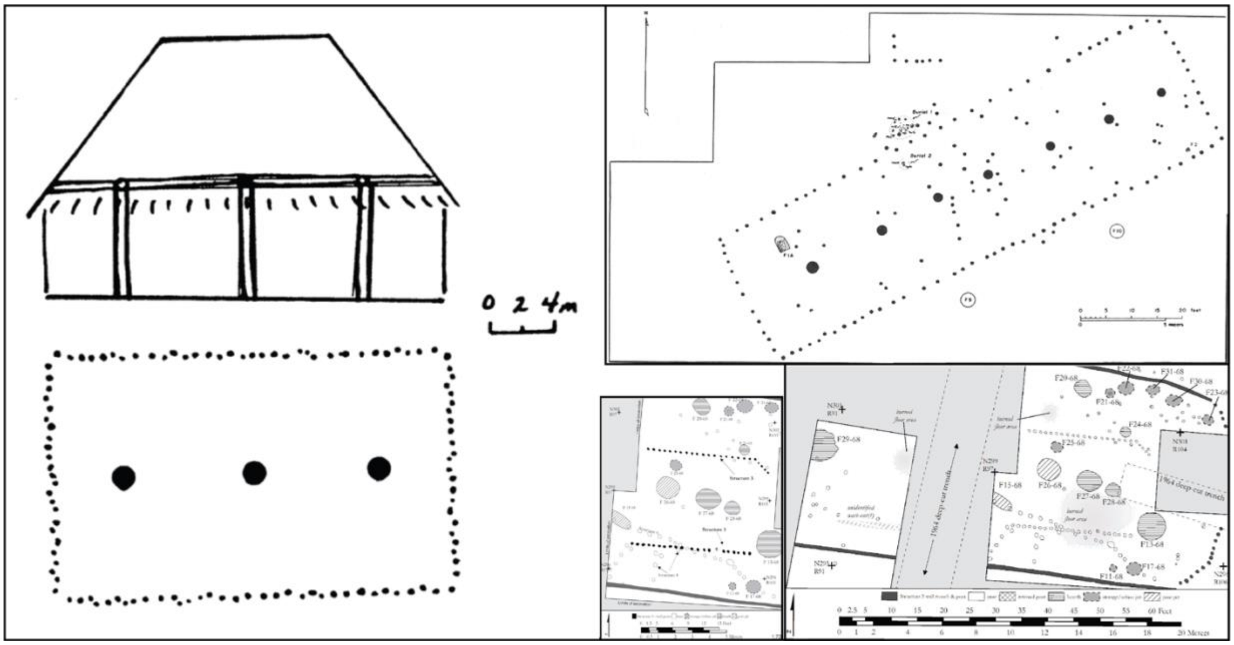

Figure 4.9. Structure C1 Comparisons: Left: Example of structure Mx°7 Sub-zone $3_D$ at Kincaid Mounds (image from Brennan 2007: Figure 5.1); Right Top: Structure from the Poole Site (image from Wood 1981: Figure 5); Bottom center: Structure 3 beneath the Northeast Mound at the Aztalan Site (image from Zych 2015: Figure 10); Bottom Right: Structure 5 beneath the Northeast Mound at the Aztalan Site (image from Zych 2015: Figure 12)

*Updated Interpretation*

After examining Douglas' maps, notes and dissertation in detail, along with and in relation to our own mapping and profiling of the structure in 2013, I provide an alternative biography of Structure C1. I combine elements of Douglas' (1976) original hypothesis with updated data from 2013 excavations and a reexamination of his original maps. I hypothesize that Structure C1 existed in two forms – a temple with a rigid wall, hipped/gabled construction of cedar with a ramp entrance and was rebuilt in this form once. Then, it became a charnel house/ancestor house and was partially deconstructed. The central posts were pulled, the walls possibly sagged, and posts were possibly pulled in some places. A scaffold was raised on smaller vertical posts, similar to documented historic era scaffolds and bodies were placed on the scaffold. Structure C1 was burned, and the mound was constructed over the smoldering remains. The remainder of the Structure C1 discussion walks through the details of this hypothesized biography.

Central to the above hypothesis are the internal post pits. Thus, working backward from just before the firing event, I deconstruct the scaffold. Douglas' (1976:155) basic description and map (Douglas 1976:Figure 10) of the scaffold platform is one I agree with. However, based on feature definitions and profiles from the 2013 excavation, in addition to a larger Mississippian data set to draw comparisons from, a scaffolded platform was assembled in the center of C1 as a part of a mortuary construction, but only after the construction and subsequent disassembly of the primary structure.

Douglas does not mention that he removed the central posts or that they were burned in-situ. In fact, based on his map of "floor disturbances, all structural elements removed" it appears that he includes the post pits and a number of isolated post molds. Profiles from the 2013 excavation of the three post pits (Features 2, 3, and 5) indicated these posts were removed and filled prior to the firing event. No charcoal or post remnants were found, nor was there any back dirt or slump in the post pits (except in the surface areas Douglas disturbed during his excavations). The linear post molds, some of which are superimposed on the post pits on Douglas' map (see Figure 4.6 Level 3) likely held up the scaffold. This would be similar to scaffold burials of the historic era, where a platform sat atop four posts. Some of the other posts identified on the floor (Douglas and the 2013 excavation) likely were additional propping supports. There are two possible scenarios for the central post pits. 1) Following documented Mississippian architectural styles, they indeed provided roof support for a rigid wall construction. The center posts and the roof were removed prior to the scaffold construction and subsequent conflagration. 2) The post pits represented post features from before the temple construction. Scenario 2 is not likely since Douglas mapped the post pit outlines in all three of his maps and our profiles do not indicate these were substructure features[25].

In her research on Caddo structures excavated at the Ferguson site in southwest Arkansas, Kelsey Taormina (2015:61) presented two mound structures where the evidence indicated the removal of center posts and the roof prior to burning the building. She stated, "The building's roof seems to have been removed and then the walls were burned. After the walls were set aflame the timbers were covered further with sands and the superstructure smoldered." While this structure does not share the same shape as the C1 temple at the Collins Complex, the way it was partially dismantled and then burned is similar. She also stated the structure had an entrance ramp oriented to the northeast. Structure C1 had a similar feature, though not nearly as long (see Figure 4.6). The structure at the Ferguson site, A-6, was built directly over the covered remains of the previous structure mentioned above (A-7). Taormina[26] (2015:22) stated, "It was established that no roof remained with the carbonized superstructure debris. It is assumed the roof was removed before the building was destroyed by burning and burial because there was no evidence of remains from the roof among the burnt superstructure or on the building's floor." I also suggested that the roof of Structure 4 on the terrace below C1 was removed prior to dismantling. Structure 9, described below, was also roofless before final dismantling and burial. Additionally, the scaffold structure was very specifically described by Douglas (1976:155) as being heavily burned only on the underside.

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25 Since much of the upper zones of the three post pits were disturbed or partially examined by Douglas, my assertion that the post pits were a part of the structure itself is more heavily based on the fact that Douglas mapped them at all three levels of his excavation.

26 Taormina (2015) provides an excellent overview of Caddo specialty structures, some of which have various similarities (orientation, burn sequence, scaffold, or entrance ramp) to C1 temple of the Collins Complex.

Douglas (1976) recovered at least five bundled and partially articulated human remains on and below the scaffold, solidifying the identification of this structure, at least for the final firing event, as a charnel house/ancestor house. Again, he found that the entire temple and scaffold was constructed from red cedar. “In addition to fully charred logs, a number of partially charred timbers were found which had been snuffed during combustion, with the uncharred heartwood still preserved. These were easily identified as Eastern Red Cedar (Juniperus virginiana L.), and a check of the fully charred timbers confirmed that this tree species had been the sole preserved construction material for the entire structure” (Douglas 1976:143).

Cedar is well known to be a revered tree among many eastern woodlands and plains peoples and in some instances are powerful persons and engaged with as such (Douglas 1976; Parker and Simon 2018). Descendent and historic Pawnee possess a story of Mother Corn who, after teaching the people “all the arts and ceremonies that constitute the essentials of Caddoan culture. In particular, she taught the art of agriculture and established important parts of the bundle rituals” (Parks 1981:38), she became a cedar tree. In fact, Murie (1981a:38) also explained that it was “Mother Cedar Tree, who saved the people from destruction. The people were told that they should have the tree in the medicine lodge.” There are several stories involving heroes, cedar trees/groves, and bears among the Pawnee and the Wichita (see Dorsey 1904a, 1904b). The Pawnee also speak of cedar poles used to hold/carry medicine bundles. Douglas[27] (1976:Chapter 5) did an excellent job of laying out the sacredness of cedar among many peoples who are possible historic descendants of earlier Mississippian ontologies. I point the reader to his excellent work for more details.

27 See Douglas (1976) chapter 5 for his in-depth ethnographic analysis of the importance of cedar.

Archaeologically, cedar was nearly exclusively recovered from Mississippian religious/sacred contexts (Parker and Simon 2018). Significant amounts of red cedar were recovered from the Mississippian contexts within the ceremonial areas at both the BBB Motor and Sponemann sites in the American Bottom (Parker 1992; Whalley 1984). Cedar was recovered from specific temple contexts and in several hearths within or near associated special structures (Emerson 1984, 1997a; Parker 1992; Whalley 1984).

Cedar is known in other Mississippian contexts as well, including funeral litters at Cahokia and Spiro, mortuary facilities at the East Saint Louis site, and marker posts such as the ones used at Cahokia's Woodhenge (Brown 2010; Emerson 1997a; Fowler 1991, 2003; Kelly 1994). Brown (2010) describes cedar burial litters and a concentration of upright cedar poles in the Great Mortuary at Spiro. An "unusual red-cedar house" assumed mortuary context being next to a burial cluster at SunWatch Village in Ohio (Cook 2010:121). At Cahokia, the great Woodhenge, rebuilt at least 5 times between 1100-1200 CE, was constructed from cedar poles (Fowler 2003; Pauketat 1998a; Wittry 1996). Cedar burial litters or funeral biers are noted for a mass interment within Mound 72 (Fowler 1999). Cedar litters or funeral biers are found in several ethnohistoric accounts, including the infamous recounting of the funeral procession of Stung/Tattooed Serpent of the Natchez people (Le Page du Pratz 1774). He was carried on a cedar litter to the temple. In another Natchez funeral observed by Andrae Penicaut (McCann 1943) in 1704, the Great Female Sun died. She and her husband were placed on a litter or bier and fourteen scaffolds were erected for her retainers. While very possibly different in many finer and important points, the elements are similar – a cedar scaffold, powerful person/s, and a temple.

Douglas (1976) informally surveyed the immediate area of the Collins Complex to muse about where the massive amount (well over 100) of cedar poles came from to construct the temple.

> Based on these rather casual observations, I would judge that it would be difficult at the present time to find enough cedars of adequate size in the immediate site environs – say a 1 mi. radius – to duplicate the number and size of logs and poles used in the construction described. It is quite possible that 1000 years ago cedar was much more abundant in simple numbers, as all native tree species presumably would have been prior to clear-cutting to open land for agricultural purposes. Its favored habitats, though, are these locales least usable for farming, and are least likely to be greatly altered from their natural state. Even if we assume the obvious, that there were sufficient cedars present 1000 years ago to make the collection of several hundred logs feasible, this does not make its collection less interesting as a cultural fact (Douglas 1976:160).

There were only a handful of red cedar trees in the vicinity of the 2013 and 2016 excavations. One notable tree was growing next to the southwest corner of Structure 4. An alternative collection strategy takes shape upon reflection of the possible lack of available cedar for the temple construction. It is entirely probable that many of the cedar poles used in the construction of the original temple and subsequent internal scaffold were curated from other marker posts, temples, and houses (Fowler 1989). Douglas recorded four radiocarbon dates for the C1 temple (Table 4.9). He dismissed sample 176 as likely coming from heartwood, but his sampling methods seemed to indicate all care was taken to "collect only outer rings of well-preserved logs" (Douglas 1976:178). A recalibration[28] of Douglas' median dates are 998 (1-sigma range of 825-1167 CE), 1030, 1040, and 1144 (1-sigma range of 1016-1277CE) CE. In lieu of the assumption that the first date is bad, the range of dates might indicate a structure of curated cedar logs. The oldest date – 1144 CE – being the most likely to represent the closest to the actual firing event of the temple and subsequent placement of Mound C's first level.

28 In Douglas' list of radiocarbon dates, he accidentally left out the error range for samples 191 and 193. I have updated the calibration corrections using Oxcal 4.4 (using IntCal 20) following Stuiver and Reimer 1993 only on the radiocarbon dates with the error range included (samples 176 and 196). I used Douglas' original (corrected for in 1976) dates for samples 191 and 193.

| Lab # | Sample # | Mat. | Context | $^{14}$C yr B.P. | 1$\sigma$ Confidence | 2$\sigma$ Confidence | Median Date (CE) |
|---|---|---|---|---|---|---|---|
| - | 176 | Wood Charcoal | 11V82, F1 | 1045 ± 75 | CE 825 - 1167 (94.0%) | CE 892 - 1045 (61.7%) | *998* |
| - | 191 | Wood Charcoal | 11V82, F1 | 960 ± 75 | CE 956 - 1229 (93.1%) | CE 1021 - 1165 (68.3%) | 1096 |
| - | 193 | Wood Charcoal | 11V82, F1 | 950 ± 75 | CE 977 - 1234 (93.3%) | CE 1021 - 1045 (45.0%) | 1102 |
| - | 196 | Wood Charcoal | 11V82, F1 | 890 ± 85 | CE 1016 - 1277 (94.4%) | CE 1120 - 1222 (45.1%) | 1144 |

Table 4.9. Radiocarbon dates of Structure C1 (listed as F1). Calibrations using OxCal 4.4 using IntCal 20 data set. Douglas (1976) considers sample number 176 is considered a bad date due to the likelihood of having dated heartwood and the outer rings.

Based on 2013 mapping and profiling of the C1 remnant, in addition to a re-examination of Douglas' original maps and notes, I reiterate an updated biography of the C1 ancestor temple.

- A designated area was cleared of debris and humus leaving a prepared surface for the temple.
- A combination single post and shallow wall trench (faux) structure was built onto the prepared surface. This structure was likely a rigid wall construction with a hipped or gabled roof (dependent on whether all three center posts reached the roof joint or simply helped support an internal roof support of cross beams).
- Construction used only cedar poles. Some of these poles may have been repurposed from other structures or posts on site or from afar.
- The temple was used in this form for an unknown period, possibly as early as 1100 (following the median date cluster of two logs, assuming the sample was a good one).
- One significant rebuild and extension was completed along the northeast wall.
- Some point later in time, the temple changed. The roof and all three center posts were removed.
- A scaffold, also made of cedar, was assembled in the center of the previous structure. It was likely held up by the shallow isolated posts seen in the floor by both Douglas and the 2013 examinations. There was a line of posts that led away from either side of the

entrance that were possibly the primary scaffold posts. Other shallow isolated posts may have been secondary supports of this primary platform and/or posts for screens.

- Powerful persons and/or ancestors (bundled remains) were placed on the scaffold, similar to historic era mortuary scaffolds (Le Page du Pratz 1774; McCann 1943; Yarrow 1881).
- The now mortuary house was prepared for cremation. Portions of the walls or certain posts were pulled and placed around the scaffold.
- The remnant walls (sagging and at severe angles from lack of internal support) and scaffold were set on fire. The flames originated from below the scaffold, burning hottest along the northeast wall and southeast corner. This likely occurred at least by 1144 CE based on the oldest median date from the cedar logs.
- While still smoldering, a thick mantle of earth was deposited over the remains, creating the first platform for Mound C.

Structure 5 – Temple

Moving to Mound A, Riley and crew excavated another semi-unique structure. Structure 5 was a rectangular wall trench building built atop the prepared clay platform of Mound A (Figure 4.10). Riley's (et al. 1978:34) description of this distinctive building is as follows:

> A large wall trench feature was shovel scraped on the west end of the excavations on the north side of Douglas' trench. This was defined by 8 wall trenches. It was apparently a north-south oriented structure and was fairly well defined as cutting through lenses of olive brown clay on the western end of the prepared platform. The structure was ca. 7 m N-S by 3.5 m E-W (Riley et al. 1978: 34).

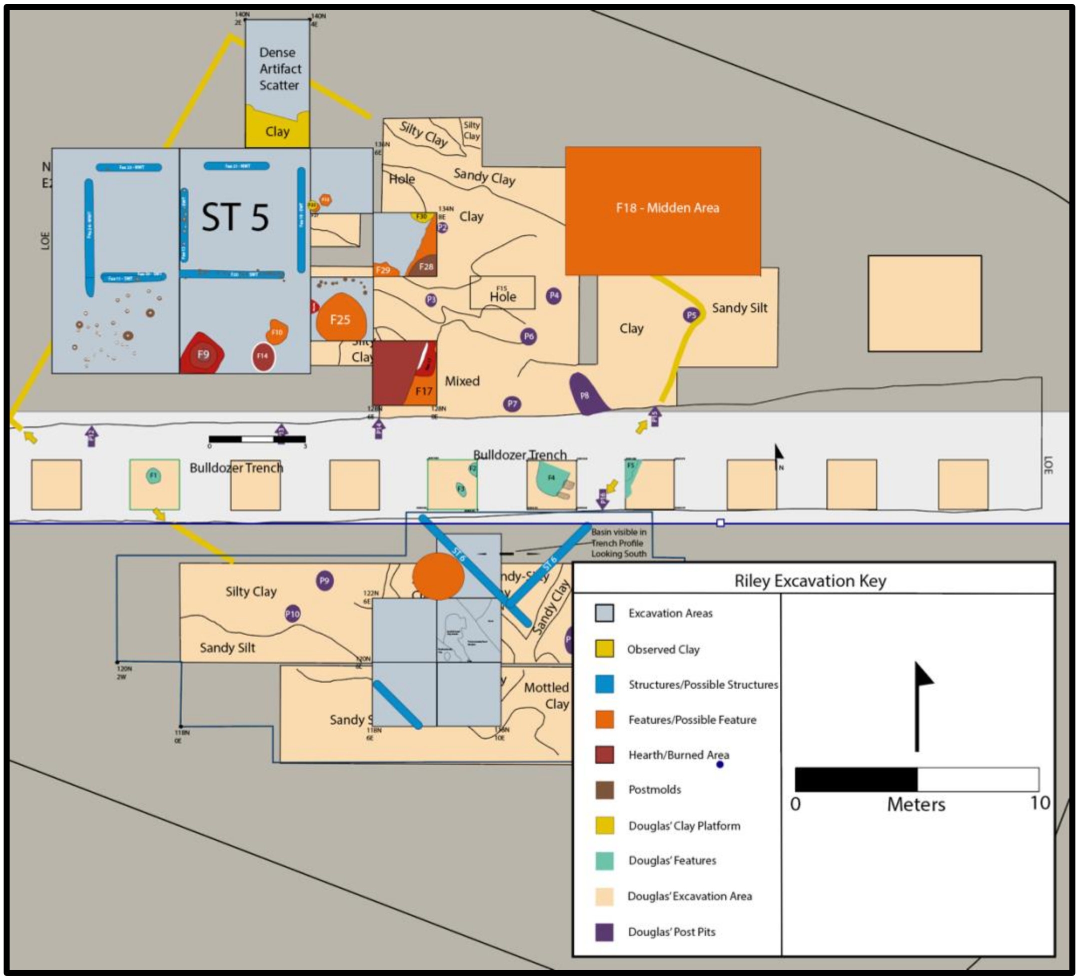


Figure 4.10. Riley's Mound A excavations (overlaying Douglas' original excavation area and trench units) showing Structure 5 and Structure 6.

Riley incorrectly stated the orientation of Structure 5 as being North-South. In actuality the long axis runs East-West. Structure 5 was divided into two rooms, with the east room smaller[29] than the west room. Due to limited notes, maps, or documents, no structure profile is known that would help delineate the relationships between the defined wall trenches. Based on Riley's description of the excavations, it seems that Structure 5 was not built into a basin. Riley felt that the structure floor was the yellow clay platform and therefore, primarily reported artifacts from the wall trenches and not from any internal excavations of the structure floor.

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29 I use Riley's reported dimensions. There are missing or unaccounted for plan maps, documents, and photos from his excavations. The actual location of the east wall trench is unknown to me, so I will rely on Riley's first-hand account of the length of the structure, which he states is 7 meters.

Artifacts were recovered from nearly all of the wall trenches. Over 84% of recovered material came from the wall trenches and included, ceramics, lithics, bone, charcoal, and one human tooth. The tooth was found within a posthole of the partition (Feature 12). Seven post holes were documented for this internal wall trench with artifacts found in four of them. In addition to the human tooth (incisor), the feature report documented that a grit tempered rim was recovered. No internal features were noted.

The general designation of Structure 5 as a temple was reinforced by the location (mound and clay platform), the lack of internal features, a partition, and the recovery of a human tooth from within that partition. This temple was reminiscent of historic era descriptions of “bone houses,” which held the bundles of dead ancestors (Baltus and Baires 2012; Benchley 1974: 270-273; Emerson 1997; Yarrow 1881).

Multi-roomed structures are nearly always documented as ‘special purpose’ buildings with many of the rooms designated alcoves, or storage areas. In many cases they take on an entirely different shape than that of the usual rectangle. Buildings holding a form of a T or L-shape are documented at Cahokia and its hinterlands (Betzenhauser and Pauketat 2019; Brennan 2018; Collins 1990; Emerson 1997a; Pauketat 1998a, 2013a, 2013b; Pauketat et al. 2012).

Emerson (1997a:173) discussed similar multi-roomed temples. “The complex bore a strong resemblance to Southeastern temple complexes. Accounts exist indicating that many of the historic temples had at least two rooms: one contained the sacred fire, the other ritual paraphernalia and burials.” Emerson specifically referenced two separate but entangled structures from the BBB Motor Site just outside Cahokia (see Emerson and Jackson 1984). James Collins’ (1990) report of the ICT-II excavations described a very similar structure to Structure 5, “Feature 178 was a rectangular wall trench structure with three interior trenches.

Two of the interior trenches represent benches, the third, a partition that divided the structure." Keeping in mind that the structure dimensions I give for Structure 5 are estimates, Collins' interior room dimensions and shape are strikingly similar. He notes, "The smaller, western room had interior dimensions of 3.8 x 2.5 m (9.5 $m^2$). The eastern room was nearly square, with interior dimensions of 3.8m x 3.8 m (14.44 $m^2$)" (Collins 1990:150). The estimated interior dimensions for Structure 5 were 3.1 x 2.6 meters (8.06 $m^2$) for the west room and 3.1 x 3.1 meters (9.61 $m^2$) for the eastern room.

Antoine Simon Le Page du Pratz (1774:333) described a Natchez temple with two rooms,

> The inner space is divided from east to west into two apartments one of which is twice as large as the other. In the largest apartment the eternal fire is kept, and there is likewise a table or altar in it, about four feet high, six long, and two broad. Upon this table lie the bones of the late Great Sun in a coffin of canes very neatly made. In the inner apartment, which is very dark, as it receives no light but from the door of communication, I could meet with nothing but two boards, on which were placed some things like small toys, which I had not light to peruse.

The small toys were most likely wooden, ceramic, or stone gods and/or ancestors that watch over the bones and eternal fire of the temple. There are many ethnographic references of similar "bone houses" (see Yarrow 1881) or temples where the bones of powerful ancestors are kept in baskets/boxes for a period of time before ceremonial reburial at the right time. In one account given in reference to peoples "east of the Mississippi" the typical time period to remove the bones from the "charnel-house" or bone-house/ossuary/temple[30] was "every 8-10 years." (Brinton 1868: 255). This time frame could coincide with the specific cosmic event of a lunar standstill, a cosmological experience and an orientation (see discussion of alignments below).

No internal features were noted, specifically a fire feature, but there are at least five external features that were also on the clay platform. Three features were fire or fire related

30 Again, as Emerson 1997 pointed out, many of the typologies are used interchangeably, reinforcing the notion that the name or category isn't as important as what it did and how persons engaged with it.

features (Features 9, 10, and 14) less than 2 meters south and southeast of Structure 5 (see Figure 4.10). The most significant one was Feature 9, a complex hearth feature. No walls were defined by Riley to suggest that Feature 9 was housed inside a structure, as would be expected. That does not mean it does not exist. The southwest portion of the feature was cut by the Douglas trench and first noticed by Riley in the profile cleaning. Riley (et al. 1978:34) notes,

> Excavations revealed a series of 3 pits dug into the silt-sand natural surface of the floodplain. The three pits were superimposed on one another and had been the locus of burning. Layer VII of Face represented the earliest clay lining of this pit series. After use, the pits were each filled and packed with olive clay, and then another pit would be dug in approximately the same area. Shell, bone, and charcoal were found in these features.

A similar example of a fire pit sequence - used, filled with colored clay fills, and then re-excavated, was noted by Thomas Zych (2013:84) in his analysis of submound features below the northeast mound of Aztalan. These fire features were located inside Structure 5, discussed above (see Figure 4.9).

Unlike the Aztalan features, Feature 9 had a slight rectangular outer shape/ring with circular basins inside. The general dimensions were ~1 m x ~1.6m + as a portion of the feature was lost to the trench. The long axis of the feature was northeast/southwest. Numerous materials (over 5 kg) including burned bone, charcoal, shell tempered pottery (red slipped), FCR, and debitage were recovered from the different basin fills. Feature 14 was directly ~2 meters east of Feature 9. It was described in the feature notes as being an ovoid circular basin surrounded by white clay. The basin was also lined with white clay. The dimensions were 90 cm x 60 cm with the long axis running north/south. Only charcoal was recovered from this feature. The third fire related feature possibly associated with Structure 5 was Feature 10, a small ash pit. Feature 10 was immediately north (less than 10 cm) of Feature 14 and contained charcoal, lithic debitage, and a few ceramics. One ceramic rim of note was a grit-tempered flat lipped and extruded, red-slipped rim. Also, in association with Structure 5, was a large circular pit measuring 1.83 cm x

1.8 cm (unknown depth). It was located less than a meter southeast of the southeast corner of Structure 5. Nearly 12 kg of lithic and ceramic (mostly FCR and rough rock) were recovered from the pit.

Structure 6

Structure 6 was a large wall trench structure from Mound A (see Figure 4.13). Mentioned only once in their report (Riley et al. 1978: 76) and documented solely in sketch maps (and trench profile), Riley's crew believed they had possibly identified a very large wall trench structure oriented with the clay platform and mound. They recognized the southeast wall in profile and shovel scraped its potential limits on the south side of Mound A. They also thought they uncovered a portion of the southwest wall and marked it on the sketch. Again, the only plan map of this structure was a site sketch in the field notes showing the outline of a very large (not to scale) structure that indicated that the NW, SE, and SW walls were profiled, or at least verified in a cut (see Figure 3.14).

There was no feature report, so the size is unknown. Based on the trench profile, Structure 6 was rebuilt at least once and possibly had interior benches. With the large size intimated, interior benches would not be uncommon. It appeared that the profile depicted a large pit which cuts through the west end of the structure profile – keeping in mind that the trench likely cut the structure obliquely. The profile looked nearly identical to 2016's Structure 9, except Structure 9 continued east and Structure 6 extends west. The excavation documents did not indicate that any feature numbers were given to these trenches. Therefore, it is unknown what materials, if any, were recovered from this structure. Any structure built within Mound A can be considered a temple or possible priestly residence based on historic ethnographic documents and correlating archaeological data from Mississippian sites.

Structure 9 – The House of the Priest

During 2016 excavations of the Trench in Mound A, three exterior (eastern) wall trenches of a large structure at the eastern end of the trench were uncovered (Figure 4.11A-B). The basin and associated wall trenches extended across two (2 x 1 m) test units. The entirety of one unit (TU3) was basin fill for Structure 9. These units provided a small window into a portion of a significant structure. Structure 9 was oriented with Mound A – northwest/southeast – and rebuilt a minimum of three times, or perhaps twice rebuilt and one interior bench/screen. The trench cut the structure at an oblique angle. The profiles show the area that Structure 9 was built into, was an extension or build-out of the core mound by a series of blanket mantles (see Figures 4.11B and Figure 3.17). The structure was built into a deep basin, 76 cm. At 30 cm below the machine scraped surface (MSS), we encountered a thin (4 cm) deposit of red clay on top of a thicker (14 cm) yellow clay. The red clay (5Y 4/4) extended 36 cm from the edge of the basin with the yellow clay (10YR 5/3) extending an additional 10 cm (46 cm total from the basin). The deposit continued into the north wall of the unit. The basin cleanly cut through this deposit as shown both in plan and profile. The specific placement and use of colors, particularly red and yellow – a similar combination seen throughout the mound and Collins Complex - indicated significance for both the deposit and the structure built through it[31]. It is possible that this structure was built over a previously covered, prepared clay platform.

31 Red and yellow is a common theme visible via different mediums and placements throughout the Collins Complex. See a Structure 5 discussion of color associations from the Pawnee.

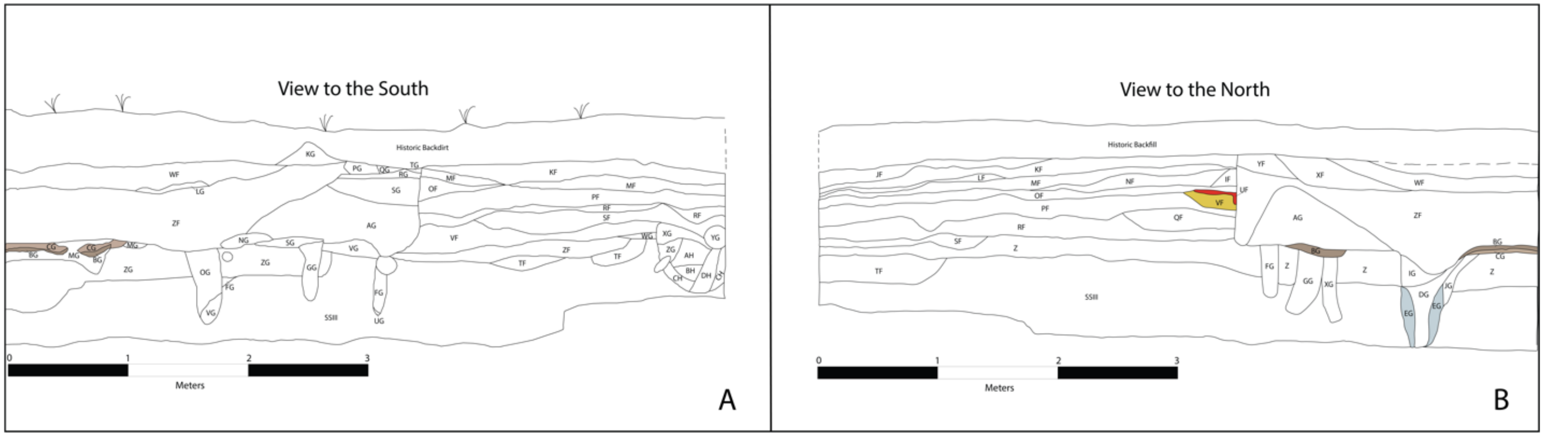


Figure 4.11. Structure 9 profile showing the clay lenses the basin cut through in the North profile, along with silt deposits on the floor. A: View to the South; B: View to the North

Several significant artifacts were recovered from both floor contexts and basin fill. After recovering bone artifacts in the screen, the level was cleaned (at 184.35 msl) and two additional bone artifacts (scratchers) were recovered in-situ (Figure 4.12). A total of 11 bone scratchers were recovered and a feature number (Feature 8) was given to the location of the assemblage, later determined to be the floor of Structure 9. Only two were recovered in-situ, the remaining nine were recovered during screening. The scratchers were modified from the long bone shafts of an unidentifiable large-sized bird[32] and were used during specific ceremonies for scratching areas of the body – creating groups of linear scratches with the intent to draw/release blood. Ethnographic accounts imply that scratchers were made by priests who administered the scratching and then cared for them as a bundle between ceremonies (La Flesche 1914; Mooney 1890). The scratchers are discussed in greater detail in Chapter 5. Similar artifacts have been recovered from other Mississippian places including multiple sets from Angel Mounds in Indiana, the Town Creek Site in North Carolina, and from two structures within the Cahokia ICT-II tract (Black 1967; Boudreaux 2005; Coe 1995; Pauketat personal communication). Additional ceremonial paraphernalia was recovered from floor contexts including a rim to a plain, grit tempered jar, and the right valve of an ark clam. Ark clams are marine shells from the Gulf Coast/Atlantic Ocean.

The floor of Structure 9 was lined with a thin layer of red and yellow pigment (hematite and limonite) that was only recognized in photos (see Figure 4.12). Pigmented floors are common in other Mississippian religious structures (see Alt and Pauketat 2017; Pauketat et al. 2012, 2017). The floor of Structure 9 also experienced a silting event similar to that described at the Emerald Acropolis by Pauketat et al. (2017:217). Before the building was filled in, the floor

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32 All references to 2013 and 2016 fauna identification is summarized from Steve Keuhn's analysis, which can be found in full in Appendix A.

and its contents were left open to the elements, allowing a thin (4 cm) deposit of laminated silts. Following this episode, the remainder[33] of the basin was filled in with thick blanket deposits (see Figure 4.16).

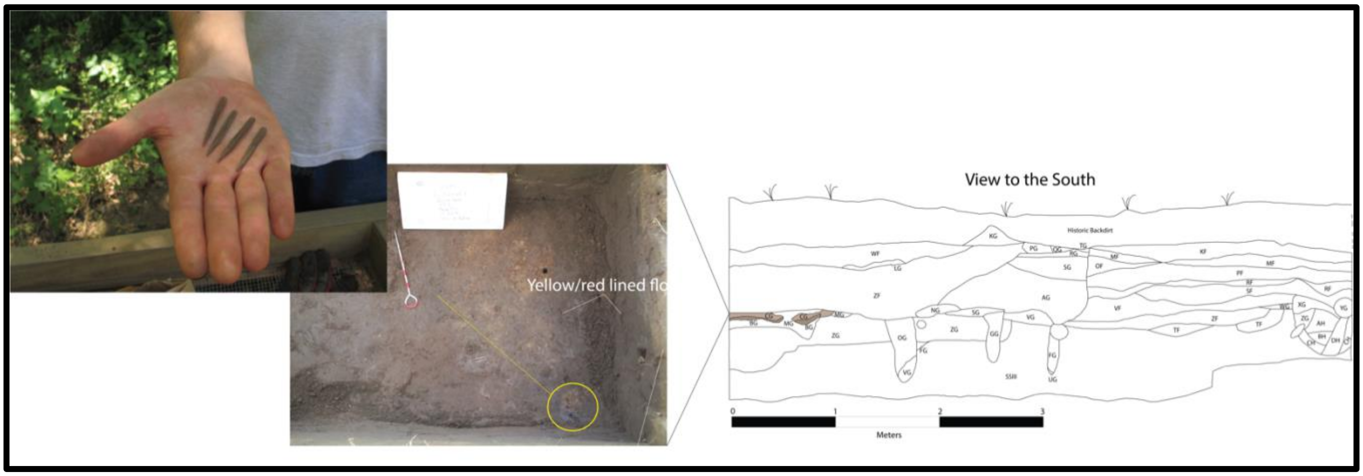


Figure 4.12. Structure 9 Profile showing location of bone scratchers and silted floor.

**The Medicine Assemblage**

Over 120 meters directly south of Mound A, Riley excavated or partially identified a complex of four structures (Figure 4.13). All four structures were identified at the base of the plow zone. This complex included two square/rectangular wall trench structures and two circular structures. I am grouping them together due to likely associations – a combination of shapes, possible contemporaneity, and ethnohistoric and archaeological data that supports such groupings. Specifically, I am grouping them together because of similarities with documented specialty structure (usually rectangular or square) combined with a circular structure – often interpreted to be sweat lodges (Emerson 1997a; Parks 1981; Pauketat 1993; Swanton 1946).

33 A sizable deposit of soil had already been filled in along the edge of the basin. Once the silting event occurred, the remaining part of the basin was filled in. This sequence is visible in both the North and South profiles (Figures 4.15a-b)

Emerson (1997a:78) explains,

> The presence of sweat houses at central locations and, in many instances, in association with a clustering of structures," He continues, "It would not be surprising, considering the importance of ritual purity in the southeast, to find a sweat house in conjunction with the household of a local leader.

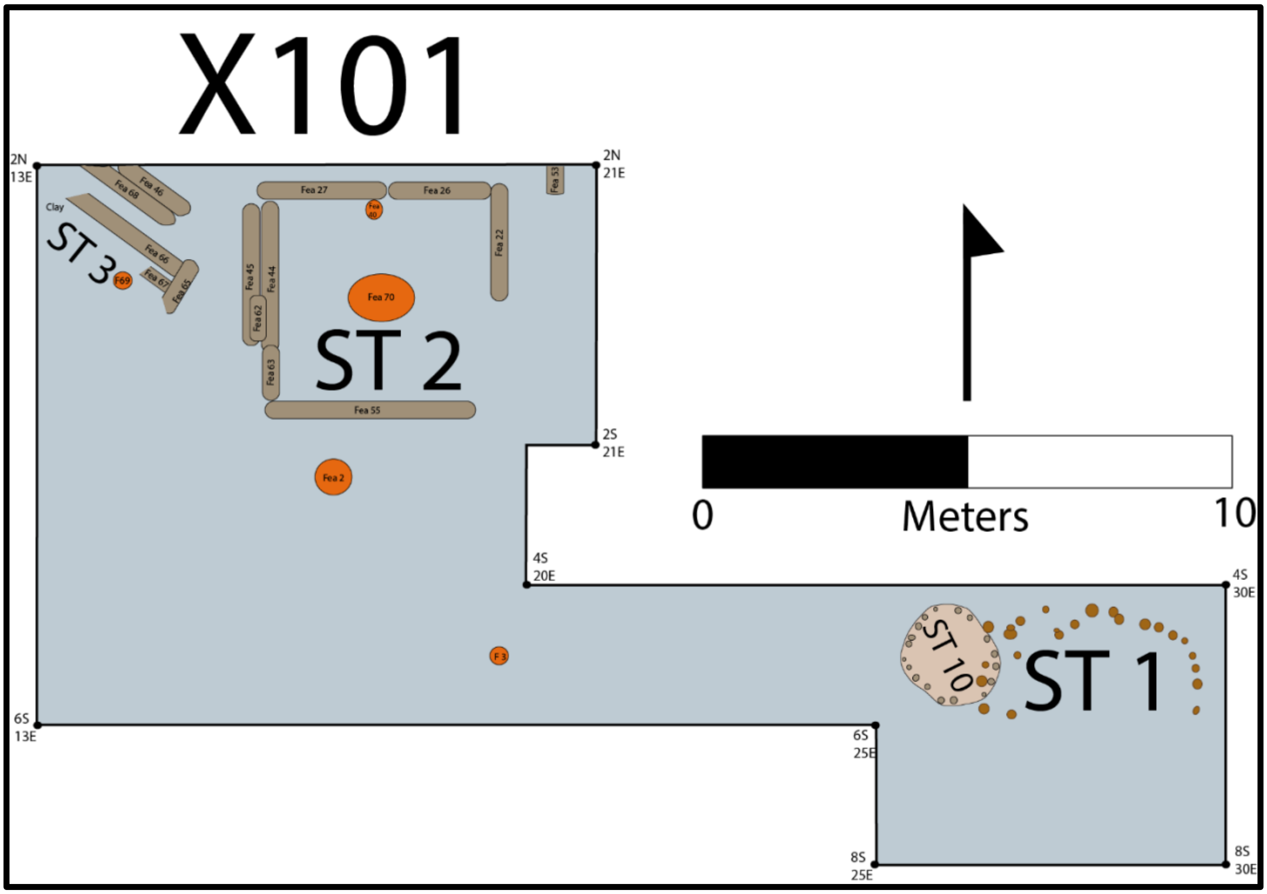

Figure 4.13. Riley's excavation unit X101 and the four defined structures within.

Medicine men and their importance to the communities they serve are extensively described in the historic ethnographic record and hold positions of respect in many descendent communities today. Like fluidity of structural typologies, so too is the label of medicine man. In the notes of Park's (1981:179) edited volume of James Murie's ethnography, he states, "Murie used 'medicineman' and 'doctor' interchangeably as translations of, or in reference to, what in Pawnee would be *kura-?u?*. 'Doctor' is the preferable translation; hence I have substituted it for 'medicineman' in nearly all instances throughout the manuscript." In many ethnographic accounts, medicine men were often associated with healing and medicinal practices – both body and spirit. These individuals were different from the priests and priesthoods described in ethnohistoric accounts (see Miller 1996; Park 1981; Swanton 1946).

While medicine can be anything from healing plants and substances, knowledge, and practices, it can also be powerful spirits, songs, elements, and things (Pauketat 2013a). One such element is water. Water is a central elemental medicine and power within Cahokia Mississippian ontologies (Alt 2020a; Baires 2014a, 2017; Emerson 1997a; Pauketat 1993; 2013a, 2020b; Pauketat and Alt 2017). Like fire, water can purify. Special architectures that utilize steam for purposes of purification and healing are well known in the ethnographic sources (Swanton 1946; Park 1981). Alt (2020a:26-27) illustrates the elemental entanglement of water/heat/sweat and people,

> Sweat lodges here, and at Cahokia proper, likely brought people into intimate contact with water in several ways. Water was poured over heated rocks to produce steam or a vapor. Heat and moisture from this process then provokes water in the form of sweat elicited from. Human bodies. Producing sweat was necessary to expunge impurities or disease such that a person who has gone through this process is then purified or cured. Lakota priest and Heyoka (water spirit contrarian) Black Elk described emerging from the sweat lodge or steam bath as an act of rebirth from Mother Earth.

At the Collins Complex, the presence of sweat lodges and any associated structures, were actively religious spaces and therefore, affective missionizing places. These particular buildings and their attendants provide communities with access to healing and important purification ceremonies. They can be important "integrative devices" for the surrounding communities (Emerson 1997a:78; Pauketat 1993). In other words, this particular architectural assemblage at the Collins Complex gathered people through providing access; conversion through co-option of daily practices.

Structure 1 – Sweat Lodge

Structure 1 was represented by at least 20 post molds. This structure was located in the eastern portion of Riley's X101 excavation unit (see Figure 4.13) and entwined with Structure 10 (the superpositioning is unknown). Riley's notes were unclear on final designations of this structure however, I am including it here based on his plan maps and notes. It was 3.3 meters in length running east/west. It is unknown if this structure was fully defined/found. Riley et al. (1978) described this structure as a circular single post structure. No internal features were documented, though if present they were likely lost in the plow zone (Riley et al. 1978). A single grit tempered sherd was recovered from this structure. The importance of the structure to the larger biography of Collins lies in its associated entanglements with the other structures nearby.

Structure 10 – Sweat Lodge

Structure 10 was a small single post circular structure directly west of Structure 1. As I mentioned in the description for Structure 1, there is some undetermined super positioning with these two structures. 19 posts were identified for this structure. The dimensions were 1.44 x 1.43 m with a floor area of 2.1 $m^2$. Like Structures 1 and 2, Structure 10 became visible at 28 cm below the surface. Structure 10 may have been constructed in a basin (see Figure 4.13) however, it is likely that the majority of any basin that did exist for this structure would have been lost in the plow zone. No profiles exist for this structure, nor is there any mention in the notes or report[34] to verify a basin. Only 20 artifacts were recovered and of those the only materials of note were FCR, a formal drill and one red slipped body sherd with unidentifiable temper.

34 After analyzing the Riley et al. 1978 report, their excavation notes, maps, and feature reports, it appears that Riley mixed up Feature 1 (ST 10) and Structure 1 in the discussion. This led to initial confusion about numbers of structures. I recognize the error and include both in this discussion on architecture as the excavation notes, maps, and feature reports clearly show two separate single post structures.

Structure 3

Structure 3 was also found within Riley's X101 excavation unit and just to the west of Structure 2. It was defined by the ends of four wall trenches, three of which might be the northeast wall and associated rebuilds. These wall trenches were oriented northeast/southwest, the same orientation as Mound A. The fourth wall trench end was oriented northeast/southwest and met the other wall trenches to make a potential corner. This structure was not fully excavated, and it continued out of Riley's limits of excavation. No known artifacts came from Structure 3. I include it here as it too was identified at 28 cm below the surface, increasing the likely associations with the other three structures in this area.

Structure 2 – Medicine Lodge

Structure 2 was the only verified wall trench architecture found off of Mound A. Located in Riley's excavation unit X101, Structure 2 was a small, square wall trench structure. Riley et al. (1978:17) provided a thorough description in his report,

> Structure 2 was a small wall trench feature located in the West end of X-101... It was approximately 4.0 m long E-W by 3.5 m N-S and is defined by the bottoms of seven wall trenches. The north, south and east sides of the structure have single wall trenches, while the west side have the remains of up to 4 of them. The entrance to the structure was apparently in the southeast corner along the east wall.

Riley interpreted the multiple wall trenches on the west side as a possible wind break. In a more likely interpretation of the walls for Structure 2, there are single walls for the north, east, and south walls and potentially three western walls. The western wall trenches indicated at least one rebuild, possibly two. However, the innermost western wall trench could also be an interior bench.

There were two internal features. Feature 70 was a pit measuring 60 x 53 cm. The pit was 25 cm deep with inslanted walls and a flat bottom. Feature 70 was in the center of Structure 2 and was originally thought to be a firepit. However, no burned materials or charcoal were recovered. Overall, very little was recovered from this pit (Riley et al. 1978) and it was likely cleaned out prior to being filled. A second internal pit feature (Feature 40) was dug near the center point of the north wall trench. Both pits had very little material and were likely cleaned out prior to infilling of the basin.

Structure 2 as a whole yielded a total of 417 ceramics, tools, chert debris, FCR, bone and charcoal weighing 6232.85 grams. The rims and tools are examined further in Chapter 5. There were no dates from this structure, and the materials and the building shape seem to be at odds. Based on basin fill materials, it is likely a Lohmann or early Stirling phase structure. However, based on the nearly square shape and size of the building itself, it is more reminiscent of Moorhead structures (Collins 1990). Riley's excavations revealed that the floor of the structure had been in the plow zone and therefore lost.

There were two recovered items of significance, botanicals and fauna. In Frances King's (1978: Appendix 1) analysis of the plant remains from Riley's excavations, they record the presence of remains from Sassafras. This plant is a potent medicinal plant known to be used by historic peoples of the Eastern Woodlands, Southeast, and Plains. Cushman (1899:229) stated that "The medical properties of the sassafras, sarsaparilla, and other medicinal plants, were known to" the Choctaw medicine men. Also recovered from Structure 2 were five vertebrae of a non-poisonous snake. Snakes as a food source among Southeastern peoples is very rare (Swanton 1946). Swanton (1946) drew attention to the use of snake fangs as scratchers.

> When Lawson was among the Esaw, i.e., the Catawba Indians, he observed that in treating a lame man they used a scratcher, 'an instrument somewhat like a comb, which was made of a split reed, with fifteen teeth of rattlesnakes, set at much the same distance as in a large horn comb' (Lawson, 1860, p. 76).

Deter-Wolf and Peres (2013) also pointed to the use of snake fangs as scratchers. I discussed above in Structure 9, the recovery of 11 bone scratchers and examined its practice as means to purify by drawing blood. In some documented cases, scratching is done as part of an important purification ceremony before participating in ball games or the green corn ceremony. Only religious specialists or medicine men manufacture scratchers and use/administer them. No direct evidence implicated Structure 2 as the house of a medicine man, but its relationships with Structures 1 and 10 as possible sweat lodges strengthens the argument that this assemblage of structures might be interpreted as a medicine assemblage.

Structure 12 – Sweat Lodge

Structure 12 was a possible single post circular structure located on Mound A (Figure 4.14). Excavated within the west section of the 2016 Trench, Structure 12 is identified primarily by the semi-circular basin (extending north out of the test unit), with two verified posts and at least three additional posts identified in plan. The structure was built directly over post pit feature F14, one of two possible pre-mound posts that were pulled and filled in at the same time. The posts of Structure 12, like many of the other structures at the Collins Complex (e.g., Structure 4), had large faunal fragments placed within the post molds. Of particular note is a complete dropped antler from one post mold and mussel shell fragments were found in the other. A large number (N=124) of bone fragments came from Feature 16 possible basin fill. It was likely a small sweat lodge at one point and as it is on Mound A, likely restricted use/access to temple priests.

Figure 4.14. Structures 12 and 9 from the 2016 excavations.

## Alignments and Orientations

I introduced the importance of alignments to the Cahokia mission in Chapter 1, tracing the history of connecting to the cosmos through specific alignments via mounds, architectures, and overall site axis. With the core axis of Cahokia from which the mission core was built/activated, this was more than connecting to the cosmos; it *was* the cosmos. That axis is a flipped lunar alignment to that of a "sky view" (Romain 2015a:36) while other specific lunar citations (i.e., Mound 72 interments and features) are pulled into complimentary alignments of earth (lunar standstill from an earthly view) and sky (lunar standstill from a sky view) (Romain

2015a). In addition to the primary lunar orientation, there are significant solar alignments documented at Cahokia as well (Benchley 2000; Sherrod and Rolingson 1987). In fact, combined solar and lunar alignments are also noted at Emerald (Pauketat et al. 2017), Aztalan (Romain 2015b), and Angel (Watts Malouchos et al. 2021).

What are the specific alignments? The solar standstills are more widely known as solstices and equinoxes, and they (each) occur twice a year. Lunar standstills occur on a much longer cycle, with major standstills (lunar maximum) occurring during "seasons, periods of one to two years, on an 18.6-year cycle" (Pauketat et al. 2017:214). A minor lunar standstill (lunar minimum) occurs every 9.3 years (see Pauketat 2013a; Pauketat et al. 2017). Romain (2015a:34) succinctly sums up the specifics of lunar standstills,

> Most people are familiar with the way the rising and setting sun moves along the eastern and western horizons, respectively, between the summer and winter solstices. The moon's movement is similar to the sun's, but more complicated. The rising position of the moon moves from north to south and back to north again along the eastern horizon between limits reached once a month. Its setting position does the same thing along the western horizon.
> Complicating the situation, the monthly limits themselves oscillate over a cycle of 18.6 years. The range of the moon's rising and setting positions is widest every nineteenth year and narrowest nine and a half years later. Thus, over an 18.6-year cycle, a viewer can observe four extremes for the moon's rising positions – its maximum and minimum north rises and its maximum and minimum south rises – and four comparable extremes for its setting positions. These extremes are sometimes called *lunar standstills*. The exact azimuths at which these rise and set events will be visible on the horizon are the function of date, latitude, horizon elevation, and various correction factors.

Prior to the identification of azimuths aligned to the moon, archaeologists documented Mississippian structures and mounds/site alignments to solar events, often marking winter solstice sunrises (Benchley 2000; Douglas 1976; Fowler et al. 1999). At the Collins Complex, the rising of the sun on the winter solstice is a primary alignment. Douglas (1976:172) was the first archaeologist to observe site alignments at Collins stating, "the entire Collins complex, centering on Mound A, represents a kind of cosmological map and a predictor and marker of the event of the mid-winter solstice." There are some concerns with the breadth of the alignments

Douglas asserts here, in that he uses the center of Mound A as the marker, which is a wide mark to use as a vantage point. In other words, depending on where you stand, the azimuth could be very different (Pauketat Personal Communication). Ultimately, Douglas hypothesized that the five mounds/potential mounds he was aware of at the time (missing Mound D and mounds 11V959) were all aligned along a Collins Axis, which indirectly sights a Winter Solstice sunrise (Pauketat Personal Communication).

In 2016, Timothy Pauketat visited the Collins Complex to test the alignments. His calculations (Appendix B) indicated that Douglas was correct in that there is a Collins Grid that is oriented to the winter solstice sunrise (WSS). Douglas (1976:172) provided an azimuth of Mound A of 125 degrees, which is three degrees from the WSS according to Douglas' grid[35]. Due to erosion, overgrowth, and damage from the legacy excavations (even lidar is unable to provide clear answers), the true azimuth of Mound A is difficult to ascertain, let alone that of Mound C or D. Further measurements are needed to check wider site alignments with the other mounds.

The only possible lunar alignment is one of Structure 9's rebuilds. However, this measurement is from an extremely short segment of the wall and therefore difficult to measure accurately without the entire wall present (Pauketat Personal Communication). The remainder of this chapter will summarize the architecture of Collins while also noting the specific structures that are aligned or possibly aligned to either the WSS or the moon. These alignments cosmically orient places, persons (human and other than human), things, substances, and powerful forces into a mission, thus actively connecting within a larger animic geography.

35 Douglas' site grid was aligned more closely to true north, whereas my site grid is 10.26 degrees from true north. This makes his WSS alignment 122.38 degrees and mine 132.64 (Pauketat Personal Communication 2021).

**Discussion**

This chapter examined the architectures of the Collins Complex. One long standing focus of these examinations has been "where are the people living?" In Douglas' dissertation he formally reported only one single post semi-subterranean structure (Structure 8) during wide-ranging machine excavations. He reported an additional 41 features, some of which were labeled as "extra-large." However, all of these were described as suffering from very poor definition (Douglas 1976). Many of these features might be additional structures and others just very large pits/misc. features. In either case, their addition into the discussion adds complexity to the original question posed. After reexamination of his earlier report (Douglas 1970) in addition to his maps, profiles, and material inventories, I included two additional structures – Structures 7 and 11. I also included three of the 'extra-large' features (F32, F34, and F38) as probable structures. The bottom line here is that there were people living at the Collins Complex, but based on our current evidence, there was no specific village component.

With Mound A being the axis mundi of the Collins Complex and the place of sacred temples, soils, colors, ancestors, and powers, it was often assumed that the off-mound single post structures were domestic houses – specifically Late Woodland locals (Douglas 1976; Riley et al. 1978). Assigning typological frameworks, and therefore temporal positioning to architecture beginning with the Edelhardt Phase through the Stirling Phase, may cause investigations to miss out on what these structures are doing. This has been a primary concern for archaeologists working at the Collins Complex and other Mississippian hinterland sites with identifiable cultural diversity, such as Aztalan, Trempealeau, the Richland Complex, and Chapman (see Alt 2006a, 2006b, 2012; Douglas 1976; Millhouse 2012; Pauketat et al. 2014; Pauketat and Alt 2003, 2004; Pfaffenroth 2018; Richards and Zych 2018; Riley et al. 1978). In other words, labeling a single post construction as Late Woodland creates an immediate dichotomy in relation to contemporaneous Mississippian features, practices, things, or spaces, thus erasing any mission potentialities via the structures and their elements or the priests who appropriated the form.

The two fully excavated and mapped single post structures (Structures 4 and 8) yielded median dates of 1089 CE and 1086 CE, respectively. These likely contemporaneous structures are solidly dated to the Lohmann Phase (1050-1100 CE). The metrics of these structures (see Table 4.1) agree with Mississippian structures and do not fit the patterns of Late Woodland style structures when compared to the robust data set of reported architectural features from the East St. Louis Precinct (Betzenhauser et al. 2018; Brennan 2018). More specifically, the width to length ratios for Structures 4 and 8 (0.625 and 0.68 respectively) is greater than the mean of the 60 single post structures analyzed at the East St. Louis Precinct (ESTL), which came to 0.58 (see Brennan 2018:Table 3.8). The average floor area for single post structures at ESTL is recorded at 8.23 $m^2$ with a maximum of 17.11 $m^2$ (Brennan 2018:Table 3.8). The floor area of Structure 4 is 11.61 $m^2$ and Structure 8 is 17 $m^2$ thus, corresponding to the higher end of the metrics. The point here being that single post architectures as a temporal category for determining pre-Mississippian from Mississippian is no longer valid. The ESTL data indicated that nearly 40% of documented Lohmann Phase structures were single post constructions (Brennan 2018:43).

> Instances of single-set post features superimposed atop wall-trench buildings and examples of shingle-set Lohmann structures in areas of the site with no previous Terminal Late Woodland II habitation indicate that this is not a matter of Terminal Late Woodland II houses with later refuse mixed into their fills: rather, single-set post architecture truly did persist in appreciable numbers past the Mississippian 'Big Bang' (Brennan 2018:43).

This conclusion agrees with the data from the off-mound houses at the Collins Complex. Structures 4 and 8 are definitively single-post constructions and using Douglas' notes and report (1970), Structures 7 and 11 are also probably single-post constructions. The unifying thread among them all is their use as places of celebratory/religious residues. The specificity with which

Structure 4 and Structure 8 were ‘decommissioned’ – one via structured deposits/offerings and the other having a fiery termination – suggests that these houses were not ordinary domestic spaces. Last, the long-axis angle of Structure 4 is measured at 48.50 degrees, placing it less than 3 degrees from a maximum lunar south alignment. The long axis of Structure 8 is 110 degrees, which Douglas (1976) noted is 11 degrees short of a WSS alignment. A closer azimuth would be the minimum lunar south alignment at 116 degrees but, 6 degrees is a significant error.

Extrapolating from the data discussed, I suggest that the Collins Complex was an active mission that was primarily under the care of priests and guardians.

- Choctaw (Gatschet 1884:105-106) “Another place, far-famed in Ch’hta folklore, was the “House of Warriors,” Taska-tchúka, the oldest settlement in the nation, and standing on the verge of the Kúshtush. It lay in Neshoba county, Mississippi. It was a sort of temple, and the Unkala, a priestly order, had the custody or care of it.”

- Natchez (Penicaut’s account of their visit) (Owen and Kilpatrick 1943:305) – “Guards are appointed, alternately, to watch the temple, and keep up the sacred fire”

- La Page du Pratz (1774: 334) “Besides the eight guardians of the temple, two of whom are always on watch, and the chief of those guardians, there also belongs to the service of the temple a master of the ceremonies, who is also master of the mysteries; since according to them, he converses very familiarly with the Spirit.”

While the specific dwelling histories of these structures (ST 4, 7, 8, and 11) is obscured, a significant part of their biographies are dominated by specific events such as feasting. One of the necessary components to proselytizing is having people to proselytize to. Regular feasting events afford such opportunities. Hosting large feasting events and providing access to medicine men, purification and important ceremonies at different times during the year, would draw/gather the people into the structured space of the Collins Complex (e.g., the Medicine Complex – Structures 1, 2, and 10). In other words, once there, they were actively being missionized through daily practices of mound constructions/repair, temple constructions/repair, temporary housing for celebrants, and through the sounds, smells, and tastes of celebrations of renewal.

Mound temples both shared in and affected the rhythms of life at Collins, meaning that they gathered persons, elements, atmospheres, ancestors, etc., while also observing and affecting the flow of those same gatherings. Priest houses and temples lived within a fluidity of purpose – dwelling and sacred place (Jackson et al. 2012; Pauketat et al. 2012; Waterson 2012). Some buildings were gathered not for human persons, but for a variety of other-than-human persons, powerful objects (often with personhood of their own – e.g., bundles), and deities/ancestors (e.g., Structure5) (Alt and Pauketat 2020; Baltus and Baires 2012; Betzenhauser and Pauketat 2019; Emerson 1997; Jackson et al. 2012; Pauketat et al. 2012).

The C1 ancestor temple was a powerful place of convergences. The physicality and materiality of the temple itself was an intentional affect. Being placed on a steep bluff that overlooks the rest of the Collins Complex immediately establishes power by its position and by its separation. That power is amplified and given history by the use of cedar (some of which may have been curated or repurposed) as the exclusive structural element. It is unknown at this time how the original temple was engaged with or what relationships it gathered prior to the scaffold burial. However, the bluff itself is a space for the dead and ancestors. There is no exact date for Mound D, just north of Structure C1, but it is possible that this burial mound was in place prior to and contemporaneous with the earliest construction and use of Structure C1. With the two mounds of 11V959 to the southeast of Structure C1 along the bluff, it is not a leap to suggest that the submound temple was always associated with the dead, spirits, and ancestors.

The placement of the temple was purposeful, to center in and on powerful substances and alignments with powerful entities. Cedar was the first substance/person/power that was discussed at length (see above). The second is water. In addition to sitting along a bluff edge that is surrounded on three sides with the winding river, the very bluff the temple sits atop seeps and oozes water. Walking directly perpendicular from the middle of the temple down the bluff, a natural spring gently seeps out from the bluff just a couple of meters from the base of said bluff. Susan Alt (2020a) is currently examining the intrinsic Mississippian relationships with water seeps/springs, caves, and the moon. The archaeological evidence certainly supports this new research thread. Ethnographic accounts of descendent communities also bolster this connection. Dorsey (1904a) relays an account of the Skidi-Pawnee Spider-Woman, who is the daughter of Sun and Moon and whose actions are directly influenced by the moon. "It is believed that they inhabited the sides of the mountains, where they stayed with their legs far apart, and were the source of springs which furnished sweet water. In such springs, offerings formerly were made in order that the good will of Spider-Woman might be maintained" (Dorsey 1904a:335). The third powerful connection the C1 temple gathered was in its physical orientation. The long axis of the structure runs northwest/southeast, following the natural ridge, Mound A, and Structures 8, 32, and 34. Douglas (1976) hypothesizes this alignment to be that of the Winter Solstice and he was correct. The long axis angle is measured at 135.19 degrees, which is less than two degrees from a winter solstice sunrise alignment (132.64).

The moon, water, cedar, fire, and earth are all powerful entities, forces, or gods to many descendent peoples of the Southeast, and Plains (see Parks 1981:27 for specific example). All of these powerful spirits, gods, entities, substances, gathered to create an axis-mundi in a very specific place. These active energies were channeled through a variety of powerful substances – earth, water, alignment and cedar; potent threads woven together in the form of a temple.

Similarly, yet differently bundled, temple Structure 5 is a complex group of features and spaces arranged on, within, and around important soils (clay), textures (clay, sand, ash), colors (white, yellow, red, black/grey), and elements (fire). The specific use of colored clays in Features

9 and 14, olive, brown, yellow, red, and white, gather the four world quarters and the four seasons. Murie (1881a:45) explains Pawnee color relationships, "*ra-tara-wi-su*, refers to all paints, or paints in general; it is then followed by the four important colors [steps 12-15, black, red, yellow, and white], which stand for the four world quarters, seasons, etc." The stark colors and textures within the mound itself along with the architectural elements on/within it, forces a specific recognition of importance and power. Structure 5's internal rooms are kept from public view, but the eternal fire is specifically placed directly outside of this place. The sacred fire complex is also a combination of square/rectangle and circular shapes. The long axis of this feature is 56.59 degrees,[36] which is less than two degrees from a possible maximum lunar north alignment. This bundled complex of temple and features is a visible axis mundi within the Collins Complex. The gathered power through colors, fire, and ancestors (if Temple Structure 5 housed bones at some point in its biography) which actively proselytized to any person within a visible distance.

Structure 9 gathered and bundled powers, elements, substances, colors, atmospheres animals, and human and other-than-human persons. Adding to the data presented above, the walls of the house of the priest were particular gathering places. Within the walls and inside the wall posts, we recovered animal bones, chert debris, charcoal, red clay, and ceramics. The stone, body parts (animal), and different manifestations of earth (clay, soil, ceramics, daub) made up the structure, centered and reconnected it to the world and cosmos. The basin was built through a possible earlier red and yellow clay platform that was itself gathered over powerful objects. Beneath the structure, a bald eagle cranial fragment and a Marginella shell bead were found (~30

36 Douglas was able to tie his grid directly into Douglas' and thus his grid is more closely aligned to true north than my own. As a result of this close association, I am providing an angle estimate from Feature 9, though I acknowledge the probable error between the two grids, particularly since Douglas used Feet and Riley used Metric.

cm and ~60 cm below the floor elevation of 184.35 msl, respectively). Like the Ark clam from within the structure itself, Marginella shells are also from the Gulf Coast/Atlantic Ocean. Ethnographically, cranial elements of bald eagles are often a component of a bundle. The placement of the Ark clam within Structure 9, which was directly over the Marginella shell bead and the bald eagle cranial fragment, aligns the house of the priest and Mound A dimensionally with the sky world, the watery underworld and also lunar associations (Alt 2020a; Pauketat and Alt 2017). Due to the short segments of wall available for measure, I can only provide a possible alignment for Structure 9. The short wall segments have angles ranging from 43 to 50 degrees, suggesting either a winter solstice sunrise or maximum lunar south alignment. In either scenario the orientation of the walls aligns the house of the priest within the cosmic meshwork of relationships beyond the Collins Complex and among the wider Mississippian world.

## **Conclusion**

While I began with basic typologies of form and function, in weaving in data on textures, colors, elements, relationships, and change, I attempted to re-activate building back to a verb. By doing so, it emphasizes the vibrancy and active participation that buildings both affect and used to effect missionizing. "The house, too, vegetal like its surroundings, shares in the life force which animates the universe" (Waterson 2012: 91). Built form and social form is a kind of feedback loop wherein changing one often changes the other (Waterson 2012).

> [E]ven the smallest house, built and dwelt in by a household of the humblest status and of the most limited economic means, is a statement about the world, and a chosen way of living in it (Johnson 2010: 2).

Archaeologists are also guilty of seeing structures as either lived in (by humans) or empty, with the concept of empty being highly problematic. There is no reality of "empty space," especially within animate worlds. Even the use of 'closing a structure' draws to mind the distinct notion of end. As an alternative to “closing a structure” or “ending its use/decommissioning it,” we might theorize it through bundling. Historically, bundles are recognized as powerful, often animate persons in their own rights and are also known to bind/hold/keep other powerful objects within the bundle itself (Pauketat 2013a). These bundles can become dangerous if not properly cared for or renewed. Perhaps the opening of a structure to the atmospheric elements and cosmologic powers (via removing the roof) (Structures 9 and C1), or opening a building and burning offerings (Structure 4), or burning a building completely (Structure 8 and C1) is a means of negating the powers within and ‘unbinding’ the elements that bundled together to make the building itself.

> Architecture, we argue, is what emerges when the elements are assembled; that is, the continuity of building blocks, presences and the performances of dwelling and meaning-making (Bille and Sørensen 2016:7).

The Collins Complex was, and remains, an animate place brimming with non-human persons, plants, animals, ancestors, substances, and elements. This chapter examined what architectures *do*. The data presented here suggests that in connection to mounds and plazas being the religious core of a mission, the architectures and their alignments are the animate means underlying that missionizing.

# CHAPTER 5: THE MISSION OF THINGS AND THE THINGS OF MISSIONS

> "As each star came over the land, the young man went to the place where the Lightning had struck upon the mountains. He found flintstones with bows and arrows, and even good sized pieces of axes, so that he now made bow and arrows."
>
> -Roaming-Scout, Skidi Pawnee Priest

Each chapter thus far examined the animate flows of a mission at different scales. The last part of the mission bundle examined here concerns *things* of a mission. Things as they relate to this chapter are the ceramic, lithic, and bone things of the Collins Complex. I specifically call them things and not objects to avoid removing them from the vibrancy from which they flow (Deleuze and Guattari 1987; Ingold 2014). Ingold (2014:219) explains this thing/object issue,

> And they are alive precisely because they have not been reduced to the status of objects. The idea that objects have agency is at best a figure of speech, forced on us (Anglophones at least) by the structure of a language that requires every verb of action to have a nominal subject…In effect, to render the life of things as the agency of objects is to effect a double reduction, of things to objects and of life to agency.

This chapter examines the thing data from the Collins Complex to address the questions relating to *who* and *what* in greater detail. Specifically, these things contribute to a larger narrative of who potential acolytes were, where they were from and what they were doing at Collins. However, like architecture and mounds, things are more than their materialities. They have their own bundles of relations and can, and often do, create new relational fields and entanglements. Material typologies are standard methods in archaeology and, just as with architectures, is the first step in thinking with things. However, like the other animic components of the mission bundle (mounds and architecture), so too are things in constant flux, always becoming.

The layout of the chapter begins with a summary of the bone things from the Collins Complex[37]. There is a distinctly intimate relationship with humans and animals that differs from that of other relations. Discussing the Cree human/animal relationship, Scott (2014:160) states, "Cree hunters allege that humans and animals are fundamentally alike in *both* body and soul (original emphasis)." In this sense, bones and bone things might require different relationships (i.e., food/bodily remains or altered remains). Similar to stone things, bone things can be tethered to place and power, but also non-human persons. More than stone and ceramics, some bone things may indicate powerful connections to Medicine Men/Priests. Drawing from Pawnee religious powers, specific animals are heads of powerful Animal Lodges.

The next section discusses ceramic things. In the case of these ceramic things, they are themselves bundles. Following Alberti's (2007:211) argument, ceramics – especially pots, are not fixed and stable things. Ingold (2014:221) elaborates,

> [P]ots are no more stable than bodies, but are constituted and held in place within flows of materials. Left to themselves, however, materials can run amok. Pots are smashed; bodies disintegrate. It takes effort and vigilance to keep things intact, whether they be pots or people.

Ceramic things, especially pots, are similar to mounds. They demand. Also, like mounds, some ceramic things are proselytizers. Some pots preach via embodied esoteric knowledge and form (e.g., Pauketat and Emerson 1991). Some pots are pilgrims, and some have a mission. The ceramic things of the Collins Complex *do* these things. More so than the faunal and stone things, ceramics are so intimately associated with geography and people, that they are the most common means of tracing relational fields.

The final section of this chapter is an account of the vast and diverse lithic, or stone, things of Collins. Unlike ceramic things, stone and stone things have direct connections to the

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37 A full report of the fauna analysis and interpretation provided by Steve Kuehn can be found in Appendix A.

gods and powers (e.g., fire and lightning). Pots are rarely mentioned in oral histories in the same way stone things or animals are, specifically flint (e.g., The Buffalo Wife and the Javelin Game [Dorsey 1904b], Healthy-Flint-Stone-Man and Woman Having-Powers-In-The-Water [Dorsey 1912], and The Dispersion of the Gods and the First People [Dorsey 1904a]). In many oral histories, flint is a gift directly given to the people by the gods (see Dorsey 1904a, 1904b). Stone things are the bones of place. They are relational tethers to place that can pull persons, other things, and substances into wider relational fields. Similar to cosmic alignments, it is through these powerful relations and in some cases transformations, that stone things missionize.

Overall, this chapter illustrates the life of a mission at different scales. For example, it provides a narrative of how the ceramic things connect a wider Mississippian geography, or how ceramics, stone, and bone are relationally entangled and intimately associated with mission events like feasting and ceremony. Building on the data from the previous chapters, the things of the Collins Complex continue to demonstrate that Collins is not a domestic space for everyday living, but a powerful *place* that gathers persons (only some of whom are human), things, substances, and powers, within a larger animic geography to co-generate and move a religious movement. A description and interpretation of the ceramic, lithic, and bone things of the Collins Complex follows.

## **The Thing Assemblage**

The Collins Complex combined material total across all excavations[38] has a count of 44,641 and a weight of 1,478,347.3 g. (Figure 5.1). This total includes materials from the legacy

38 Due to differing collecting strategies and analytical procedures, this combined total is considered a sample. Categories are not exactly the same across excavations and depending on the category both Riley and Douglas provided only weights or only counts. These issues aside, it is still valuable to show the data that is available in relation to the other excavations. All the original material inventories are housed at the Illinois State Archaeological Survey.

collections (Douglas' and Riley's excavations) but depending on the category may not reflect a true count or weight. For example, Douglas recorded counts and no weights for lithic tools and rims and weights but no counts for all non-tool lithics and body sherds. Riley's data represented a combination of factors. While I had access to the hundreds of hand-written material inventory cards, I only tabulated data from certain units where architecture was present. I combined these partial tabulations with the available data presented in Riley's final report (Riley et al. 1978). In sum, these numbers are high, but should be regarded as an undercount and weight of a true total. A summary table of all materials from all excavations can be found in Appendix C.

In general, when combined with the mound, architecture, and alignment data, the complete thing assemblage complimented the suggestion of being non-domestic. The non-domestic nature of much of the Collins thing assemblage was particularly highlighted by the priestly assemblages of bone, paints, and stone regalia, or the large cooking pots and evidence of meatier deer portions. The patterns discussed below are compared to similar assemblages from other regional sites in Chapter 6.

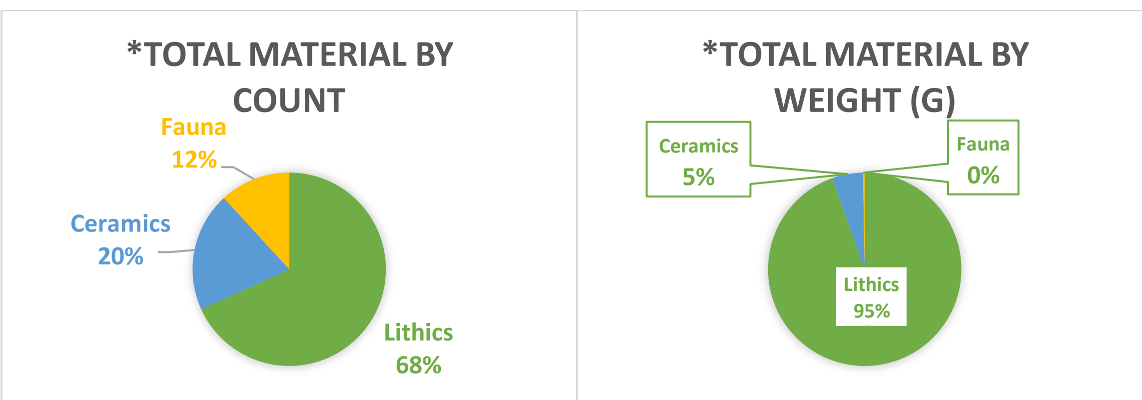


Figure 5.1. Pie chart showing the combined material inventories from all excavations (the Fauna percentage is 0.29% but is rounded down to 0 in the chart). *These numbers are under-recorded. The true site totals are much higher (see note 38).

**Bones and Bone Things**

The faunal assemblage particularly provides a clearer picture of the happenings at the Collins Complex. The 2013 and 2016 faunal assemblages were analyzed by Steve Kuehn and his full report and associated tables can be found in Appendix A. This section provides a general summary of faunal assemblages from 2013, 2016 as well as the legacy assemblages. In addition, important patterns and specific items/connections are highlighted.

The total faunal assemblage (bone and shell) recovered from the 2013 and 2016 excavations consisted of 3,571 Number of Identified Specimens (NISP), of which nearly 29% (*n*=1019) were burned (Table 5.1). Seventy-three percent of the faunal assemblage was recovered from Mound A contexts. Twenty-six percent of the assemblage came from Block 1 excavations, and the remaining one percent from Mound C. The faunal assemblage was relatively small and suffered from poor preservation with 1,022 bone fragments that could not be identified to element or class (listed as Taxon indet. [Vertebrata] in Table 5.1). The remainder of this discussion will focus on Mound A and Block 1.

Overall, Kuehn found the assemblage was not representative of a typical household or community assemblage. The majority indicated special relationships and feasting. For example, the trunk and upper limb portions of deer present in the assemblage was significant, representing 73.4% (*n*=130 NISP) of the NISP of white-tailed deer (*n*=177 NISP) (see Table A.2). Kuehn (2018) stated that these meat-rich portions of the deer were primarily the parts transported from the kill location for further processing, possibly for feasting events. In fact, none of the assemblage showed signs of butchery or cut marks, with the exception of one large mammal long bone with a spiral fracture. In other words, the daily work of food processing was not occurring at Collins, but there is extensive evidence for the cooking of food at Collins (see ceramics and lithics below).

There is a stark difference in both the amount of bone and shell and modified remains between Block 1 (391.25 $m^2$ excavated) and Mound A (159.4 $m^2$ excavated). Keeping in mind that the Block 1 excavations amount to a single structure and two internal features, 91% (*n*=863 NISP) of all faunal material from Block 1 came from that structure (Structure 4) and its internal features (Features 11 and 12). This structure also accounted for nearly 56% (*n*=568 NISP) of the entire faunal assemblage from all locations. Building on the numbers of burned bone, most telling is that 99% of the entire faunal assemblage from Structure 4 and its internal features was either identified as fragments of deer, large-size mammal, indeterminate mammal, or indeterminate Vertebrata. The remaining four faunal specimens were from the carapace and plastron of a turtle and a raccoon humerus. None of these faunal specimens were modified (worked or shaped) and most were likely food refuse deposited into the house basin (see Chapter 4 for more details about the closing of this structure).

| | Md. A | Blk. 1 | Md. C | Total | | Burned | | | |
|---|---|---|---|---|---|---|---|---|---|
| Taxon | **NISP** | **NISP** | **NISP** | **NISP** | **MNI** | **Md. A** | **Blk. 1** | **Md. C** | **Total** |
| White-Tailed Deer (*Odocoileus virginianus*) | 135 | 42 | 0 | 177 | 7 | 6 | 11 | 0 | 17 |
| Elk (*Cervus elaphus*) | 3 | 0 | 0 | 3 | 2 | 0 | 0 | 0 | 0 |
| Dog/Wolf/Coyote, Indet. (*Canis* sp.) | 2 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 |
| Raccoon (*Procyon lotor*) | 2 | 2 | 0 | 4 | 2 | 0 | 0 | 0 | 0 |
| Cottontail Rabbit (*Sylvilagus floridanus*) | 8 | 0 | 0 | 8 | 1 | 0 | 0 | 0 | 0 |
| Plains Pocket Gopher (*Geomys bursarius*) | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| Common Mole (*Scalopus aquaticus*) | 1 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 |
| Rodent, Indet. (rodentia) | 1 | 0 | 0 | 1 | -- | 0 | 0 | 0 | 0 |
| Large-sized mammal | 286 | 109 | 0 | 395 | -- | 44 | 67 | 0 | 111 |

Table 5.1. 2013 and 2016 Fauna Taxons and Locations.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Medium-large mammal | 19 | 0 | 13 | 32 | -- | 3 | 0 | 13 | 16 |
| Medium-sized mammal | 2 | 0 | 0 | 2 | -- | 0 | 0 | 0 | 0 |
| Small-medium mammal | 1 | 0 | 0 | 1 | -- | 0 | 0 | 0 | 0 |
| Mammal, indet. | 1063 | 561 | 6 | 1630 | -- | 159 | 397 | 6 | 562 |
| Bald eagle (*Haliaeetus leucocephalus*) | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| Large-sized bird | 8 | 0 | 0 | 8 | -- | 0 | 0 | 0 | 0 |
| Medium-large bird | 7 | 0 | 0 | 7 | -- | 0 | 0 | 0 | 0 |
| Medium-sized Bird | 6 | 0 | 0 | 6 | -- | 0 | 0 | 0 | 0 |
| Bird, indet. | 20 | 0 | 0 | 20 | -- | 0 | 0 | 0 | 0 |
| Snapping turtle (*Chelydra serpentina*) | 3 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 0 |
| Box Turtle, indet. (*Terrapene* Sp.) | 4 | 0 | 0 | 4 | 1 | 0 | 0 | 0 | 0 |
| Box/Pond turtle, indet. (Emydidae) | 3 | 0 | 0 | 3 | -- | 0 | 0 | 0 | 0 |
| Turtle, indet. | 10 | 3 | 0 | 13 | -- | 1 | 0 | 0 | 1 |
| Non-venomous snake, indet. (Colubridae) | 1 | 0 | 0 | 1 | -- | 0 | 0 | 0 | 0 |
| Catfish/Bullhead, indet. (Ictaluridae) | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| Bass, indet. (*Micropterus* sp.) | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| Freshwater drum (*Aplodinotus grunniens*) | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| Fish, indet. | 12 | 0 | 0 | 12 | -- | 0 | 0 | 0 | 0 |
| Threeridge/Washboard (*Amblema/Megalonaias* sp.) | 2 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 |
| Spike (*Elliptio dilatata*) | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| Flutedshell (*Lasmigona costata*) | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| Yellow sandshell (*Lampsilis teres*) | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| Fatmucket/Pocketbook, indet. (*Lampsilis* sp.) | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| Peaclam (Sphaeriidae) | 2 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 |
| Mussel, indet. | 181 | 0 | 0 | 181 | -- | 7 | 0 | 0 | 7 |
| Marginella (*Marginella* sp.) | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| Ark Clam, indet. (Arcidae) | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| Campeloma snail (*Campeloma* sp.) | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| Mystery snail (Viviparidae) | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| Pond snail (Lymnaeidae) | 4 | 0 | 0 | 4 | 4 | 0 | 0 | 0 | 0 |
| Horn snail (Pleuroceridae) | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| Discus snail (*Discus* sp.) | 1 | 0 | 1 | 2 | 2 | 0 | 0 | 0 | 0 |

Table 5.1 (Cont.). 2013 and 2016 Fauna Taxons and Locations.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Snail, indet. (Gastropoda) | 9 | 1 | 0 | 10 | -- | 0 | 0 | 0 | 0 |
| Taxon indet. (Vertebrata) | 783 | 227 | 12 | 1022 | -- | 130 | 164 | 11 | 305 |
| Total | **2593** | **945** | **33** | ***3571*** | ***39*** | **350** | **1114** | **30** | **1019** |

Table 5.1 (Cont.). 2013 and 2016 Fauna Taxons and Locations.

Moving to Mound A, there was an abundance of faunal remains that were either not commonly known to be food related, or ethnographically known to be extraordinary or have specific religious connotations (Kuehn 2018). The identifiable faunal remains from Mound A were richer than those recovered from Block 1. Some of the richest assemblages seemed to cluster in features or test units with probable features/structures. These included: Structure 9, and ultimately Test Units 3 and 4, as these units comprised the basin fill of Structure 9; Feature 12, a pit either within or superimposing a possible structure (see Figure 3.18) within Test Unit 11; Structure 12, a circular single-post structure within both Test Units 13 and 14; and Test Unit 6 within which was a post pit and isolated wall trench[39]. Within pit feature 12 there were nine fish NISP recovered – eight of which were cranial and spinal elements, which accounted for 60% of the total fish assemblage of Mound A. In experimental studies, Deter-Wolf (2013) demonstrated that some cranial (jaw) and spinal elements of fish were effective tattooing implements. Also recovered from this feature was a wolf/coyote/dog molar, one of only two Canis species specimens recorded from Mound A excavations. Also within Feature 12 was the neck vertebrae of a large bird (Canadian goose or larger – see Kuehn 2018). The long necks and heads of large birds such as swans are known ethnographically to be used in specific ceremonies and/or bundles (Murie 1981a).

Over 32% (*n*=61) of the Mound A mussel shell came from Structure 12, which as I described in Chapter 4, was a possible sweat lodge and was built directly over a pulled post.

39 Due to the short width of the unit and the rotation of volunteers, Test Unit 6 did not separate materials between features. Therefore, it is unknown if the baculum or the snapping turtle remains came from either or neither of the features in the unit.

None of these fragments were burned. They could have been associated with a sweating ceremony as a means of pouring liquid on the hot rocks (Custer 2017). The intimate relationship with water for both sweat lodges and shells is undoubtedly significant (Baires 2014a; Pauketat and Alt 2018), particularly in mound contexts. Out of the entire faunal assemblage, only 15 specimens were modified and all of those came from Mound A. Included in the specimens were a smoothed turtle carapace used as a bowl/vessel or scoop recovered from Test Unit 13 and a spiral-fractured long-bone of an unidentified mammal recovered from a post of Structure 12. Structure 12 was located within Test Unit 13. It is possible that the turtle shell bowl/vessel is associated with this structure, however its exact contexts are unknown. The remaining 13 modified faunal specimens came from Structure 9.

An unusually high amount of faunal remains associated with special/religious contexts were recovered from the floor, basin, and beneath Structure 9. As I discussed in Chapter 4, this structure was hypothesized to be a temple or specifically a house of a priest. The faunal assemblage was crucial to this identification. Significantly, the remaining 13 modified specimens mentioned above, were from the basin or floor of this structure. One deer phalanx with a drilled interior was recovered from the basin fill and described by Kuehn (2018) as a possible tinkling cone or cup-and-pin game piece. A total of 11 modified bone things were recovered from the floor contexts of Structure 9 (Figure 5.2). Made from the long bone shafts of an unidentifiable large bird, ten of the bone items were complete with an average length of 52.4 mm and an average width of 3.9 mm (see Table A.3).

Figure 5.2. Possible bone scratchers from the floor of Structure 9. Modified bone from the long bone shafts of an unidentified large bird.

Each one was shaped with rounded distal ends and pointed proximal ends. These items were nearly identical to identified bone scratchers from the Town Creek site in North Carolina (Boudreaux 2005; Coe 1995). Similar scratchers were also recovered from the Angel Site in southern Indiana (Black 1967) and on the floor of a structure in the ICT-II tract (Pauketat personal communication). Krutak and Deter-Wolf (2017:201) described historically known scratchers, generally consisting "of split bone or metal needles set separate from one another within a frame made from a bent feather shaft or wood block."

> There is a clear and well-recognized connection between the sets of archaeologically recovered multipoint bone implements and compound tools used historically for scratching rites among various Native American groups including the Cherokee, Muscogee, Yuchi, Catawba, and Seminole. During scratching rites, these tools were dragged across a recipient's limbs and torso deeply enough to draw blood. Scratching was performed in conjunction with stickball games and annual community-wide ritual events, where it served to purify and fortify participants. (Krutak and Deter-Wolf 2017:200).

Alanson Skinner (1921:134) provides another detailed description,

> Composed of several [bone] needles set in a handle made of the thick, strong quill of some large bird, from which the covering had been stripped. The upper end had been folded over and thrust into a longitudinal slit made in its own shaft. The needles were fastened in a row in the distal end.

Capron (1953:192) provided descriptions of the scratching rites performed by the Florida Seminole as a part of the Green Corn ceremony in preparations for the ball game.Capron (1953:192) further explained that all males must be scratched by a priest. The connection of scratching and corn ceremonies is notable, particularly in Mississippian contexts as it might relate to missionary practices. Specifically, feasting ceremonies that gather people to be proselytized and subsequently purified.

Additional fauna with religious connections from the house of the priest included a bald eagle premaxilla fragment, a single metapodial fragment from a wolf/coyote/dog, a Marginella shell bead (though this was likely beneath the house floor), and a near complete right valve of an Ark clam. Both shells came from the Gulf Coast/Atlantic Coast and were the only marine shells recorded from all excavations. Douglas also identified wolf/coyote remains from Mound A during his excavations (see specifics below). The combination of these items along with the scratchers suggested they may have been a part of a bundle, if not more than one.

A final data thread bolstering a significant priestly presence at the Collins Complex is an observed pattern of faunal remains recovered from post molds of structures or architectural features. Nine bone fragments were recovered from post molds in Structure 4 in Block 1. Ten bone fragments and five shell fragments came from two post molds of Structure 12 (sweat lodge) on Mound A. Thirteen bone fragments came from post mold 1 of Feature 13 (wall trench A). Drawing from Pawnee origin stories, there are strong connections to specific structures, powerful animals, and medicine-men.

> Only less powerful than the gods in the heavens were the gods of the earth, ruled over by lodges of Nahuruak or Animals, supreme among which were the gods of the four animal lodges, -Pawhuk (Bad-Land), Ketcawetsak (Water-Upon-the-Mound), Pakaochtu (Mountain-Covered-with-Eagle-Down), and finally, the Great-Cave-of-the-Bears. In these lodges the animals were wont to gather together in council and to make or mar the fortunes of men. To these lodges, individuals favored by the gods of the earth were conducted from time to time, and were

instructed in the mysteries of earth-craft. They, especially, are the patron gods of the medicine-men and warriors (Dorsey 1904a: xix-xx).

Douglas' and Riley's Fauna

Douglas (1976:216) reported on the fauna he recovered from his 1970 excavations only. The remainder of the assemblage was still being analyzed as he was writing his dissertation. The faunal assemblage from that excavation included Features 1-5, arbitrary levels from Mound A, and Features 6-11 from Area 1 to the west of Mound A. The following section is summarized from Douglas' dissertation (1976:216-220) and I direct the reader to that work for a more thorough discussion. A total of 1,584 bone and bone fragments were recovered from Douglas' 1970 excavations (Table 5.2) and 40.6% of those were identifiable to species. He did not discuss nor include a table showing the specific locations of the different faunal materials (i.e., Mound A vs. Area 1).

| | Douglas | | Riley | |
|---|---|---|---|---|
| TAXON | **NISP** | **MNI** | **NISP** | **MNI** |
| White-Tailed Deer (*Odocoileus virginianus*) | 206 | 33 | 134 | 7 |
| Elk (*Cervus elaphus*) | - | - | 4 | 1 |
| Coyote (*Canis latrans*) | 6 | 4 | - | - |
| Gray Wolf (*Canis lupus*) | 6 | 4 | - | - |
| Red Fox (*Vulpes vulpes*) | 2 | 1 | - | - |
| Dog/Wolf/Coyote, Indet. (*Canis* Sp.) | - | - | 3 | 1 |
| Bobcat (*Lynx rufus)* | 2 | 1 | - | - |
| Bear (*Ursidae* sp.) | 1 | 1 | - | - |
| Raccoon (*Procyon lotor*) | - | - | 4 | 1 |
| Cottontail Rabbit (*Sylvilagus floridanus*) | 292 | 16 | 1 | 1 |
| Squirrel (*Sciuridae* Sp.) | 28 | 3 | - | - |
| Gray Squirrel (*Sciurus carolinensis*) | - | - | 1 | 1 |
| Plains Pocket Gopher (*Geomys bursarius*) | 9 | 5 | - | - |
| Deer Mouse (*Peromyscus maniculatus*) | 9 | 4 | - | - |
| Brush Mouse (*Peromyscus boylii*) | 6 | 1 | - | - |
| Beaver (*Castor canadensis)* | 1 | 1 | - | - |

Table 5.2. Reported fauna from Douglas' 1970 excavation and Riley's 1976 excavations. Data adapted from Douglas (1976:218) and Riley et al. (1978:Appendix 2).

| | | | | |
|---|---|---|---|---|
| Woodchuck (*Marmota monax*) | 74 | 7 | - | - |
| Rodent, indet. | 1 | - | - | - |
| Mammal, indet. (Artiodactyla) | 686 | - | - | - |
| Mammal, indet. | 153 | - | - | - |
| Mammal, indet. (*Rodentia* or *Lagomorpha*) | 81 | - | - | - |
| Non-venomous snake, indet. (*Colubridae*) | - | - | 5 | 1 |
| Turkey (*Meleagris ocellata*) | 3 | 1 | 13 | 2 |
| Swans and Geese, indet. (*Anserinae* Sp.) | - | - | 3 | 2 |
| Bird, indet | - | - | 10 | 2 |
| Box Turtle, indet. (*Terrapene* Sp.) | - | - | 1 | 1 |
| Turtle (General) | - | - | 2 | - |
| Black Bull Head (*Ameiurus melas*) | - | - | 1 | 1 |
| Catfish, Indet. (*Siluriformes* Sp.) | - | - | 1 | 1 |
| Fish, indet | 1 | - | - | - |
| Mucket Mussel (*Actinonaias carinata*) | - | - | 1 | 1 |
| Fresh Water Mussel (*Amblema costata*) | - | - | 1 | 1 |
| Carnivore, indet. | 19 | - | - | - |
| Herbivore, indet. | - | - | 4 | 1 |
| TOTAL | **1586** | **82** | **189** | **25** |

Table 5.2 (Cont.). Reported fauna from Douglas' 1970 excavation and Riley's 1976 excavations. Data adapted from Douglas (1976:218) and Riley et al. (1978: Appendix 2).

White-tailed deer and cottontail rabbits accounted for 2/3 of the identifiable individuals. Douglas specifically noted that fish were nearly absent from this assemblage, with the exception of a single fish vertebra. Douglas identified nearly 10% of the Minimum Number of Individuals (MNI) (8 out of 82 individuals) as gray wolf and coyote. All of the coyote specimens, in addition to the wolf specimens that were burned/charred, were recovered from the basin fill of Structure 7; the large unknown structure from Area 1 (see Chapter 4). Modified remains (Figure 5.3) included three bone awls, a broken antler tine projectile point, and a bear tooth[40] pendant (Douglas 1976). All three of the awls were recovered from Feature 31, a possible pit in Area 1.

40 Prior to the 2013 excavations, John Douglas sent me all papers, files, original artifact drawings, maps, etc. that he still had on hand with his permission to use in the Collins research. Many of his original artifact drawings have been used in various figures as they are 1) beautifully detailed and 2) they substituted for photographs, which I did not have time to organize. All of the documents Douglas sent will be curated with the remainder of the legacy collections at the Illinois State Archaeology Survey.

Two of the awls were made from deer metapodials and were described as having polish on the shaft toward the working element. One had a ground tip. The broken antler point and the bear tooth pendant were both recovered from Douglas' earliest tests into Mound A, with no specific provenience given. The bear tooth pendant was ground down to match the tooth tip and was notched in the middle.

Based on limited data, Douglas (1976:219) suggested that the site had a late fall or early winter occupation/utilization and that overall, the small assemblage was atypical of what he expected for a Late Woodland village.

> Negative occurrences are difficult to evaluate with an incomplete sample, but non-mammalian fauna are curiously in short supply, very unlike the majority of reported Woodfordian Late Woodland sites; the sample holds only one fish bone, no amphibians or reptiles, one turkey but no other birds (Douglas 1976:219).

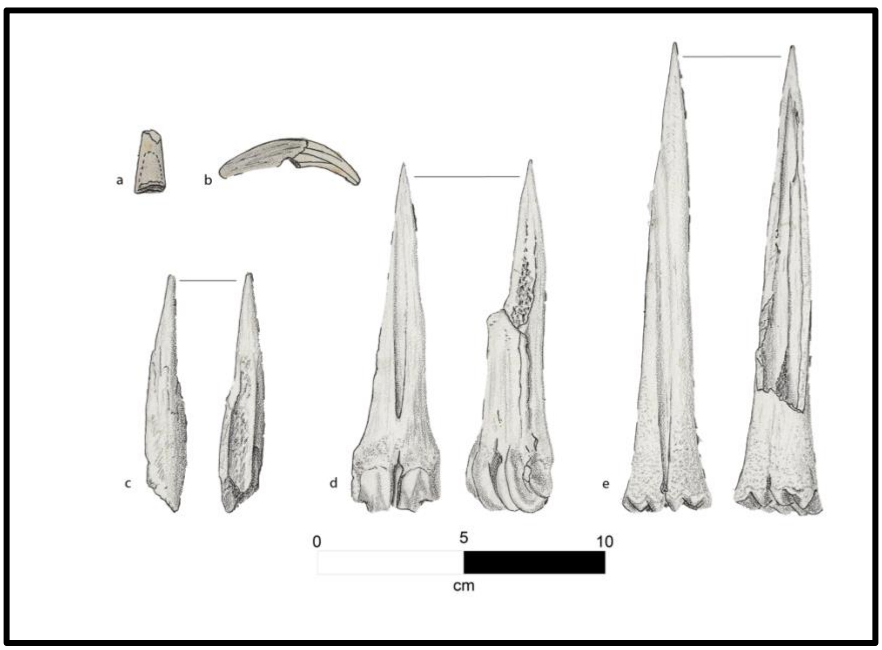


Figure 5.3. Modified faunal remains from Douglas' 1970 excavations. Image adapted from Douglas 1976: Plate 20. Mound A Contexts: a. antler tine point (tip missing), b. bear tooth pendant; Feature 31 (Area 1): c-e. bone awls

In Riley and coauthors' report to the state (Riley et al. 1978), they included a discussion on the faunal assemblage from the 1976 excavations only (see Table 5.2). A summary of that discussion follows. The full report, along with a faunal inventory by excavation area, can be found in Riley's report (Riley et al. 1978:Appendix 2). Similar to Douglas (1976), only two fragmented fish remains were recovered and overall, very few aquatic taxa, including mussel shell. The remainder of the assemblage was similar to the 2013 and 2016 excavations in both the variety of taxa and the significant difference in NISP between Mound A and off-mound units. Based on the faunal inventory reported by Riley and coauthors, Mound A yielded substantially more specimens than the off-mound units (based on extent of excavations as volume is unknown).

Following the pattern observed by Douglas (1976) and Kuehn (2018), very few modified remains were mentioned in the report (Riley et al. 1978:Appendix 2) and none of them described in any detail beyond "long bone fragments with signs of wear." Also analogous to Douglas' and my own excavations, Riley reported that the overall subsistence base was that of large mammals, likely deer. More specifically, Riley and coauthors reported that not only were butchering marks rare, but that the "near total lack of [deer] skulls and cervical vertebrae, in absence of further data, would seem to indicate that the heads and necks of the deer were removed prior to transport to V-15" (Riley et al. 1978:paragraph 4). Additionally, Riley et al. (1978) pointed out that distal portions of the limbs were also represented in significantly low numbers. This aligned with Kuehn's (2018) assessment that only the meatiest parts of the deer were brought to the site and that once there, only minimal processing occurred.

**Ceramics**

A total of 8,913 ceramic things and burned clay and daub weighing 76,323.96 g were recovered from the Collins Complex from all excavations (see Appendix C). In the following sections I provide descriptions of the body sherd assemblage, vessels, ceramic disks, clay things, burned clay, and daub from all excavations. I summarized the ceramic descriptions and data from

Douglas' (1976) dissertation and Riley and coauthor's report (Riley et al. 1978) to the state. My summary of Riley's assemblage was only a sample and not complete as I only pulled material inventories from excavation blocks that reported architecture. These inventories are housed at the Illinois State Archaeological Survey in Champaign, Illinois. The summary totals/sample totals of the legacy excavations allowed for a more detailed comparison of ceramics at the Collins Complex. I refer the reader to Figure 4.1 for an overview of the excavation areas and architecture locations.

Overall, the 2013 and 2016 assemblages complemented the vessel assemblages from Douglas' (1976) and Riley's (Riley et al. 1978) excavations. Douglas' extensive excavations to the west of Mound A yielded the largest vessel sample (MNV=260) with Riley's and the 2013/2016 assemblages rounding out the sample count with 49 and 67 respectively. Ultimately, all excavators found a low percentage of shell tempered vessels compared with the amount of grit tempered vessels (Figure 5.4). In fact, when compared by weight percentage, both Riley and I showed 5.2% of our body sherd assemblages were shell, limestone, or a temper mix. Douglas' percentage was slightly lower at 3.3% likely due to his limited excavations of Mound A. Jars were the dominant vessel form in all excavations with only a handful of documented bowls (Riley recorded no bowls), and a single funnel. All excavators recorded similar surface treatments, decoration, and lip shape ratios (Figure 5.5).

Douglas' assemblage indicated non-domestic use with Douglas (1976:206) stating "Whatever they held, it would seem that most of these vessels are considerably larger than would be required or practical for food preparation for a family group." The 2013 and 2016 assemblage added to this assessment with over 50% of vessel interiors exhibiting burning or soot. More specifically, it highlighted the differences between the mound and off-mound assemblages with the Block 1 excavations accounting for 74% of vessels with burned/sooted interiors. These data, especially in conjunction with the faunal data discussed above, signified a pattern of large-scale cooking activities off-mound.

In general, the entire ceramic assemblage from all excavations suggested wider regional connections with the Central Illinois River Valley, Northern Illinois, Southern Wisconsin, and Indiana. This included similar quantities of Cahokian types or forms (i.e., Powell Plain/Hyer Plain, Monks Mound Red, Cahokia Red Filmed, etc.) and similar ratios of shell and limestone tempered vessels.

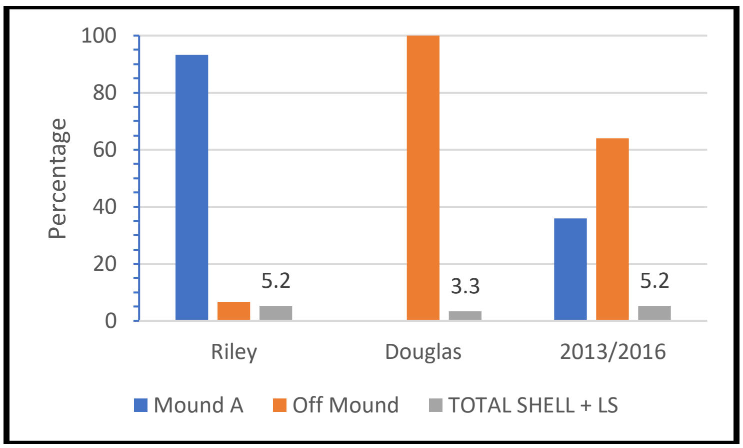

Figure 5.4. Comparison of all shell and limestone (includes mixed) temper sherds as a weight percentage from all excavations between Mound A and off-mound contexts.

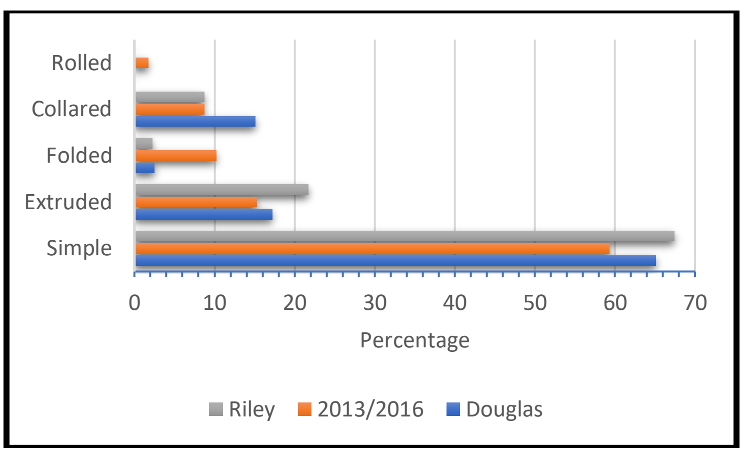

Figure 5.5. Comparison of lip shape percentages from all excavations.

2013 and 2016 Ceramic Methods

Following Pauketat (1998a:30-36), the analysis of the ceramic assemblage (vessel remains, disks, and clay things) from the 2013 and 2016 excavations consisted of quantifying all remains by temper and surface treatment. These data provided a baseline interpretation for chronological markers and geographic origins (Brennan et al. 2019; Pauketat 1998a). Rims were quantified and analyzed separately for rim metrics, temper, and surface treatment. Rims (and large vessel sections without rims) were fundamental to the identification of individual vessels and thus, provided a reliable minimum number of vessels (MNV). When possible, rims and associated sherds were subjected to a series of measurable attributes (following Holley 1989; Pauketat 1998a; Richards 1992), including lip length (LL), wall thickness (WT), rim curvature (RC), lip thickness (LT), and the lip protrusion index (LP Index) – WT/LL (Figure 5.6). Holley (1989) and Pauketat (1998a) demonstrated that the LP index (Holley calls it the RPR value) provided means of temporal discernment for rims with modified lips. Specifically, the data illustrated that the lip length of extruded rims grows more pronounced through time. Thus, higher LP values indicated earlier vessels and lower values indicated later vessels (Pauketat 1998a).

The orifice diameter and percentage of orifice present was measured if 5% or greater of the rim was present. Each distinct rim was given a vessel number, its rim profile drawn and quantified along with a plan sketch. Measurements were recorded to the nearest 0.1 mm. These metrics provided a standardized way to compare ceramics across a wider geography.

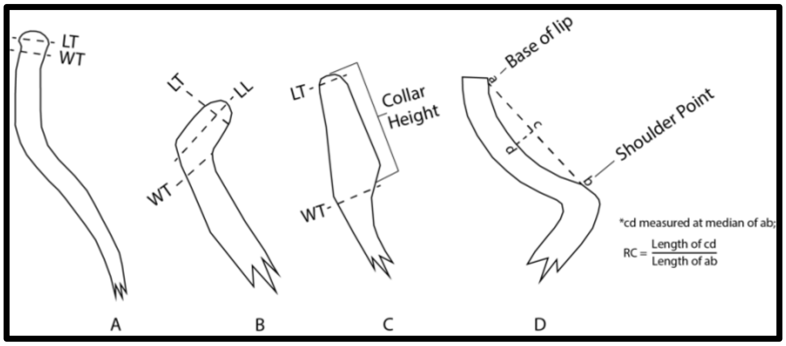

Figure 5.6. Jar metrics. A – Unmodified and minimally modified lip measurements; B – Modified lip measurements; C – Collared lip measurements; D – Rim Curvature (RC) measurement and formula.

All vessels from the 2013 and 2016 excavations followed the typical assemblages for Edelhardt through Stirling phases (1000-1200 CE). These forms included jars, bowls, and funnels. Expected and documented surface treatments included plain, cordmarked, smoothed over cordmarked, slipped, and fabric impressed. Decorative treatments identified were twisted-cord impressions, punctates, narrow incising, cord-wrapped stick impressions, slip, castellations, and notching. Location of decoration was differentiated between lip and rim. Lip decoration was further specified by interior, superior, or exterior. Recognized lip shapes included unmodified shapes – square, round, and flattened; minimally modified – beveled, thickened, and folded; and modified – extruded, rolled, and collared (following Betzenhauser et al. 2019; Brennan et al. 2019; Pauketat 1998a). In three of the simple forms there were spots where small amounts of excess clay were folded over. However, if this did not take up the entire rim, I marked the primary lip shape and added 'with a fold'.

While I followed Douglas' and Riley's earlier minimalist approach to the ceramic typologies of the Collins Complex, there were a handful of vessels in the assemblages that resembled relevant ceramic types. These included some recognized Cahokia types – Powell Plain and Cahokia Red Filmed. Additional types considered non-local Late Woodland types, included Maples Mills, Starved Rock Collared, and Aztalan Collared. Last, one "local" type called Albee Cordmarked was discussed in relation to the other collared wares; Starved Rock and Aztalan. I followed Douglas (1976, also following Emerson et al. 2007) and did not attempt to identify specific Late Woodland types as I agreed the assemblage itself looked overly similar to a variety of regionally local types.

Body Sherds

The 2013 excavations yielded 3,763 ceramic sherds weighing 8,223.2 g. Of that total, 79% of all body sherds came from Structure 4 and its two internal features. The excavations of the 2016 Trench in Mound A recorded 1,478 ceramic body sherds (2,131.7 g). Nearly 16% of those body sherds came from feature contexts. Grit temper was dominant among all body sherds, accounting for over 91% of the total assemblage by count (89% from Block 1 excavations and 94% from Mound A) (Table 5.3). Shell temper made up the majority of the remaining temper types at 8%, followed by grit/grog (1%), limestone (0.2%), grit/shell (0.1%), and grog (0.02%). Shell tempered sherds accounted for 5% by count of the Mound A assemblage and over 9% of the Block 1 assemblage.

The most common surface treatment on grit or mixed grit tempered sherds was plain or too eroded to determine a surface treatment (nearly 76%) (Table 5.4). Cordmarking and smoothed over cordmarking was noted on 16% of the body sherds, with the remainder of the grit and grit mixed tempered assemblage showing small percentages of red or dark slips, burnishing, and fabric impressed. Two body sherds weighing 7.0 g (1 each from Block 1 and the 2016 Trench) were fabric impressed. Surface treatments applied on shell tempered sherds was slightly more diverse with 53% of the assemblage being plain or too eroded to identify. Over 28% of shell tempered body sherds were treated with a red slip and nearly 14% with a dark slip. Burnishing is also recorded in very small numbers. One well-made burnished specimen was identified as a body sherd of a Powell Plain type. One sherd was recognized as a body sherd to a Cahokia Red Filmed type. Both examples were recovered from the 2016 Trench in Mound A.

| | TOTAL (Ct.) | TOTAL (Wt.) | Percent (ct.) | Percent (wt.) |
|---|---|---|---|---|
| Grit | 4693 | 9277.2 | 90.5% | 92.4% |
| Grit/Grog | 62 | 215 | 1.2% | 2.1% |
| Grit/Shell | 5 | 4.7 | 0.1% | 0.0% |
| Grit/Chert | 5 | 47.8 | 0.1% | 0.5% |
| Grog | 1 | 0.4 | 0.0% | 0.0% |
| Shell | 410 | 495.2 | 7.9% | 4.9% |
| Limestone | 9 | 3.4 | 0.2% | 0.0% |
| TOTALS | **5185** | **10043.7** | **100.0%** | **100.0%** |

Table 5.3. Combined 2013 and 2016 Mound A and Block 1 body sherd temper totals and percentages.

| | Pl | | Pl/Er | | CM + CMO | | S | | SBN | | Bn | | FI | | TOTALS | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ct. | Wt. | Ct. | Wt. | Ct. | Wt. | Ct. | Wt. | Ct. | Wt. | Ct. | Wt. | Ct. | Wt. | Ct. | Wt. |
| Gr | 237 | 591.5 | 943 | 431.2 | 179 | 829.9 | 7 | 9.3 | - | - | - | - | 1 | 5.5 | 1367 | 1867.4 |
| Gr/Gg | 1 | 3.6 | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 3.6 |
| Gr/Sh | - | - | 2 | 1 | 1 | 2.7 | - | - | - | - | - | - | - | - | 3 | 3.7 |
| Gr/Ct | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 0 |
| Gg | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 0 |
| Sh | 21 | 103.6 | 37 | 11.6 | - | - | 10 | 34.9 | - | - | 2 | 2.7 | - | - | 70 | 152.8 |
| Ls | - | - | 9 | 3.4 | - | - | - | - | - | - | - | - | - | - | 9 | 3.4 |
| MD. A SBTOTAL | **259** | **698.7** | **991** | **447.2** | **180** | **832.6** | **17** | **44.2** | **0** | **0** | **2** | **2.7** | **1** | **5.5** | **1450** | **2030.9** |
| Gr | 216 | 332.7 | 2475 | 2373.4 | 630 | 4683.5 | 3 | 1.5 | - | - | 1 | 17.2 | 1 | 1.5 | 3326 | 7409.8 |
| Gr/Gg | 39 | 75.8 | - | - | 18 | 119.6 | - | - | - | - | 4 | 16 | - | - | 61 | 211.4 |
| Gr/Sh | 1 | 0.3 | 1 | 0.7 | - | - | - | - | - | - | - | - | - | - | 2 | 1 |
| Gr/Ct | - | - | - | - | 5 | 47.8 | - | - | - | - | - | - | - | - | 5 | 47.8 |
| Gg | - | - | 1 | 0.4 | - | - | - | - | - | - | - | - | - | - | 1 | 0.4 |
| Sh | 11 | 4.3 | 150 | 55.6 | 15 | 114.1 | 144 | 152.2 | 18 | 15.3 | 2 | 0.9 | - | - | 340 | 342.4 |
| Ls | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 0 |
| BLK. 1 Sbtotal | **267** | **413.1** | **2627** | **2430.1** | **668** | **4965** | **147** | **153.7** | **18** | **15.3** | **7** | **34.1** | **1** | **1.5** | **3735** | **8012.8** |
| TOTALS | **526** | **1111.8** | **3618** | **2877.3** | **848** | **5797.6** | **164** | **197.9** | **18** | **15.3** | **9** | **36.8** | **2** | **7** | **5185** | **10043.7** |

Table 5.4. Body sherd surface treatments for 2013 and 2016 excavations.
(GR=Grit; GG=Grog; SH=Shell; CT=Chert; LS=Limestone; PL=Plain; PL/ER=Plain/Eroded; CM+CMO=Cordmarked + Smoothed over cordmarked; S=Slipped; SBN=Slipped + Burnished; BN=Burnished; FI=Fabric Impressed)

A total of 48 decorated body sherds were identified (Table 5.5). The majority of these (*n*=39) were grit tempered sherds. Of the grit tempered decorated sherds, twisted-cord impressions were the most prevalent category, making up 82% (*n*=32) of the assemblage. Cord twist was identifiable in 22 samples. Thirteen of those samples exhibited a Z-twist and the remaining nine samples displayed an S-twist cord. Incising and incising with punctates made up the remaining decorated grit tempered specimens (*n*=6). The three sherds (3.5 g) with incising and punctates were likely body sherds of Vessel 4-1 and were recovered from the basin of Structure 4. One grit/grog tempered applique or lug (weighing 9.5 g) was identified from the Structure 4 basin assemblage. The remaining nine decorated body sherds were shell tempered and recovered from the 2016 Trench. One sherd was incised with a red slip applied to the inside of the vessel. The remaining eight sherds showed incised lines. All nine sherds were recovered from the basin fill for Structure 9.

| | CIS | | CIZ | | CIU | | IC | | ICP | | AP/LG | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ct. | Wt. | Ct. | Wt. | Ct. | Wt. | Ct. | Wt. | Ct. | Wt. | Ct. | Wt. | Ct. | Wt. |
| Grit | 5 | 48 | 6 | 4.2 | 5 | 7 | 2 | 1.7 | - | - | - | - | 18 | 60.9 |
| Grit/Grog | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 0 |
| Shell | - | - | - | - | - | - | 9 | 31.6 | - | - | - | - | 9 | 31.6 |
| **MOUND A SUBTOTAL** | **5** | **48** | **6** | **4.2** | **5** | **7** | **11** | **33.3** | **0** | **0** | **0** | **0** | **27** | **92.5** |
| Grit | 4 | 12.3 | 7 | 12.3 | 5 | 127.5 | 1 | 1.5 | 3 | 3.5 | - | - | 20 | 157.1 |
| Grit/Grog | - | - | - | - | - | - | - | - | - | - | 1 | 9.5 | 1 | 9.5 |
| **BLOCK 1 SUBTOTAL** | **4** | **12.3** | **7** | **12.3** | **5** | **127.5** | **1** | **1.5** | **3** | **3.5** | **1** | **9.5** | **21** | **166.6** |
| **TOTALs** | **9** | **60.3** | **13** | **16.5** | **10** | **134.5** | **12** | **34.8** | **3** | **3.5** | **1** | **9.5** | **48** | **259.1** |

Table 5.5. Body sherd decoration for 2013 and 2016 excavations.
(CIS=Cord Impression S-Twist; CIZ=Cord Impression Z-Twist; CIU=Cord Impression Unid-Twist; IC=Incising; ICP=Incising + Punctates; AP/LG=Applique/Lug)

### *Other Body Sherds*

Douglas (1976) reported nearly 107 kg of body sherds from his Collins Complex excavations of Mound A and the encompassing area. Grit/grog tempered sherds accounted for

96.7% of the assemblage, with shell tempered and limestone tempered sherds (combined) making up the remaining 3.3%. Douglas' assemblage exhibited similar temper ratios (by weight) to that of the 2013/2016 assemblage, with Douglas having a slightly higher total percentage of shell tempered sherds (8%). He summarized the grit/grog tempered assemblage as having mostly coarse and abundant temper with poorly sorted silty clays (1976:193). He described the surface treatments of the grit tempered assemblage,

> Exterior walls are usually cord-roughened by cord-wrapped paddle; the resultant cordmarking is sometimes obliterated to a variable degree by smoothing, this most often confined to the upper portion of the vessel above the shoulder; some few smoothed vessels may never have been cordmarked; cordmarking from just below the shoulder to the lip generally runs perpendicular (or nearly so) to the lip, while on the remainder of the vessel there is seldom any regularity to the angle at which the paddle was held (Douglas 1976:194).

Douglas stated that many of the grit/grog sherds exhibited evidence of cooking. Within the 2013/2016 collections, only one percent (*n*=61) of the total body sherd collected had distinctive residue or were burned, but twice as many were recovered from Block 1 than Mound A.

Riley et al. (1978) reported a total of 2,247 body sherds weighing[41] 4,707.4 g were recovered from seven different excavation units (Table 5.6). In a similar pattern from the other excavations (Douglas' and 2013/2016), 94.5% (by weight) of the total body sherd assemblage consisted of grit tempered sherds. Shell temper made up 4.1%, followed by shell/grit, limestone, and shell in trace amounts. Plain or no surface treatment made up the greater portion of the assemblage with 663 sherds. Smoothed over cordmarking accounted for 494 sherds, followed by cordmarked sherds at 290. The cordmarked category was likely combined or included cord impressed and cord-wrapped stick impressed based on rim drawings labeled as "cordmarked"

41 Weight information is missing for Riley's excavation unit X-103, which is significant. The highest ceramic totals came from this unit (*n*=728), which undercounts the total ceramics by weight for comparison. Only the body sherd count and temper types are reported and included here. That said, based on the percentages of grit versus shell temper by weight calculated from other units at 90% or greater grit temper, I assume the pattern would hold for this off-mound unit as well.

with clear cord impressions. In other words, unlike Douglas and myself, Riley's team did not differentiate between the two categories. The remaining surface treatments documented includes 16 sherds with a red slip, 1 sherd listed as "simple stamped" and no treatment identified on the residual 783 sherds.

Overall, the body sherd composition from Riley's excavations was in line with the overall Collins Complex assemblage as far as temper ratios. Similar to the other body sherd assemblages from Mound A, Riley's numbers were similar. The highest percentage of shell tempered sherds (by weight) came from Mound A at a little over 9% of the total body sherds recovered from his excavations.

| | Temper | Cordmarked | Smoothed Over CM | Red Slip | Plain | Simple Stamped | Unifacial/Unid |
|---|---|---|---|---|---|---|---|
| X101 | Grit | 59 | 68 | - | 86 | - | 142 |
| | Shell | - | - | - | 1 | - | 1 |
| | Grog | - | - | - | 1 | - | - |
| | Unid. | - | - | 1 | 3 | - | 6 |
| X102 | Grit | 70 | 107 | 1 | 195 | 1 | 251 |
| | Shell | - | 1 | 2 | - | - | - |
| X103 | Grit | 102 | 206 | - | 208 | - | 200 |
| | Shell | - | - | 1 | 2 | - | - |
| | Unid | - | - | - | 4 | - | 5 |
| X104 | Grit | - | 1 | - | 6 | - | 2 |
| Md A | Grit | 54 | 95 | - | 131 | - | 148 |
| | Shell | - | 1 | 7 | 17 | - | 1 |
| | Limestone | - | - | 4 | - | - | - |
| | Shell/Grit | - | - | - | 6 | - | 1 |
| | Unid. | - | - | - | - | - | 5 |
| X108 | Grit | 5 | 14 | - | 2 | - | 20 |
| Md D | Grit | 6 | - | - | 2 | - | 10 |
| X110 | Grit | - | 1 | - | 1 | - | 1 |
| | **TOTALS** | **296** | **494** | **16** | **665** | **1** | **793** |

Table 5.6. Temper and surface treatments for Riley's excavations.

Ceramic Disks and Clay Things

A total of 211 pieces of burned clay[42] (BC) weighing 74.4 g came from excavations of Blocks 1 and 2. Nearly 90 % came from Structure 4 and its internal features. For Mound A excavations, I recorded a total of 96 BC weighing 34.4 g. TU 3 (the basin of Structure 9) contained 23% of the BC. A total of 705 pieces of daub weighing 250.2 g were recovered from 2016 Trench test units. The overall high number of daub was significant considering that at the East St. Louis site 1,779 daub fragments were recovered from 479 features. Authors also note that the majority of the daub recovered was non-architectural (Brennan et al. 2019). The majority of daub fragments from the Collins Complex were primarily identified because of the architectural impressions. Of the 705 fragments, nearly 34 % (*n*=237) came from Test Unit 10 of the 2016 Trench and accounted for nearly 62% by weight.

The primary feature from Test Unit 10 was Feature 13a and 13b, a very large (~50 cm wide) wall trench that had been rebuilt, dismantled and then capped with yellow clay. It is unknown if these were the rebuilt wall of a very large building or a large, isolated wall (see Figure 3.20). A total of 283 daub fragments (40%) weighing 55.5 g (22%) came from Test Unit 15, the farthest west unit of the 2016 Trench. No known architectural features were identified in this unit, though the south profile indicated the presence of several re-excavated pits (not verified in plan). The north profile did indicate possible posts or wall trenches (see Figures 3.22). The amount of daub present in the 2016 sample suggested that at least some of the daub could have been structural, rather than just incidentally impressed clay.

42 Materials from all 2013 excavations, which includes Blocks 1 and 2, had already been analyzed before I learned to identify the difference between daub and burned clay and is therefore presented here as burned clay. However, some of this may in fact be daub.

*Other Ceramic Disks and Clay Things*

Douglas (1970:28) reported six vessel appendages. He described five of them,

> The one lug from a (red-filmed, grit/grog) bowl is crudely modelled by pinching to represent a bird (?) head. One of the jar lugs is a drooping lug with a slight concavity on the underside, so that it would have served well for lifting the jar if a similar lug was present opposite it. The other jar lug is perforated, more likely for decoration than for suspension. The lug and the vessel interior bear cord impressions. Of the remaining two, one is also perforated, and was joined to the body of the vessel by riveting. The other is simply a crude, elongate glob of clay pressed onto the rim. Apparently unriveted. The last two also bear single cord impressions.

The effigy (weighing 59.5 g) was reported from Feature 4, a small pit from a test unit in Mound A prior.

A combined weight total of 2,520.8 g of burned clay was reported from Douglas' excavations (Douglas 1976). Nearly 34% of the burned clay (by weight) was recovered from the basin of Structure 7. No information was listed, which indicated that daub was recovered or identified separate from the burned clay.

Riley's excavation data reported one ceramic disk weighing 12.2 g and being 4.8 mm thick. The disk was described as plain and altered from a body sherd. It was reported from Feature 18 of Mound A, that a large midden deposit off the northeast apron was used to build up the side of the mound.

A total of 3 clay things which weighed 6.7 g were recovered from excavations conducted by Riley. Two of these were likely broken handles/loops from vessels. One was grit tempered and one was shell tempered, both are plain. The third item was recorded as a bird head effigy. It was recorded as having grit temper. All three came from excavation unit X102 (see Figure 4.1). Riley's team recorded the presence of burned clay and clay clumps, but no tally was provided in the report nor did I generate site unit totals from the original material inventory cards.

Vessels

In total, a minimum number of 67 vessels represented by 138 rims and sherds weighing 1,161.8 g made up the 2013 and 2016 vessel assemblage (see Appendix D for a vessel inventory of 2013 and 2016 excavations). Jars were the dominant form (*n*=47) in the assemblage followed by bowls (*n*=3), and a single funnel (Figure 5.7). Form could not be determined for 16 vessels (24%). Many of the indeterminate vessel types were a result of broken or fragmented rims that made form identification difficult or impossible. The Structure 4 basin yielded 39 (58%) of the 67 vessels. An additional 4 rims were too fragmentary to assign vessel numbers and therefore are left out of the total vessel count. A complete vessel inventory and associated metrics and attributes can be found in Appendix C.2. Also included in the assemblage were three possible funnel sherds (weighing 66.5 g), all with plain exteriors (George Holley personal communication). All three were recovered from Structure 4 basin fill.

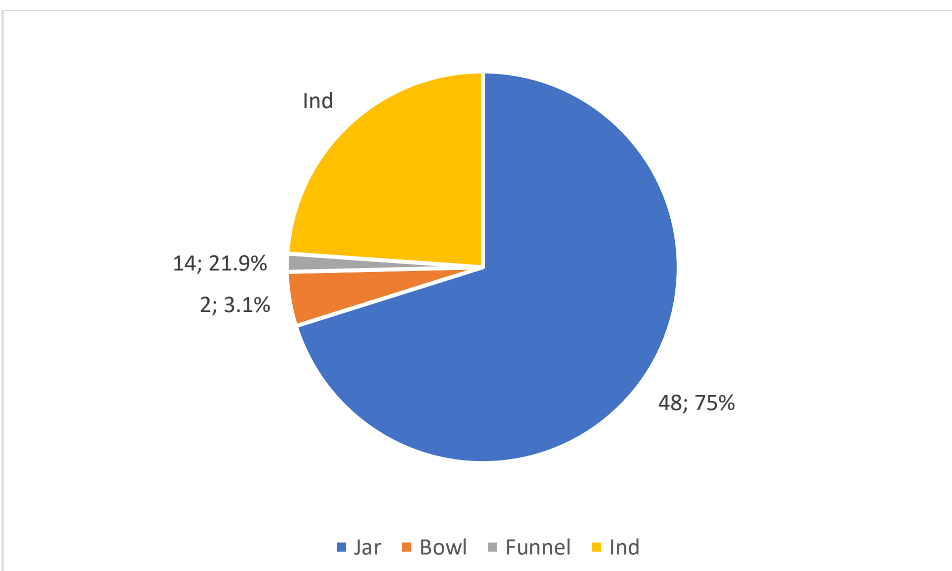


Figure 5.7. Vessel assemblage by type from the 2013 and 2016 excavations.

*Jars*

The predominant vessel type in the assemblage was jars (*n*=48), making up 75% of the total vessel assemblage. Grit temper was the prominent temper type accounting for 83% of the jar assemblage. Shell vessels (including one vessel with a shell/limestone mix) and grit/grog (including one vessel with just grog) vessels each made up 8.5% of the jar assemblage. Unmodified lips were the most common, making up 33% of the jars. Collars and extruded lips both made up 17% and a folded lip accounted for 15% of the jars. Jars exhibited similar surface treatments and decoration as the body sherds, with the addition of castellations and notching.

The basin fill of Structure 4 in excavation Block 1 yielded 39 vessels (Figure 5.8). Seventy-one percent (*n*=35) of the jars from Structure 4 were grit tempered. Two jars were tempered with a combination of grit and grog, followed by one grog tempered jar and two shell tempered jars. Sixteen of the 35 jars from Block 1 excavations exhibited cordmarking or smoothed over cordmarking (*n*=4) as a surface treatment. The orientation of the cordmarking was vertical on 14 vessels and diagonal on 2 vessels. All 14 vertically cordmarked vessels were tempered with grit. The two diagonal cordmarked vessels were the two grit and grog tempered vessels. The single grog tempered vessel was treated with a red slip on the exterior. Last, there were two shell tempered vessels represented in the Structure 4 vessel assemblage. One vessel had no identifiable surface treatment, and a dark slip was applied to the second shell tempered vessel.

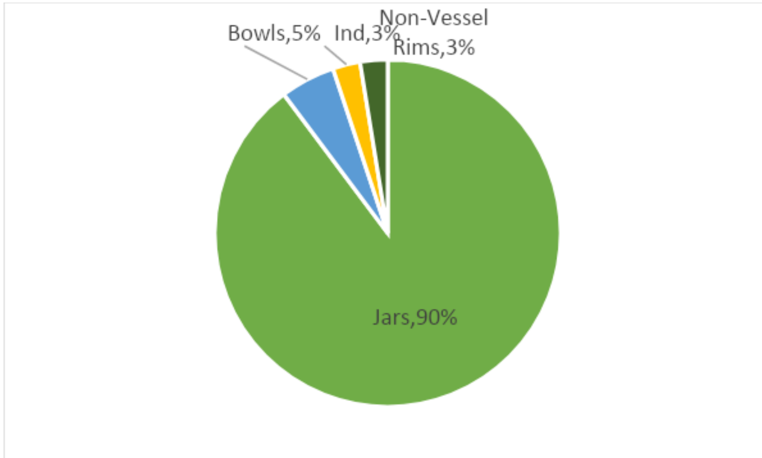


Figure 5.8. Total vessels and rims (by type) recovered from Structure 4.

Five of the 25 grit tempered vessels from Structure 4 were collared (Table 5.7). One vessel was also castellated (vessel 4-4). Vessel 4-1 was the only vessel with exterior decoration (Figure 5.9). The decoration[43] consisted of narrow incised lines (linear left diagonal) above two horizontal incised lines, below which was a line of punctates or impressions (like fingernails). Inside some of the linear left diagonals were short vertical incised lines. A slight brown slip was applied to the exterior of Vessel 4-1 and the lip superior exhibited left diagonal notching. Vessel 4-1 found in the basin fill of Structure 4 matched a vessel identified by Douglas (Figure 5.10). Three additional vessels exhibited interior or lip decoration. Vessel 4-5, a grit tempered and cordmarked jar, also displayed cordmarking (slightly smoothed) on the lip superior. Vessel 4-32, a collared grit tempered vessel, had vertical double cord impressions (z-twist) applied around the lip interior at regular intervals. Vessel 4-12 was a grit tempered and plain surfaced jar with a form of a Hyer Plain; a grit tempered version of a Powell Plain jar (see Richards 1992). No rim was recovered, but over 41 sherds (weighing 233 g) reconstructed the vessel form.

| | | Block 1 | | Mound A | | Total | |
|---|---|---|---|---|---|---|---|
| Tempers | **Jar Forms** | **Ct.** | **%** | **Ct.** | **%** | **Ct.** | **%** |
| Shell* | Collared | - | - | - | - | - | - |

43 One of the non-vessel rims not included in the vessel counts, exhibits the same decoration as Vessel 4-1 and that of Douglas'. It was recovered from surface contexts directly southeast of Structure 4.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Beveled | - | - | - | - | - | - |
| | Extruded | 1 | 3 | - | - | 1 | 2 |
| | Folded | - | - | - | - | - | - |
| | Rolled | - | - | 1 | 13 | 1 | 2 |
| | Thickened | - | - | - | - | - | - |
| | Unmodified | 1 | 3 | 1 | 13 | 2 | 4 |
| | Indeterminate | - | - | - | - | - | - |
| Grit | Collared | 7 | 18 | 1 | 13 | 8 | 17 |
| | Beveled | 2 | 5 | - | - | 2 | 4 |
| | Extruded | 5 | 13 | 2 | 25 | 7 | 15 |
| | Folded | 7 | 18 | - | - | 7 | 15 |

Table 5.7. 2013 and 2016 Lip shapes by temper. *Includes 1 vessel that is shell/limestone tempered.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Rolled | - | - | - | - | - | - |
| | Thickened | 2 | 5 | 2 | 25 | 4 | 9 |
| | Unmodified | 9 | 24 | - | - | 9 | 20 |
| | Indeterminate | 1 | 3 | - | - | 1 | 2 |
| Grit/Grog | Indeterminate | - | - | - | - | - | - |
| | Collared | - | - | - | - | - | - |
| | Beveled | - | - | - | - | - | - |
| | Extruded | - | - | - | - | - | - |
| | Folded | - | - | - | - | - | - |
| | Rolled | - | - | - | - | - | - |
| | Thickened | - | - | - | - | - | - |
| | Unmodified | 3 | 8 | 1 | 13 | 4 | 9 |
| | Indeterminate | - | - | - | - | - | - |
| TOTAL | | **38** | **100%** | **8** | **100%** | **46** | **100%** |

Table 5.7 (Cont.) Lip Shapes by temper. *Includes 1 vessel that is shell/limestone tempered.

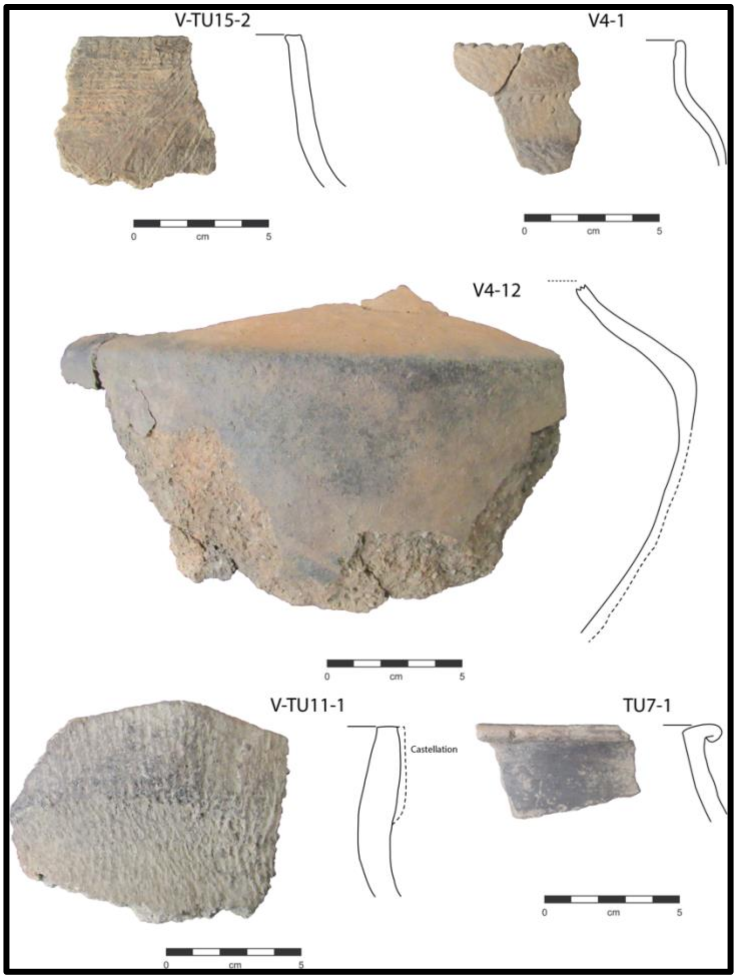


Figure 5.9. Rim profiles and images of selected vessels from 2013 and 2016 excavations.

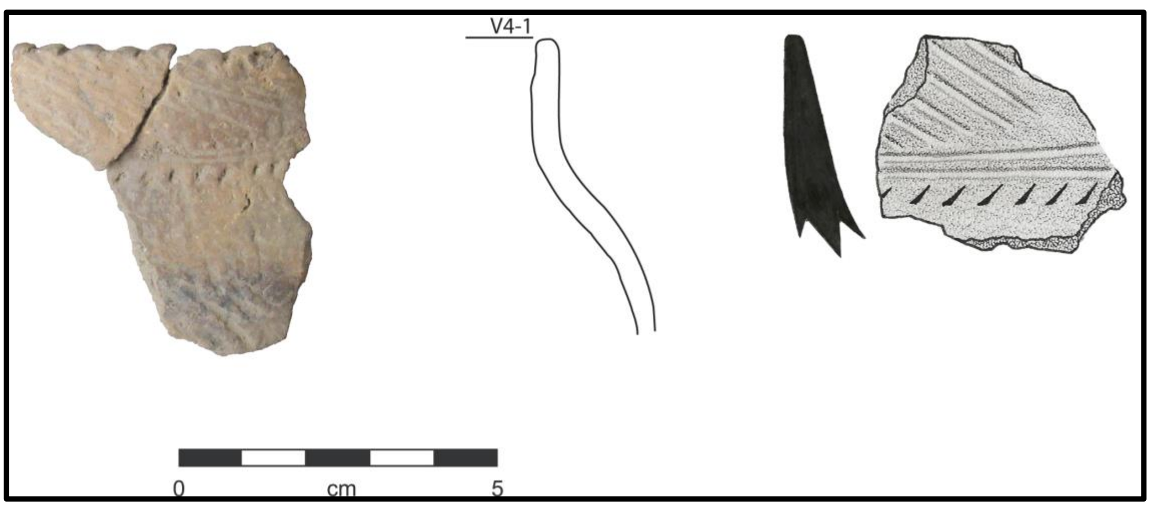


Figure 5.10. Similar vessel decoration across excavations. Left: Vessel 4-1 from Structure 4 (2013); Right: Vessel from Structure 7 (Douglas).

A total[44] of 11 jars came from the 2016 Trench excavations of Mound A, which accounted for 31 % of the jar assemblage. Grit tempered vessels comprised 73% (*n*=8) of the Mound A jars, followed by 1 grit and grog tempered vessel, 1 shell tempered, and 1 shell with limestone tempered vessel. The majority of the grit tempered vessels were plain (*n*=6). Two grit tempered vessels exhibited cordmarked surfaces in a vertical orientation. Both the shell and shell with limestone tempered vessels were dark slipped. Vessel TU 11-1 was collared and castellated. The lip superior was also cordmarked. Soot was evidenced both inside the vessel and on the exterior. Vessel TU15-2 was tempered with grit and grog and was decorated with a distinct pattern of double cord impressed (z-twist) pattern of nested chevrons with double cord impressed (z-twist) horizontal cord impressions in the V trough. The lip also exhibited vertical exterior notching (see Figure 5.12). This pattern was very similar to Maples Mills Cord Impressed from the Central Illinois River Valley (Esarey 2000). Douglas' (1976) ceramic assemblage also included several vessels with Maples Mills/Mossville-like decoration (Figure 5.11).

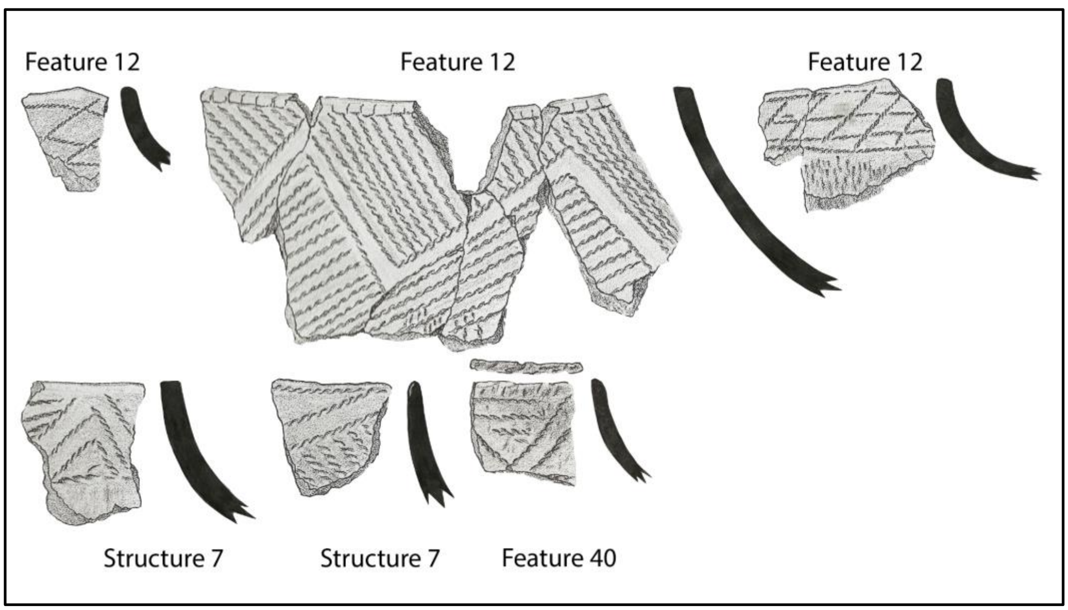

Figure 5.11. Examples of possible Maples Mills and Mossville vessels from Douglas' excavations.

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44 The 'surface' of Mound A in which I encountered in 2016 was actually nearly 1 meter below the original mound surface due to the previous legacy excavations. As such I include vessels designated as surface contexts (900s) from my 2016 excavations.

Only 30% (*n*=20) of all vessels could be measured for an orifice diameter (Figure 5.12). I grouped[45] the 20 measurable vessels into 5 cm incremental diameter ranges following Douglas (1976) for a comparison across excavations (Table 5.8). The sample size for grit/grog and shell tempered vessels was too low to provide a meaningful comparison of jar sizes by temper. The orifice diameter of the largest vessel, TU7-1 (see Figure 5.9), measured 52 cm. TU7-1 was shell tempered with a plain exterior and a dark slipped exterior and lip. Two refitting rims comprised the vessel. Each rim was recovered from opposite ends of the 2016 Trench in Mound A. The primary rim (pictured above) was recovered immediately northeast of Structure 9 from an area that I suspected was the continuing basin fill for said Structure. The second portion of the rim was recovered from the eastern area of EB1 (see Figure 3.16). The orifice diameters between Mound A and off-mound followed the pattern for feasting evidence put forth by Blitz (1993), where there should be a greater number of large vessels and very few small vessels from the mound. This is discussed in more detail below with a comparison of Douglas' vessel data.

45 Some vessel orifice diameters were only measurable to an accurate cm range. If the measured range overlapped 1 or more of Douglas' ranges, I placed the vessel into the range that most encompassed the measured diameter range. For example, if a vessel measured 16-22 cm I placed it within Douglas' 16-20 cm range as it encompassed more of the original range than did the next size category (21-25 cm).

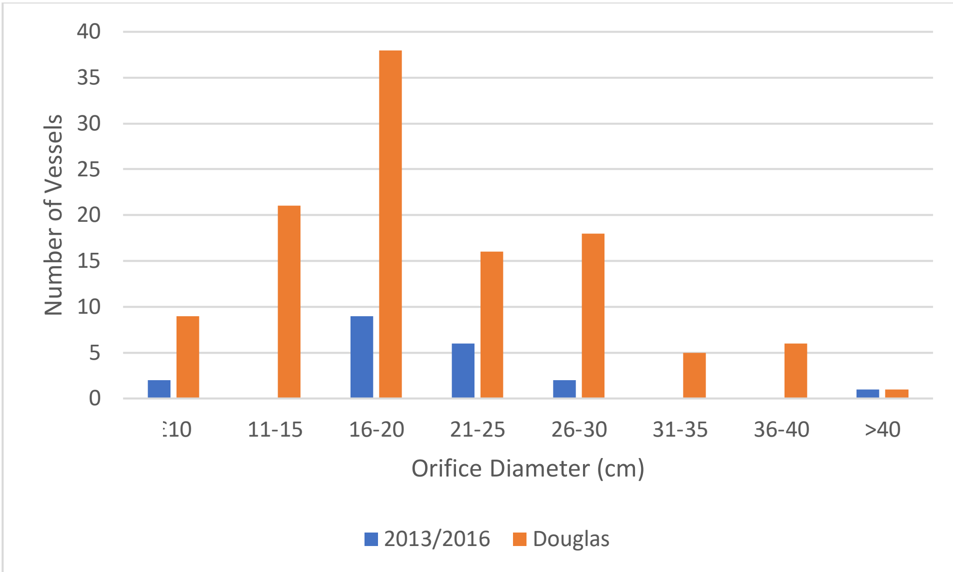

Figure 5.12. Comparison of orifice diameters from 2013/2016 vessels and Douglas' vessels.

| | Orifice Diameter (cm)[1] | | | | LP Ratio | | | |
|---|---|---|---|---|---|---|---|---|
| Temper | Mean | Count | Min. | Max. | Mean | Count | Min. | Max. |
| Grit | 19.6 | 17 | 10 | 30 | 0.8 | 6 | 0.51 | 0.96 |
| Shell[2] | 52 | 1 | - | - | 0.59 | 3 | 0.54 | 0.64 |
| Grit/Grog[3] | 18 | 3 | 10 | 28 | 0.9 | 1 | - | - |
| Jar Form | | | | | | | | |
| Collared | 20.4 | 5 | 16 | 23 | - | - | - | - |
| Beveled | 22 | 1 | - | - | - | - | - | - |
| Extruded | 18 | 2 | 18 | 18 | 0.82 | 6 | 0.64 | 0.96 |
| Folded | 18.8 | 5 | 10 | 30 | - | - | - | - |
| Rolled | 52 | 1 | - | - | 0.54 | 1 | - | - |
| Thickened | - | - | - | - | - | - | - | - |
| Unmodified | 18.8 | 6 | 16 | 28 | 0.75 | 2 | 0.59 | 0.9 |
| Indeterminate | - | - | - | - | 0.51 | 1 | – | - |
| | | | | | | | | |
| [1]:For ranges I took the average of the range and for greater than or equal to, I took the equal to. | | | | | | | | |
| [2]: Include 1 vessel with some Limestone temper | | | | | | | | |
| [3]: Includes 1 vessel with just Grog temper | | | | | | | | |

Table 5.8. Orifice diameter and LP ratio metrics for all measurable jars from 2013 and 2016.

*Bowls*

Only three bowls were identified in the ceramic assemblage. All three vessels were recovered from the basin fill of Structure 4 and only one was confidently identified as a bowl. Vessel 4-7 was grit tempered with a slightly angular cord marked exterior surface. The vessel had a folded lip with vertical cord impressions (z-twist) on the lip interior. A positive form identification was difficult due to the small size of the sample but was included with the bowls due to the slight curvature present in profile. Vessel 4-8 was also grit tempered, but the exterior lip was decorated with right diagonal z-twist cord impressions. Vessel 4-19, also a grit tempered cord marked bowl (possible), exhibited superior and interior lip notching or impressions (like fingernails).

*Indeterminate Vessels*

There were 14 vessels (21.9%) of indeterminate form. Three of the fourteen came from Mound A and were grit tempered with plain or indeterminate exteriors. Five were recovered from the basin fill of Structure 4 and were grit tempered. Three of these had plain exterior surfaces, one was indeterminate, and one had angular cord-wrapped stick impressions. One grit and grog tempered vessel with a plain exterior was also recovered from Structure 4. The remaining five indeterminate vessels came from non-feature contexts. One indeterminate vessel had a measurable orifice diameter, NF3-2, measuring 22 cm. This vessel is excluded in the orifice diameter table as it is an indeterminate form and came from non-feature contexts.

*Other Vessels*

The material inventories for Douglas' excavations showed 301 rims recovered from features and an additional 30 rims from surface and 'debris concentrations.' His dissertation did not provide a rim count to vessel count ratio. However, he did include drawings and/or profiles for 260 vessels (see Douglas 1976:Plates 1-18). Based on this information there are a minimum of 260 vessels (comprised of 260 rims and body sherds) that made up Douglas' vessel assemblage.

> Vessel shape is generally that of a restricted globular jar with rounded shoulder and gradual neck-shoulder transition; vessels are for the most part very large, some going to an estimated shoulder diameter in excess of 60 cm; the "small" vessels from the site would fall into "medium" and "large" categories at sites with stylistically similar materials (Douglas 1976:195).

Douglas recorded four lip shapes – simple (65.1%), extruded/everted (17.2%), collared (15.1%), and folded (2.5%). His simple lip category included unthickened square, round, flattened, or beveled. His extruded/everted category included thickened lips that were "drawn outward so that there is a noticeable outward extension of the lip" (Douglas 1976:195). Decoration was present, primarily on simple and collared rims in addition to lip modifications.

> Decorative elaboration is in general subdued, on most vessels absent or limited to simple lip modification with one of a variety of stamping tools, either a plain (smooth) stick, a cord-wrapped stick, or a twisted cord. Twenty-three per cent of the rim sample has some form of lip stamp, with markedly variable frequencies of which kind of tool is used for which rim form. Nearly half of the collared rims have stamped decoration, while only about one-fifth of the simple rims and one-tenth of the extruded/everted rims are so treated. Amon stamped collared rims, more than half have cord-wrapped stick stamps, more than one-fourth are cord-stamped, and one-sixth are stamped with a plain stick. In contrast, the preferred tool for simple rims was the twisted cord (nearly two-thirds), followed by plain stick (over one-quarter), with only one-tenth receiving cord-wrapped stick treatment (Douglas 1976:196).

Douglas (1976:198-200) also listed cord impressing, incising, punctation, and castellations/peaks.

> In summary, simple-rimmed vessels differ from all others in that they may have lugs, bosses, or handles attached to the rim, and they may have cord-impressed designs on the surface. Collared vessels may share with simple-rimmed vessels the features of incised design, punctation, and mouth angularity, although these sharings may mean little; incising and punctation are very rare in any case, and differ markedly between examples; mouth angularity is achieved in different ways between the two categories, with only minimal overlap. Extruded/everted and folded-rimmed vessels possess none of these features. There seems to be a strong correlation of cord-wrapped stick stamped lip decoration on collared rims, and twisted cord stamp on simple rims.

Of the inventoried 301 rims[46] from feature contexts, 32% (*n*=96) came from the basin fill of Structure 7. Of those 96 rims, Douglas documented 74 vessels from that assemblage, by far the most recovered from the site (Structure 4 of the 2013 excavations yielded 35 vessels for comparison). Features 32 and 34 – probable structures, yielded 22 and 32 vessels respectively. Two other features, Features 27 and 30, produced significant vessel quantities. Both features were irregular shaped, large (greater than 2 meters) and likely pits. Feature 27 was surrounded by Structures 7, 11, and (Feature) 32 (probable structure). Feature 30 was directly west of the west end of Mound A and a few meters east of Structure 7 (see Figure 4.1). No other feature recorded greater than 10 vessels.

Douglas (1976) noted that a large percentage of his assemblage consisted of large vessels. He was able to measure the orifices of 71% of the vessel assemblage and using diameter ranges of 5 cm increments, he was able to do a broad comparison. "The largest percentage of vessels with a diameter as small as 10 cm" were vessel forms with extruded/everted rims (*n*=34) (Douglas 1976:201). He found that grit tempered vessels and especially collared vessels (*n*=27) were consistently large. He noted that "only among collared vessels does orifice size ever exceed 40 cm." (Douglas 1976:203).

> Particularly because of the low frequency of vessels in the 21-25 cm. orifice range, it was arbitrarily decided that "small" and "large" designations could be used to refer to vessels up to 25 cm. in mouth diameter and 26 cm. and larger, regardless of rim form categories. Forty per cent of all measurable Collins Site vessels fall in the large size group; similar pottery from other reported sites would nearly all fall in my small group (Douglas 1976:203).

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46 Douglas' rim and thus vessel inventory seems to include broken handles/lugs/effigy in the total. With no way of confidently separating out all the identified appendages without personal reanalysis, I have simply used the data Douglas presents in both his material inventories and his dissertation (Douglas 1976).

Douglas hypothesized that a significant portion of vessels from the Collins Complex were not 'household' level size cooking vessels. He compared some of these extremely large vessels with industrial or commercial kitchens (Douglas 1976:206). He went on to explain,

> A very large percentage of the grit-tempered vessels (68 per cent from rim counts or 83 per cent by weight) came from only 15 percent of the features (Feas. 7, 11, 27, 31, 32, 34), all of them large, and all very difficult to define in excavation. Forty-two per cent of measurable pots with an orifice diameter equal to or larger than 26 cm. ("large") came from these features. These features also account for 69 per cent of the fire-cracked rock and limestone from features (by weight). All of these observations are probably closely interrelated. The large size of many of the vessels means that they could not have been moved, at least not easily, when they were in use; the weight of the pot plus the weight of its contents, plus being hot, would require that once it was put in place, it must remain there until it was empty, cold, or broken (Douglas 1976:207).

Douglas' material inventory also included the rims of 6 bowls. Only four were drawn and/or profiled. One bowl from Structure 7 was shell tempered and red slipped with an extruded lip. Three rim sherds representing bowls were recovered from Structure 11. All three were noted as being red slipped and limestone tempered, though Douglas only illustrated and profiled one of the three rims. It was unknown if, though likely, the three rims represented the same bowl. Limestone tempered red slipped bowls were commonly known as Monks Mound Red bowls at Cahokia. A third drawn and profiled bowl came from Feature 29, a pit feature west of Mound A. This bowl was a simple rimmed, shell tempered, restricted bowl. The fourth bowl was the previously described bird effigy. Douglas (1976:28) described this effigy as being from a red slipped and grit/grog tempered bowl.

Riley et al. (1978) reported a total of 49 rims[47] coming from five excavation units, three of which were off-mound, one from Mound A, and one from Mound D (Table 5.9). Of the 49 vessels only eight were drawn and profiled. A single rim was listed as being a shell tempered[48]

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47 Weights for Riley's excavation unit X103 were missing so a total weight of all rims cannot be computed.

48 Individual data from the original material inventory is missing for X103, thus it is unknown if any of those vessels were shell tempered.

jar with an extruded lip and no surface treatment. It was recovered from Feature 18, the midden dump extending the northeast apron of Mound A. A red slipped and extruded grit tempered rim was recovered from Feature 10 (a shallow ash pit/depression) on Mound A. It is likely associated with Structure 5 (temple) and the two formal fire areas (Features 9 and 14).

| | Vessel # | Feat. | Vessel Form | Temp. | Lip | Rim form | Lip Decor | Decor | Surf. Treat. | CM Direct. | Int. | Thick. (mm) | Wt. (g) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| X101 | 101-8 | - | Jar | Gr | Collared | - | - | - | CM | - | Plain | 8 | 1.2 |
| | 101-11 | - | Jar | Gr | Rounded | Slight Flared | - | - | Plain | - | Plain | 12 | 23.7 |
| | 101-9 | - | Ind | Gr | Extruded | Slight Flared | - | - | Plain | - | Plain | 7 | 2 |
| | 101-10 | - | Ind | Gr | Rounded | - | - | - | Plain | - | Plain | 7.5 | 1.6 |
| | 101-7 | St. 2 | Ind | Gr | Square | Straight. | - | - | Smoothed Over CM | Vertical | Eroded | 5.8 | 1.5 |
| | 101-6 | St. 2 | Ind | Gr | Square | - | - | - | Plain | - | Missing | 3 | 0.4 |
| | 101-5 | St. 2 | Ind | Gr | Folded? | - | - | - | Plain | - | Plain | 8 | 1 |
| | 101-4 | St. 2 | Ind | Gr | Rounded | Everted | - | - | plain | - | Plain | 4.2 | 8.4 |
| | 101-3 | F26 (NWT of ST 2) | Jar | Gr | Rounded | - | - | - | Plain | - | Missing | 3.3 | 1.4 |
| | 101-1 | Feat. 2 | Ind | - | Rounded | - | - | - | Plain | - | Plain | 6.6 | 0.7 |
| | 101-12 | - | Jar | Grog? | Extruded | Outcurved | - | - | Plain - Polished | - | Plain | 4.5 | 1.7 |
| | 101-2 | - | Jar | Gr | Collared | Straight | - | - | Smoothed Over CM | - | Plain | 9.7 | 19.2 |
| | 101-13 | - | Ind | Gr | - | - | - | - | - | - | - | - | 1.7 |
| X102 | 102.2 | - | Ind | Grit | Extruded | - | - | - | Smoothed Over CM | - | Plain | 6.65 | 2.49 |
| | 102-1 | - | Jar | Grit | Square | Straight | - | - | Smoothed Over CM | - | Plain | 6.5 | 6.06 |
| | 102-3 | - | Jar | Grit | - | - | - | - | - | - | Plain | 6 | 3.7 |
| | 102-4 | - | Unid | Grit | Flat | straight | - | - | Plain | - | Plain | 6.1 | 6 |
| | 102-5 | - | Jar | Grit | Rounded | slightly flared | - | - | Plain | - | Plain | 6.6 | 7.3 |
| | 102-6 | - | - | Grit | Thickened | straight | Interior Notching | - | Smoothed Over CM | - | Plain | 9.4 | 9.2 |

Table 5.9. Vessel data from Riley's excavations.

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| X103 | 103-2 | - | - | Grit | Extruded | Straight | - | - | Plain | - | - | 7 | - |
| | 103-3 | - | - | Grit | Flat | Straight | - | - | Plain | - | - | 5 | - |
| | 103-4 | - | - | Grit | Flat | Straight | - | - | CM | - | - | 5.4 | - |
| | 103-5 | - | - | Grit | Extruded | Straight | - | - | CM, smoothed | - | - | 7.65 | - |
| | 103-6 | - | - | Grit | Rounded | Slightly Flaring | - | - | plain | - | - | 8.2 | - |
| | 103-7 | - | - | Grit | Extruded | - | - | - | plain | - | - | 9.95 | - |
| | 103-8 | - | - | Grit | Rounded | Straight | - | - | Plain | - | - | 7.4 | - |
| | 103-1 | Feat. 2 | Jar | Grit | Square | - | - | Left Diag. Cord Impr | Plain | - | Plain | 9.5 | 3.8 |
| | 103-9 | - | - | Grit | Extruded | - | - | - | Plain | - | - | 5.4 | - |
| | 103-10 | - | - | Grit | Flat | Slightly Flaring | - | - | Plain | - | - | 5.3 | - |
| | 103-11 | - | - | Grit | Flat | Slightly Flaring | - | - | Plain | - | - | 5 | - |
| | 103-12 | - | - | Shell | Flat | - | - | - | Plain | - | - | 7.6 | - |
| | 103-13 | - | - | Grit | Rounded | - | - | - | Plain | - | - | 7.9 | - |
| | 103-14 | - | - | Grit | Rounded | - | - | - | CM smoothed | - | CM | 7.95 | - |
| | 103-15 | - | - | Grit | Flat | - | - | - | Plain | - | - | 10.65 | - |
| | 103-16 | - | - | Grit | Flat | Straight | - | Hor. cord imp. below lip | CM | | | 7.3 | - |

Table 5.9 (Cont.). Vessel data from Riley’s excavations.

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mound A | 107-9 | - | - | Grit | Flat | In curved | - | - | CM | - | - | 7.1 | 14.2 |
| | 107-10 | - | - | Grit | Flat | Slightly flaring | - | - | Plain | - | - | 12.05 | 14 |
| | 107-11 | - | - | Grit | Flat | - | Sup Cord Imp | - | CM | - | - | 7.6 | 3.1 |
| | 107-12 | - | - | Grit | - | - | - | - | Plain | | | 10 | 15.2 |
| | 107-13 | - | - | Grit | Collared | - | Int. Notch | | Smoothed Over CM | - | - | 8.05 | 1 |
| | 107-2 | - | Jar | Grit | Beveled (Exterior) | Out curved | Ext cord imp (vert) | Left Diag Cord Imp | Plain | - | Plain | 11.25 | 44.7 |
| | 107-1 | - | Jar | Grit | Extruded | Out slanted | Sup Cord Imp | Right Diago Cord Imp (Smth) | Smoothed Over CM | - | Plain | 10.7 | 102.1 |
| | 107-8 | Feat. 10 | Jar | Grit | Extruded | Straight | - | - | Plain w/ Red Slip | - | Plain | 5.45 | 16.4 |
| | 107-7 | St. 5 | Ind | Grit | Flat | Slightly flaring | Ext. Cord wrp stick imp (vert) | - | Smoothed Over CM | - | Plain | 10.5 | 11.8 |
| | 107-6 | Feat.17 | Ind | Grit | Rounded | - | - | - | Eroded | - | Eroded | 4.6 | 0.7 |
| | 107-5 | Feat. 18 | Jar | Shell | Extruded | Out curved | - | - | Plain | - | Plain | 5.1 | 6.3 |
| | 107-4 | Feat. 18 | Ind | Grit | Thickene d | - | - | - | Plain | - | Plain | 9.5 | 0.8 |
| | 107-3 | Feat. 18 | Ind | Grit | Rounded | Straight | - | - | Plain | - | Plain | 10.75 | 7.6 |
| Mound D | 394-1 | - | Jar | Gr | Collared | - | Int. Notch | - | CM | Vertical | Plain | 8 | 1.2 |

Table 5.9 (Cont.). Vessel data from Riley's excavations.

Lip shapes were similar to those recognized by both Douglas and I, including simple, extruded, folded, and collared. Four collared vessels were identified[49] in this assemblage. One was recovered from the far western edges of Mound A and described as grit tempered with

49 Using the original rim profile drawings on the backs of the material inventory cards, I assigned the appropriate lip shape. It was clear that the student workers who did the original analysis were inconsistent with lip shapes and decoration descriptions. All original material inventories are housed at the Illinois State Archaeological Survey.

smoothed over cordmarking as a surface treatment and interior lip notching. Two collared vessels came from the X101 unit south of Mound A. The last collared vessel came from Mound D excavations and was cordmarked with interior lip notching. Vessel[50] 107-7 was a grit tempered vessel recovered from a post hole of the inner wall trench (Feature 12) of Structure 5 (temple) on Mound A. This vessel was described as having a smoothed over cordmarked surface with exterior lip decorations of vertical cord-wrapped stick impressions, giving it a scalloped appearance. There were no orifice measurements recorded or reported, so no size comparisons could be made between assemblages. No specific bowls were identified in the report or the excavation records and the profiles were too informal to make a distinction now. Riley et al. (1978:77) summarizes their overall ceramic assemblage,

> The ceramics were primarily grit tempered, cordmarked, cord-marked smoothed, or smoothed, and showed very little variation, and little or no decoration. A small number of red slipped sherds were recovered, with some being grit tempered and others exhibiting limestone and shell tempering.

Ceramic Summary

As a whole, there was complimentary data from each investigator's assemblage. With Douglas' assemblage as the exception, the majority of the ceramics were small and fragmentary, making vessel form identification difficult for Riley's assemblage and the 2013/2016 assemblage. This made answering bigger questions regarding vessel types and uses between Mound A and off-mound less clear (specifically jars vs bowls/serving ware). However, Douglas' large sample size available from off-mound excavations provided the clearest data. The overall large size of vessels recovered by Douglas indicated non-domestic use. Combined with the large, amorphous features he identified, Douglas (1976:206) hypothesized that these were possibly

50 Riley did not give vessel numbers, but for the ease of discussion and figure identification, I assigned vessel numbers.

shallow pits dug specifically for the use of extra-large cooking pots. These could also be old house basins repurposed for the use of large pots.

The combined orifice data complemented the other site evidence of large-scale feasting and ceremonial events and favorably compared to a study by Blitz (1993) on the village vs mound ceramics from the Lubbub Creek site in Alabama. Blitz determined that feasting and storage activities could not be meaningfully interpreted from vessel shape, ware types, or decoration. He found that vessel size distribution was the best indicator for feasting and storage. Blitz (1993:80) observed that the mound had a "more restricted range of vessel sizes and disproportionately larger vessels than the village sample." The combined orifice data followed this pattern (Table 5.10). The combined orifice data showed a greater size variety off-mound.

| | Mound A | Block 1 | Area 1 (Douglas) |
|---|---|---|---|
| Number of Vessels | 5 | 15 | 114 |
| Mean | 28.4 | 18.5 | 20.6 |
| Median | 23 | 18 | 20 |
| Min | 17 | 10 | 10 |
| Max | 52 | 30 | 42 |

Table 5.10. Combined orifice statistics from 2013, 2016 and Douglas' excavations.

The mean and median orifice diameter from Mound A was larger than those from off-mound contexts and the minimum and maximum also followed a feasting/storage pattern (Blitz 1993). Blitz found that village contexts had greater numbers of smaller vessels while mound contexts had a greater number of larger vessels and few small vessels. The minimum orifice size on Mound A was significantly larger than that from off-mound. The largest vessel in the entire ceramic assemblage (minus Riley's since he did not measure orifice diameters) was a finely made, shell tempered, burnished jar and was recovered on Mound A. Following Blitz (1993), the extremely large size, the burnished surface, and the finely made construction indicated that this was likely a serving container for feasting contexts.

Identifying possible relationships with specific pottery types was difficult. Due to the highly variable and often esoteric local knowledge of ceramic styles in specific regions, Douglas decided not to formally categorize his assemblage into specific types other than noting a few more well-known examples of Mississippian or regional Late Woodland styles (Douglas 1976). Riley too, stuck to basic descriptions of techniques and form. While I am admittedly not well-versed in the local ceramic traditions of the area to be able to discern more specific styles of cordmarking or rim forms, I can point out a few of the more well-known traditions that ultimately connect Collins to a much larger geography.

Douglas (1976:218) mentioned that most people would classify Collins as a collared site, yet they only accounted for 15% of his vessel assemblage. The collared vessels that were present would generally fall within the types of Starved Rock, Aztlan Collared, and Albee Cordmarked. Albee is the more problematic type and has been critiqued by McCord and Cochran (1994:62-64) for being misused with no standard of identification. In other words, the original type by Winters (1967) was the primary issue as he contradicted himself on several of the identifiers. Albee Cordmarked was associated with a wide region of east-central Indiana and far west-central Illinois.

Aztalan Collared was associated with the Aztalan site in southern Wisconsin and Starved Rock Collared was associated with northern Illinois, specifically with the Des Plaines Complex (Hall 1987). Aztalan Collared (Baerreis and Freeman 1958; Richards 1992) and Starved Rock Collared (Hall 1987) were similar in basic morphology, wide-mouthed globular jars with collars (sometimes castellated) but differ in decoration. Starved Rock Collared was generally not decorated with the exception of "tooled notching restricted to the lip and interior rim margin" (Richards 1992:288). Aztalan Collared is typically decorated with "cord impressions, fabric impressions, and lip notching…restricted to the exterior and interior collar and lip" (Richards 1992:269). All three types were present at Aztalan (Richards 1992; Zych 2013). It seems that there are strong relationships between all three collared ware regions.

Additional northern relationships were reinforced with the appearance of several possible vessels that would 'fit' within a Maples Mills and Mossville type (Esarey 2000). Maples Mills and Mossville were cord impressed wares, typically associated with the Central Illinois River Valley. They are often described as close corded impressions in a variety of patterns on the necks and rims of simple rimmed grit-tempered vessels (Esarey 2000). Mossville cord impressed was similar, although these were typically in cross-hatched or more widely spaced patterns (Esarey 2000). The 2013/2016 assemblage included one example, vessel TU15-2, (see Figure 5.9) that looked very similar to Maples Mills examples (see Esarey 2000:Figure 16.7). In Douglas' assemblage there were five examples that looked similar to Maples Mills and 2 Mossville vessels (see Figure 5.11).

Cahokian type vessels were also present in Powell Plain, Monks Mound Red, and Cahokia Red. The extra-large vessel TU7-1 (see Figure 5.9) was possibly a very large Powell Plain pot, with dark slip, burnishing, and extruded lip/everted rim. Douglas also recovered a similar rim from his limited Mound A excavations. One of the most complete vessels recovered during the 2013 excavations was Vessel 4-1, a grit tempered Powell Plain type jar, more commonly referred to as Hyer Plain (Richards 1992). This vessel came from the basin fill of Structure 4. Hyer Plain vessels have been identified at several LW/Mississippian sites outside of Cahokia (Richards 1992). In general, vessels that could be identified to, or similar to, a particular ceramic type made up an assemblage that seemed to exhibit a pattern of early Cahokian contact in northern hinterland sites and is discussed in greater detail in Chapter 6.

## Stone Things

The lithic[51] assemblage from the 2013 and 2016 excavations totaled 22,570 items and weighed 241,306 g (see Table C.1). Douglas recorded[52] a total weight for the lithic assemblage (not including tools) of 1,018,619.1 g. A site total for lithics recovered from Riley's off-mound excavations represented only a sample[53] of count/weight totals (3,406 lithics weighing 54,737.71 g). Riley's lithic assemblage for Mound A totaled 4,183 lithics weighing 82,548.4 g. Combined, this brings a general lithic total across all excavations to well over 30,246 lithics weighing significantly over 1,397,211.6 g. Lithics were by far the most substantial category (by count and volume) of artifact recovered from the Collins Complex[54].

The assemblage as a whole was divided into two categories of analysis – chipped and non-chipped materials. Chipped material was divided into chert and non-chert tools and debris. The non-chipped assemblage consisted of all ground stone items and tools along with fire cracked rock (FCR) and rough rock. All artifact categories, beginning with the chipped stone assemblage, will be summarized from all excavations (if information is available for that category).

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51 The lithic totals presented in this chapter do not include pebbles. These were determined to be non-cultural and derived from the subsoil matrix, particularly the clays. If included, the lithic assemblage totals would be 91,042 weighing 297,213 g.

52 Weights represent only those that are provided by Douglas either in his dissertation (1976: 183 Table 4) or in the excavation notes I was able to recover. He includes weights but not counts for non-tools and gives counts but not weights for tools.

53 A complete lithic inventory was obtained via Riley's excavation records/notes only for X-101 and X-107 (Mound A). The remainder of the lithic assemblage comes from Riley et al.'s (1978) report to the state. These primarily included numbers

54 These numbers do not include any of the data from Dr. Riley's 1977 excavations of the bluff top or surface scrape of Mound A south. Overall lithic counts and weights are far less than what was likely recovered, however even an estimate provides a useful glimpse into the assemblages recovered from the different excavations.

Chipped Stone Assemblage

The total chipped stone assemblage from the 2013 and 2016 excavations came to a count of 4,483 with a weight of 11,650.3 g. Over 76% (70% by weight) of the assemblage was made from Glacial Till. Glacial till deposits were widely accessible from the more local Lemont and Henry Formations (Killey 1999). Color and grain size were broadly variable and primarily identified by remnant cortex. Attica chert made up the second largest category at over 14% (21% by weight). Attica chert was relatively common nearby, occurring in exposures along the Wabash in Fountain and Warren counties in Indiana (Cantin 1996; Koldehoff 1999; Macleod et al. 2015). Attica is often "blue-green in color with blue-grey streaks, bands and mottles." (Macleod et al. 2015:13-14). Other Indiana cherts were recognized in the assemblage in very small quantities – all debitage, including Allens Creek (one flake from Mound C), Holland (one from Mound A and one from near Structure 4), and Kenneth (three flakes from Structure 4). Non-local cherts were also present in small quantities – including Crescent Hills (*n*=8) and High Ridge (*n*=2) Burlington from eastern Missouri just south of St. Louis, Cobden (*n*=5) from southern Illinois, Platteville-Galena (*n*=40) from the Illinois River valley and Starved Rock (*n*=8) from the central part of northern Illinois.

Projectile Points

Projectile points made up the largest chipped tool category with a combined site total count of 37 (weighing greater than 69.5 g), accounting for 45% of all formal tools (Table 5.11). Out of the overall assemblage of the 37 projectile points, 16 were positively identified as a Cahokia point type. An additional 3 points were identified as Madison. Both types are Mississippian in chronology. The remaining points that were identifiable to type were earlier styles and likely curated based on their contexts and chronology.

| | Location | Provenience | Material | Max Length (mm) | Max Width (mm) | Max Thickness (mm) | Weight (g) | Comments |
|---|---|---|---|---|---|---|---|---|
| **Douglas** | V15 | Structure 7 | - | - | - | - | - | Missing base; straight blade |
| | V15 | Structure 7 | - | - | - | - | - | Blade only |
| | V15 | Structure 7 | - | - | - | - | - | Blade only |
| | V15 | Structure 7 | - | - | - | - | - | knife/chert object; broken tip |
| | V15 | Feature 26 | - | - | - | - | - | Knife; Missing tip, broken base, looks reworked |
| | V15 | Feature 26 | - | - | - | - | - | Knife; blade fragment |
| | V15 | Feature 31 | - | - | - | - | - | Tip of a possible triangular point |
| | V15 | Feature 31 | - | - | - | - | - | knife; blade portion |
| | V15 | Feature 31 | - | - | - | - | - | Knife; missing tip and upper blade portion |
| | V15 | Feature 31 | - | 52.0 | 26.0 | - | - | Knife; complete |
| | V15 | PZ/Disturbed | - | - | - | - | - | Knife |
| **Riley** | X101 | 4S 15E | black | 28.9 | 14.2 | 4.3 | 1.4 | Tip |
| | X104 | - | grey | 51.4 | 28 | 6.6 | - | |
| | X104 | - | grey | - | - | - | - | Tip fragment |
| | X110 | PZ, 232N 80E | Tan/grey | 40.75 | 43.6 | 10.3 | 27.2 | missing base |
| | Mound A | 128N 6E, Trench | Grey | 57.8 | 33.5 | 13.8 | 15.1 | Knife Frag; blade and tip |
| | Mound A | 123.5N 1W, Area A | Greyish-White | 25.1 | 12.8 | 5.1 | 3.4 | Knife; blade portion |
| | Mound A | 129N 8W | Beige | 29.2 | 18.1 | 6.7 | 2.6 | Knife? |
| | Mound A | Feature 18 | White | 45 | 26.4 | 13.5 | 15 | Knife; Complete |
| | Mound A | Feature 18 | Black | 38.9 | 16 | 6.3 | 3.6 | Knife; Tip and Blade; Heat Fractured |
| **2013** | V82 | NE Mound Apron | Glacial Till | 40.7 | - | 11.75 | 13.8 | crude biface - some knife use-wear; Missing Tip |
| | V82 | NE Mound Apron | unid | - | - | - | 1.3 | broken, reworked biface frag |
| | V15 | Midden (NF-6) | unid | - | - | - | 0.1 | broken tip. Bifacially flaked - possibly a drill |
| **2016** | Mound A | Trench, MSS | Attica | - | - | - | 3.7 | |
| | Mound A | TU 6 | burlington | - | - | - | 0.6 | |

Table 5.11. Projectile point metrics for all excavations.

*2013 & 2016 Excavations*

The projectile point assemblage (Figure 5.13a-h) from the 2013 and 2016 excavations totaled 10 points (weighing 47 g.), 8 of which were mostly complete and identifiable to type

(Table 5.11). Sixty percent (*n*=6) of this assemblage were identified as the Cahokia point type, and all were recovered from one feature (Structure 4). Five were made from local/semi-local cherts including generic Burlington (*n*=2), Attica (*n*=3) and one from an unidentified chert type that was black with no inclusions. This point (see Figure 5.13g) was crudely made and reworked, but remnant cortex was kept on the center of both the dorsal and ventral sides – one with additional hematite staining. It was recovered from a bone concentration within a midden deposit in the basin of Structure 4. Two of the Cahokia points made from Attica chert had serrated blades (see Figure 5.13e-f). The two Cahokia points made from Burlington chert were finely made with straight blades (see Figure 5.13c-d). The sixth Cahokia point was made from Attica chert and was heavily reworked (see Figure 5.13h). A single Madison point was recovered from surface contexts, as was the only other identifiable point type, a broken Table Rock point made from Glacial Till. Table Rock points were Late Archaic and found throughout Illinois. One Madison projectile point was recovered from the northeast apron mantle of Mound C but is too fragmentary to identify type. The last projectile point of the assemblage was thermally altered and missing its base. However, it was likely Late Woodland.

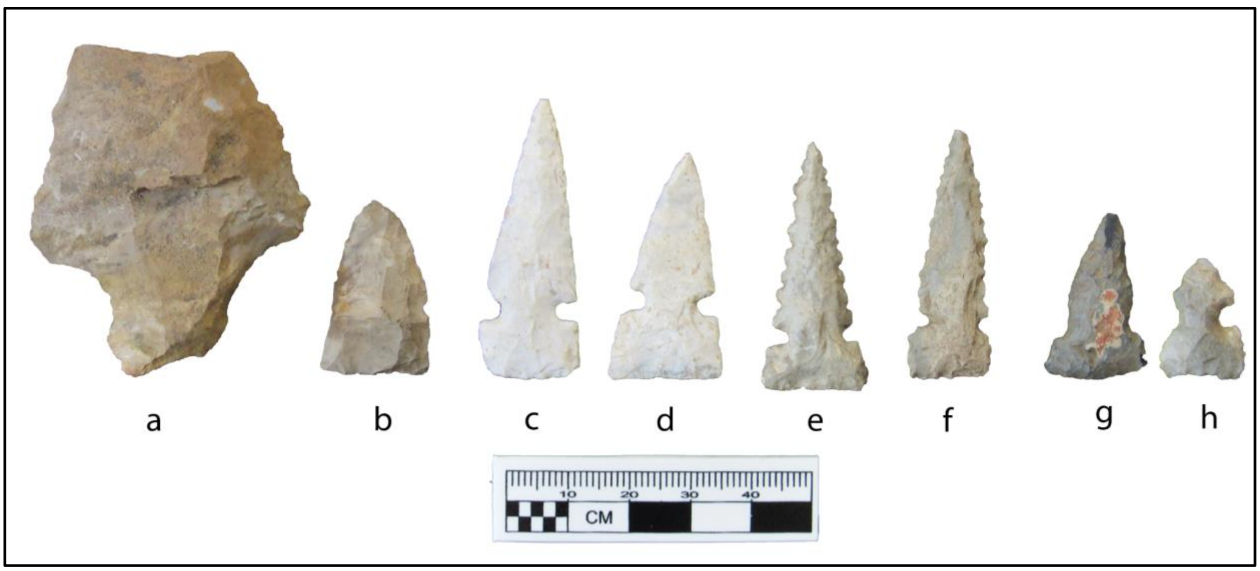

Figure 5.13. Selected projectile points from 2013 and 2016 excavations.

A site total of 18 projectile points (1 additional bone projectile not included in these totals) were recovered by Douglas (1976) (see Table 5.11). Douglas did not assign point types, however through a combination of his artifact drawings and photos, 14 were identified as diagnostic. Eight projectiles were Cahokia side notched points. From a photo of four of these points, the semi-local Attica chert accounted for two points, one was local Burlington, and the fourth looked like it could be Crescent Hills Burlington, the distinct chert type procured from quarries to the northwest of Cahokia. Seven of the Cahokia points came from feature contexts and the eighth Cahokia point was recovered from Mound A. Two points were diagnostic Madison point types. One was more widely typical in shape (classic isosceles). The second was a less common style, having serrations/barbs with shallow side notches. Two points were diagnostic Late Woodland types. One Raccoon Notched and one Schild Spike[55]. The remaining projectile points (*n*=6) were Archaic or unidentifiable point types. The three recovered from feature contexts were likely curated.

Thirteen of the eighteen points were recovered from feature contexts. Two additional points were recovered from Mound A contexts. One third (33%) of these points (*n*=5) came from the basin fill of Structure 7. The five points included two Cahokia, one Madison, one Raccoon Notched, and one Schild Spike.

Riley et al. (1978) recorded nine total projectile points, only one of which came from feature contexts. One of two specifically identified Cahokia side notched projectiles was recovered from a shallow clay basin in Mound A. Specifically, this basin was situated directly east (<10 cm) of the eastern wall trench of Structure 5, indicating a probable structure deposit.

55 Douglas (1976) identified the Raccoon Notched projectile point as a possible Jack's Reef. The blade shape and size make it more likely a Raccoon Notched. Douglas (1976) also categorized the projectile point I identified as a Schild Spike, as a possible hafted knife. The elongated shape, the slightly expanding base and the blade shape make it diagnostic as a projectile point, specifically a Schild Spike.

Riley et al. (1978) noted the base of Madison point from a unit within his X102 excavation block. In total, very little information was provided about the projectile point assemblage (see Table 5.11). Overall, the projectile point assemblages from all excavations were characteristic of the Lohmann phase.

Polished Flakes

No formal adzes or hoes were recovered from any excavations; however, a total of 13 polished flakes weighing 10.2 g were identified during the 2013 and 2016 excavations (Table 5.12). The paucity of formal woodworking tools was notable considering the quantity of cedar posts needed for the construction of Temple C1 beneath Mound C.

| Location | Provenience | Mat. Type | Cortex | Heat Mod.? | Number | Weight (g) | Comments |
|---|---|---|---|---|---|---|---|
| Mound A | Feature 5 | Unid | - | Yes | 1 | 1.1 | |
| Mound A | TU 13 | Glacial Till | Glacial | Yes | 2 | 3.2 | |
| Mound A | TU 13 | Glacial Till | - | Yes | 1 | 0.4 | |
| Mound A | TU 13 | Burlington | - | No | 1 | 0.1 | Adze-like (matte polish on ridges |
| Mound A | TU 9 | Attica | - | Yes | 4 | 1.2 | |
| Block 1 | Feature 4 | Unid | - | No | 1 | 0.1 | Bur-like but sugary |
| Block 1 | Midden (NF-7) | Glacial Till | Glacial | No | 2 | 3.0 | |
| Mound C | NE Mound Apron | Burlington | - | No | 1 | 1.1 | High polish on ridges |
| TOTAL | | | | | 13 | 10.2 | |

Table 5.12. Polished flakes from 2013 and 2016 excavations.

Unhafted Bifaces

The 2013 and 2016 excavations yielded five biface and biface fragments weighing 19.5 g (Table 5.13). A single complete biface was recovered from the northeast mound apron of Mound C during 2013 excavations. It was crudely made from Glacial Till, with some knife use-wear on one lateral side. 2013 and 2016 excavations yielded four biface fragments. One tip fragment from the midden of Block 1 could be the tip of a drill.

A total of 11 biface and biface fragments came from Douglas' excavations (1976), 10 of which were from feature contexts. Seven were complete enough to identify tool use as a knife. Four biface and biface fragments were recovered from the basin fill of Structure 7. One of these Douglas identified as being bifacially flaked with knife wear, but the odd shape of it made him indicate the possibility that it was an unidentifiable chert object. Feature 31, a large possible pit feature, generated four biface and biface fragments. Douglas identified three of these as knives and the fourth as the tip of a possible projectile.

Riley et al. (1978) reported nine biface and biface fragments (see Table 5.13). They identified five as knives or having knife use-wear. Fifty-six percent (*n*=5) of their assemblage came from Mound A. Specifically, two were recovered from Feature 18, a large midden area near the northeast of the mound used to build up that side.

| | Location | Provenience | Material | Max Length (mm) | Max Width (mm) | Max Thickness (mm) | Weight (g) | Comments |
|---|---|---|---|---|---|---|---|---|
| Douglas | V15 | Structure 7 | - | - | - | - | - | Missing base; straight blade |
| | V15 | Structure 7 | - | - | - | - | - | Blade only |
| | V15 | Structure 7 | - | - | - | - | - | Blade only |
| | V15 | Structure 7 | - | - | - | - | - | knife/chert object; broken tip |
| | V15 | Feature 26 | - | - | - | - | - | Knife; Missing tip, broken base, looks reworked |
| | V15 | Feature 26 | - | - | - | - | - | Knife; blade fragment |
| | V15 | Feature 31 | - | - | - | - | - | Tip of a possible triangular point |
| | V15 | Feature 31 | - | - | - | - | - | knife; blade portion |
| | V15 | Feature 31 | - | - | - | - | - | Knife; missing tip and upper blade portion |
| | V15 | Feature 31 | - | 52.0 | 26.0 | - | - | Knife; complete |
| | V15 | PZ/Disturbed | - | - | - | - | - | Knife |

Table 5.13. Bifaces from all excavations.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Riley | X101 | 4S 15E | black | 28.9 | 14.2 | 4.3 | 1.4 | Tip |
| | X104 | - | grey | 51.4 | 28 | 6.6 | - | |
| | X104 | - | grey | - | - | - | - | Tip fragment |
| | X110 | PZ, 232N 80E | Tan/grey | 40.75 | 43.6 | 10.3 | 27.2 | missing base |
| | Mound A | 128N 6E, Trench | Grey | 57.8 | 33.5 | 13.8 | 15.1 | Knife Frag; blade and tip |
| | Mound A | 123.5N 1W, Area A | Greyish-White | 25.1 | 12.8 | 5.1 | 3.4 | Knife; blade portion |
| | Mound A | 129N 8W | Beige | 29.2 | 18.1 | 6.7 | 2.6 | Knife? |
| | Mound A | Feature 18 | White | 45 | 26.4 | 13.5 | 15 | Knife; Complete |
| | Mound A | Feature 18 | Black | 38.9 | 16 | 6.3 | 3.6 | Knife; Tip and Blade; Heat Fractured |
| 2013 | V82 | NE Mound Apron | Glacial Till | 40.7 | - | 11.75 | 13.8 | crude biface - some knife use-wear; Missing Tip |
| | V82 | NE Mound Apron | Unid. | - | - | - | 1.3 | broken, reworked biface frag |
| | V15 | Midden (NF-6) | Unid. | - | - | - | 0.1 | broken tip. Bifacially flaked - possibly a drill |
| 2016 | Mound A | Trench, MSS | Attica | - | - | - | 3.7 | |
| | Mound A | TU 6 | Burlington | - | - | - | 0.6 | |

Table 5.13 (Cont.). Bifaces from all excavations.

Scrapers and Spokeshaves

The 2013 and 2016 excavations reported five scrapers weighing 81.2 g (Table 5.14). Four of the five scrapers were recovered from the basin fill of Structure 4. One was made from a small Glacial Till pebble with a formal scraper bit. Two additional scrapers from Structure 4 were also less formally shaped into a scraper, but both had utilized working elements. One scraper, made from Attica, was recovered from the machine scraped surface of Mound A.

Riley et al. (1978) reported four scrapers (35.6 g) and one spokeshave (5.1 g). Two scrapers were reported from Mound A. One was recovered just north of Structure 5, the second (fragmented) came from the large, formal fire pit Feature 9 – also located just south of Structure

5. One scraper from excavation block X110 was reworked from a corner notched triangular point.

| | Location | Provenience | Type | Material | Max Length (mm) | Max Width (mm) | Max Thickness (mm) | Weight (g) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| Riley | Mound A | 136N 2E, PP #59 | Scraper | White | 43.3 | 21.4 | 10.8 | 11.3 | |
| | Mound A | Feature 9 | Scraper | White | 22.5 | 17.3 | 6.2 | 2.5 | Fragment |
| | X108 | 212N 70E | Spokeshave | grey | 45.4 | 21.4 | 7 | 5.1 | working element retouched |
| | X108 | 212N 74E | Endscraper | light brown | 34.8 | 28.4 | 11.3 | 11.3 | |
| | X110 | PZ, 232N 80E | Scraper | rose brown | 40.6 | 28.9 | 8.8 | 10.5 | corner notched triangular reworked into a scraper |
| 2013 | V15 | Structure 4 | scraper | till pebble | - | - | - | 0.7 | |
| | V15 | Structure 4 | scraper | glacial till | - | - | - | 1.6 | |
| | V15 | Structure 4 | Scraper | glacial till | - | - | - | 52.2 | |
| | V15 | Structure 4 | Scraper | unid | - | - | - | 0.1 | |
| 2016 | Md A | Trench, MSS | Scraper | Attica | - | - | - | 26.6 | |

Table 5.14: Unifaces from all excavations.

Drills and Wedges

One possible micro drill (1.2 g) was recovered from Structure 4 during the 2013 excavations (Table 5.15). It was made from Glacial Till and some cortex was present on the bottom. Douglas (1976) described three formal drills from his excavations, two are from Structure 7 and the third is from a debris concentration on Mound A. All three drills exhibited a flared base with a diamond shape cross-section. Riley’s excavations also yielded three drills, two of which were recovered from Structure 2 in excavation block X101. These drills were described as being elongated triangular drills. The third drill came from Structure 10, a single post circular structure also from excavation block X101.

| | Site | Provenience | Material | Max Length (mm) | Max Width (mm) | Max Thicknes s (mm) | Weight (g) | Comments |
|---|---|---|---|---|---|---|---|---|
| Riley | X101 | Structure 2 | Light Grey | 64.3 | 25.9 | 6.1 | 7.3 | Elongated triangular drill |
| | X101 | Structure 10 (fea 1) | Grey & White | 55.3 | 6.9 | 8.9 | 6.7 | |
| Douglas | Area 1 | Structure 7 | - | 52 | 18 | - | - | Tip missing; formal drill; diamond x-section; flared base |
| | Area 1 | Structure 7 | - | 37 | 15 | - | - | Tip missing; formal drill; diamond x-section; flared base |
| | Area 1 | Debris Concentration 3 | - | 45 | 17 | - | - | Tip missing; diamond x-section; flared base |
| 2013 | Block 1 | Structure 4 | glacial till | - | - | - | 1.2 | Looks like a drill bit, but bottom has cortex. Mini-drill? |

Table 5.15: Drills from all excavations.

A total of three wedges (34.5 g) came from 2013 and 2016 excavations. Two were recovered from Structure 4. One was made from Attica (7.4 g) and the second from Glacial Till (9.2 g). This wedge was rectangular with a snapped top and extensive crushing on the end. One wedge (17.9 g) came from TU 10 from Mound A. Made from Glacial Till, this wedge also exhibited a snapped top.

<u>Informal Tools</u>

Informal tools were distinguished from formal tools in that they were not formally shaped. They were typically expediently made from flakes and had one or more working elements that were flaked into a working bit/element. I am collapsing informal tools with utilized flakes for ease of comparison across excavations. Utilized flakes have evidence of use wear, but no intentional flaking or shaping of a working bit/element present. Riley et al. (1978) listed only utilized flakes, Douglas listed none. This is simply a difference in analysis methods and not representative of the site assemblage (i.e., there are unquestionably informal tools from all excavations, but not separately identified beyond debitage in Douglas' case).

The 2013 and 2016 excavations yielded a total of 48 informal tools (51 individual elements) weighing 294.1 g (Table 5.16). Seventy-one percent (*n*=34) of the assemblage was made from general debitage flakes. Glacial Till was the dominant chert type representing 62.5% (*n*=30) of the total assemblage. Attica accounts for 22% (*n*=10). One informal scraper (8.1 g) made from a Crescent Hills Burlington block fracture was recovered from Mound C. Flakes with a single element or single-type use-wear accounted for 93.7% (*n*=45) of the total assemblage; three samples had two different elements represented. Of the elements present, scraper elements were the dominant type, making up 44% (*n*=20) of the assemblage. Knives made up the second largest element category at 31.3% (*n*=15) with spokeshaves consisting of 22.2% (*n*=10). Informal tools were not evenly distributed across the site. Eighty-one percent (*n*=39) were recovered from excavations in Block 1, nearly 18% (*n*=8) came from Mound A excavations, and only 9% (*n*=4) came from Mound C excavations. Of the 39 informal tools recovered from Block 1 excavations, 18 (46%) came from the basin fill of Structure 4, accounting for 37.5% of the total informal tool assemblage.

| | Mound A | | Mound C | | Block 1 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Element | **Ct.** | **Wt. (g)** | **Ct.** | **Wt. (g)** | **Ct.** | **Wt. (g)** | **TOTAL** | **Total Wt. (g)** | **% of Total** | **% by Weight** |
| Knives | 2 | 3.9 | 1 | 2.9 | 12 | 51.6 | 15 | 58.4 | 31.3% | 19.9% |
| Drill | - | - | | | 1 | 5.7 | 1 | 5.7 | 2.1% | 1.9% |
| Punctate/ Drill | 1 | 3.9 | - | - | 1 | 6.7 | 2 | 10.6 | 4.2% | 3.6% |
| Scraper | 2 | 7.2 | 2 | 9.4 | 16 | 120.8 | 20 | 137.4 | 41.7% | 46.7% |
| Spokeshave | 2 | 24.6 | 1 | 3.9 | 7 | 39.8 | 10 | 68.3 | 20.8% | 23.2% |
| Spokeshave/ Scraper | 1 | 9.3 | - | - | - | - | 1 | 9.3 | 2.1% | 3.2% |
| Punch | - | - | - | - | 1 | 4.6 | 1 | 4.6 | 2.1% | 1.6% |
| Unidentifiable | - | - | - | - | 1 | 2.7 | 1 | 2.7 | 2.1% | 0.9% |
| **TOTALS** | | | | | | | **51** | **297** | | |

Table 5.16: Informal tool elements from 2013 and 2016 excavations.

Riley et al. (1978) only reported excavation block totals of utilized tools without designating specific elements or type use-wear (see Table C.1). They reported 34 utilized flakes weighing 160.4 g from their Mound A excavations and 7 utilized flakes weighing 59.3 g from the excavation block X101. There are four structures represented in X101.

Cores

Across all excavations, a site total of 213 cores weighing[56] greater than 5,751.6 g were collected. Douglas and myself differentiated between core types and tested cobbles (only me). Riley et al. (1978) only noted 'cores' in their assemblages. They also designated 'nodules' and 'chunks' in the material inventory, however I only included specifically identified core totals based on their report (Riley et al. 1978).

A total of 193 cores weighing 5,281.8 g were recovered from the 2013 and 2016 excavations (Table 5.17). Glacial Till was the dominant chert type across all core types accounting for nearly 70% (*n*=135) of the assemblage. Attica accounted for nearly 25% (*n*=48) of the cores present with Burlington Gravel (*n*=3), Quartzite (*n*=2), and unidentified type (*n*=5) making up the remaining portion. Only four cores (all Glacial Till) exhibited evidence of being heat treated. Three core types were identified in the 2013 and 2016 excavations: bipolar, multi-directional, and tested cobbles. Bipolar cores had crushing or step fractures at opposite ends of one or more axes. Multi-directional cores had at least three flakes removed from two or more platforms in apparent random order. With the exception of a few flake scars to test for suitability, Tested Cobbles were entirely covered in cortex. Multi-directional cores made up 44.6% (*n*=86) of the 2013 and 2016 core assemblage. Bipolar cores accounted for 32.6% (*n*=63) and Tested Cobbles made up the remaining 22.8% (*n*=44). In a similar pattern to other tools recovered

56 Weights are missing for Riley's excavation block X103, but the counts are recorded and included here.

during the 2013 and 2016 excavations, cores were not evenly distributed across the site. Block 1 excavations made up 74% (*n*=143) of the total core assemblage. Specifically, Structure 4 within Block 1 accounted for 78% (*n*=112) of the Block 1 totals or 58% of the total core assemblage. A total of 43 cores (22%) came from Mound A contexts and 6 cores (3%) came from Mound C contexts.

| Core Type | Material | Count | Weight (g) | % of Core Type | % of Core Type by Weight |
|---|---|---|---|---|---|
| Bipolar | Attica | 19 | 452.5 | 30.2% | 26.3% |
| | Bur-Gr | 3 | 34.9 | 4.8% | 2.0% |
| | Glacial Till | 37 | 1100.5 | 58.7% | 63.9% |
| | Quartzite | 1 | 15.1 | 1.6% | 0.9% |
| | Unidentifiable | 3 | 118.8 | 4.8% | 6.9% |
| | | | | | |
| Multi-Directional | Attica | 23 | 586 | 26.7% | 24.3% |
| | Glacial Till | 60 | 1512.1 | 69.8% | 62.8% |
| | Quartzite | 1 | 290.2 | 1.2% | 12.1% |
| | Unidentifiable | 2 | 18.5 | 2.3% | 0.8% |
| | | | | | |
| Tested Cobble | Attica | 6 | 214.2 | 13.6% | 18.6% |
| | Glacial Till | 38 | 939 | 86.4% | 81.4% |
| TOTALS | | **193** | **5281.8** | | |

Table 5.17: Core types by material type from 2013 and 2016 excavations.

Douglas (1976:184) reported only three cores (no weights) from his excavations. He stated that two “monopolar conoidal [sp] cores” and a single “bifacial discoidal core” were recovered from feature contexts – he did not seem to include these in the material inventory for his excavations.

Riley et al. (1978) reported a total of 17 cores weighing greater than 469.8 g (see footnote 56). Three cores were recovered from excavation block X101, a single core came from X102, three cores from X103, and 10 cores were recovered from Mound A contexts. The single core from X102 is described as a spent core.

Debitage

An accurate site total of combined debitage counts and weights across all excavations was not possible to obtain. However, a general overview can be obtained using the data available. A sample view of the total site debitage came to greater than 6,043 pieces weighing greater than 34,875.4 g (see Table C.1). Debitage accounted for 83% (74% by weight) of the total chipped assemblage. Nothing more could be gleaned from Douglas' inventory or dissertation (1976) nor from Riley et al.'s (1978) inventory or report. The remainder of this discussion focuses on the data recovered from the 2013 and 2016 excavations.

The debitage totals from the 2013 and 2016 excavations came to a count of 4,202 with a weight of 5,872.3 g. Typical of the overall chipped assemblage, Glacial Till made up the greatest percentage of debitage with 77.6% (*n*=3260). Attica accounted for nearly 14% (*n*=581) (Table 5.18). The debitage assemblage consisted of biface thinning flakes, block fragments, linear flakes, thermal shatter, decortication flakes, etc. (Table 5.18). The largest category of flake type represented (not including general debitage) was thermal shatter, making up 26% (*n*=1073) of the total. Decortication flakes accounted for nearly 12% (*n*=494) of the total. Forty-seven % (*n*=1990) of the debitage assemblage was recovered from features. Following the site pattern, a greater percentage of debitage was recovered from off-mound locations. Nearly 57% (*n*=2393) came from 2013 Block 1 and 2 excavations. Of that number, 78% was specifically recovered from Structure 4 and its internal features.

| Material Type | Coun t | Weight (g) | % of total Count | % of total wt. |
|---|---|---|---|---|
| Allens Creek | 1 | 0.2 | 0.0% | 0.0% |
| Attica | 581 | 1143.9 | 13.8% | 19.5% |
| Blanding | 1 | 0.2 | 0.0% | 0.0% |
| Bur-Gravel | 48 | 91.2 | 1.1% | 1.6% |
| Crescent Hills | 7 | 13.1 | 0.2% | 0.2% |
| High Ridge-Cr. Hills | 2 | 3.8 | 0.0% | 0.1% |
| Burlington | 10 | 19.2 | 0.2% | 0.3% |
| Cobden | 5 | 0.6 | 0.1% | 0.0% |
| Glacial Till | 3260 | 4299.2 | 77.6% | 73.2% |
| Holland | 2 | 0.4 | 0.0% | 0.0% |
| Kenneth | 3 | 1 | 0.1% | 0.0% |
| Moline | 2 | 12.3 | 0.0% | 0.2% |
| Platteville-Galena | 40 | 33 | 1.0% | 0.6% |
| Quartzite | 24 | 69.7 | 0.6% | 1.2% |
| Silurian? | 1 | 0.3 | 0.0% | 0.0% |
| Starved Rock | 8 | 11.4 | 0.2% | 0.2% |
| Unidentifiable | 207 | 172.8 | 4.9% | 2.9% |
| TOTAL | **4202** | **5872.3** | | |

Table 5.18. Material types represented in the debitage from 2013 and 2016 excavations.

| Debitage Type | Count | Weight (g) | % of total Count | % of total wt. |
|---|---|---|---|---|
| Biface Rejuvenation Flake | 1 | 0 | 0.0% | 0.0% |
| Uniface Rejuvenation Flake | 1 | 0 | 0.0% | 0.0% |
| Biface Thinning Flake | 22 | 15.1 | 0.5% | 0.3% |
| Bipolar Flake | 132 | 406 | 3.1% | 6.9% |
| Block Fracture | 147 | 466.9 | 3.5% | 8.0% |
| General Debitage | 2314 | 2264.6 | 55.1% | 38.6% |
| Decortication Flake | 494 | 1346.7 | 11.8% | 22.9% |
| Hammerstone Flake | 3 | 18.7 | 0.1% | 0.3% |
| Linear Flake/Blade | 15 | 22.7 | 0.4% | 0.4% |
| Thermal Shatter | 1073 | 1331.6 | 25.5% | 22.7% |
| TOTAL | **4202** | **5872.3** | | |

Table 5.19. Debitage categories from 2013 and 2016 excavations.

**Non-Chipped Stone Assemblage**

The combined[57] non-chipped assemblage from all excavations came to more than 23,150 lithics weighing greater than 1,375,326.5 g. The non-chipped assemblage accounted for 76% of the total lithic assemblage by count and 97% by weight. The non-chipped assemblage was described in three broad categories: unmodified lithics, heating and cooking, and ground-stone. In each section, comparable assemblages from Douglas' (1976) and Riley et al.'s (1978) excavations were included as available.

Raw materials for non-chipped stone included igneous, metamorphic, and sedimentary, the vast majority of which is available locally via the plentiful glacial till deposits. Some specific stone material might be considered semi-local/regional or exotic and are discussed within the appropriate sections.

Unmodified Lithics (Rough Rock)

An accurate site total across all excavations cannot be reported due to issues noted previously with reporting and differences in analysis categories (see footnote 58). Any such total would be a gross underestimate of unmodified rock likely collected. Riley et al. did not consistently report unmodified lithic totals in their unit summaries and is therefore not included in this category discussion.

The 2013 and 2016 excavations recorded a total of 4,871 unmodified lithics pieces weighing 10,622.4 g of (Table 5.20). Items included in this count were lithics that were unmodified in any recognizable way, including no alteration by heat. This category included igneous and metamorphic rock, glacial cobbles, fossils, limestone and sandstone. Sandstone

57 These numbers are considered estimates concerning total counts and weights from Douglas' and Riley's excavations. This is largely due to discrepancies in analytical methods and data available to me. The total count and weight of materials across all excavations should be considered to be much greater.

accounted for 75% of the total count (26.5% by weight). Limestone only made up 8.8% (*n*=427) of the total count yet made up 22.4% of the total weight. Cobbles account for <1% (*n*=29) of the total count but make up nearly 36% of the total weight. Mound A accounted for the assemblage majority by count and weight at 45% (*n*=2,186) and 55% respectively. Structure 4 accounted for over 46% (*n*=1,576) of the Block 1 count totals and over 83% by weight.

| | Mound A | | Block 1 | | Mound C | | Category Sub Totals | | Category Sub Total % | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Ct.** | **Wt. (g)** | **Ct.** | **Wt. (g)** | **Ct.** | **Wt. (g)** | **TOTAL Ct.** | **TOTAL WT. (g)** | **% of Ct.** | **% of Wt.** |
| Igneous/ Metamorphic | 22 | 589.2 | 4 | 12.5 | 15 | 262.6 | 41 | 864.3 | 0.8% | 8.1% |
| *Pebbles | 1 | 69.9 | 71 | 81.3 | 1 | 44.7 | 73 | 195.9 | 1.5% | 1.8% |
| Cobbles | 14 | 1892 | 9 | 1671.7 | 6 | 224.1 | 29 | 3787.8 | 0.6% | 35.7% |
| Chert | - | - | 1 | 1.3 | 13 | 49.1 | 14 | 50.4 | 0.3% | 0.5% |
| General Sedimentary | 234 | 170.7 | 330 | 156.6 | 38 | 68.4 | 602 | 395.7 | 12.4% | 3.7% |
| Fossil | 1 | 1.3 | 5 | 1.2 | 4 | 3.4 | 10 | 5.9 | 0.2% | 0.1% |
| Limestone | 326 | 1879.5 | 95 | 488.5 | 6 | 13.3 | 427 | 2381.3 | 8.8% | 22.4% |
| Sandstone | 1587 | 1243.2 | 1054 | 816.7 | 1026 | 753.2 | 3667 | 2813.1 | 75.3% | 26.5% |
| Shale | 1 | 3.8 | 4 | 0.6 | - | - | 5 | 4.4 | 0.1% | 0.0% |
| Slate | - | - | 3 | 123.6 | - | - | 3 | 123.6 | 0.1% | 1.2% |
| Area Sub Totals | **2186** | **5849.6** | **1576** | **3354** | **1109** | **1418.8** | ***4871*** | ***10622.4*** | 100.0% | 100.0% |
| Area % of Total | **44.9 %** | **55.1%** | **32.4%** | **31.6%** | **22.8%** | **13.4%** | | | | |
| *Pebbles naturally occurring in the subsoil or clay deposits were not included in these counts | | | | | | | | | | |

Table 5.20. Unmodified lithics from 2013 and 2016 excavations.

Douglas recorded a total weight of 33,0194.5 g of unmodified lithics[58] (Table 5.21). Gravel made up 60% of the total weight. Limestone made up 27% of the total weight and cobbles accounted for 12%. Combined, Structures 7, 11, 32, 34, 38, and 41 comprised nearly 73% of the total weight of unmodified lithics.

58 I have combined Douglas' gravel, limestone, cobbles, and rough rock categories into the unmodified lithics category. I am assuming 'cobbles' are unmodified as he differentiates them from cobble tools.

| | Weight (g) | % of Weight |
|---|---|---|
| Gravel | 199496.6 | 60.4% |
| Limestone | 89072.8 | 27.0% |
| Gen. RR | 1643.2 | 0.5% |
| Cobble | 39981.9 | 12.1% |
| TOTALS | **330194.5** | **100.0%** |

Table 5.21. Unmodified lithics from Douglas' excavations.

<u>Heating and Cooking Debris</u>

Fire cracked rock (FCR) and heat altered non-chipped stone accounted for nearly 53% of 2013 and 2016 total lithic assemblage by count and nearly 76% by weight. Rock that was otherwise unaltered, with the exception of being heated or burned, was included in this assemblage and made up 19% of the overall assemblage by count and only 8% by weight. Heated/burned sandstone comprised nearly 48% of the heat altered assemblage by count but only 9% by weight. Heated/burned limestone made up nearly 44% of the heat altered assemblage by count and accounted for a massive 83% by weight. Both limestone and sandstone were commonly used in cooking/food processing and were often found in generous quantities.

In many archaeological analyses, FCR is given very little attention beyond simple counts and weights. However, following Jackson (1998) and Custer (2017), I agree that FCR can provide a more robust data set regarding site activities and preferences to specific stone types. The large assemblage of FCR recovered from the Collins Complex created an opportunity to qualitatively test a FCR typology. It is a fairly simple typology using fractures of expansion and contraction to categorize the assemblage.

An in-depth analysis was beyond the scope of this project. I macroscopically examined the FCR assemblage and sorted them into three categories – FCR1, FCR2, or FCR3. FCR1 had recognizable fractures of contraction, which occurred during cooling creating "polygonal cracks and fractures. Contraction-fractured FCR have been termed blocky, serrated, core-like, irregular, chunky, contorted, crenulated, and jagged (Jackson 1998:39)." FCR2 had recognizable fractures of expansion, which occurs during heating. Jackson (1998:39) continues,

> An internal thermal gradient occurs as the outer portion of the rock heats and expands faster than the relatively cooler rock interior. Expansion-fractured FCR, also termed exfoliation fractures, spalls, sloughs, and potlids.

FCR3 included all other fractured or cracked rock that could not be placed within these two categories. This typology was purposefully generalized and as such, many samples placed into the FCR3 category likely could have been more accurately placed into FCR1 or FCR2 with a more thorough analysis, including a more in-depth examination of weights (see Wilson and DeLyria 1999:85). That said, the data showed correlations between material type and fracture type across the site. A total of 9,622 pieces of FCR weighing 168,247.2 g was recovered during the 2013 and 2016 excavations. FCR accounted for nearly 43% of the total lithic assemblage and nearly 70% by weight. Of the total FCR assemblage, 1,052 pieces or 11% (57% by weight) were identifiable to either FCR1 or FCR2. Overall, mafic (basalt, all diabase types, all gabbro varieties) raw material was preferred in both categories making up 55% of the identifiable assemblage by count and 53% by weight. Quartzite and all sandstone types (quartz arenites and well cemented, fine grained cobble sandstones) accounted for nearly 28% of the identifiable assemblage by count and 18% by weight.

In experiments testing sandstone and quartzite in stone boiling and hearth features (House and Smith 1975:79), sandstone held up better in hearth uses and stone boiling and could be reused multiple times before cracking. However, it left grit behind in the boiling process and required more time to dry out before reuse, making quartzite the better option (Jackson 1998:38). In earth oven experiments, researchers found igneous rocks broke less often than quartzite (Jackson 1998:38; Wilson and DeLyria 1999:85). Granite was by far the largest material represented in the FCR assemblage (51% by count but only 27% by weight), but the most difficult to place within the FCR typology. This was due to the large crystalline structure of granite, providing many weak points for thermal fissures.

Studies have shown granite to hold good heat levels, but its reusability is lower than most other rock types (Jackson 1998). For the Collins Complex, the dominant ceramic temper was grit, comprising over 90% of the 2013 and 2016 excavations (similar percentage ratios seen from Douglas and Riley). The grit temper used at the Collins Complex was noted to be coarse, feldspar rich, and had angular faces. Burned and crushed granite would produce such an assemblage. In 2016 excavations of Mound A, small piles of burned/crushed granite were noted in pit feature Fea. 12, on the floor of Structure 9, and in TU 6, 10, and 11. Riley also made note of 'granite grit sample' from Fea. 16, a large burn area of red and white clays.

There were some distinct differences in the distribution of FCR1 (wet heat) and FCR2 (dry) between Mound and off mound. The combined Mound A and Block 1 assemblage exhibited a near even split between identifiable FCR types of FCR1 and FCR2 at 46% and nearly 54% respectively. FCR recovered from Block 1 comprised over 65% of the total FCR assemblage by count and nearly 71% by weight. Of that number, Structure 4 accounted for 76% by count and 80% by weight. Of the number of FCR that was identifiable to type (*n*=540), FCR2 (dry) represented nearly 63% (*n*=340) of that total compared to 37% being FCR1 (*n*=200). This might indicate greater use of earth ovens and roasting pits as opposed to stone boiling. Overall, the basin of Structure 4 was used to gather the remnants of large quantities of spent FCR after use in both dry heating and wet heating contexts. In other words, a receptacle for likely feastly residues.

The Mound A FCR was the exact opposite in terms of wet vs dry. The total number of FCR identifiable to type came to 347, which is 11% of the total Mound A assemblage by count and 52% by weight. Of the 347, FCR1 represented 60% and FCR2 made up the remaining 40%. In this case, the higher percentage likely did not indicate stone boiling, but may instead be representative of sweat lodge ceremony and discard/burial after use (see sweat lodge discussion below).

*Legacy Excavations*

Douglas (1976) recorded 661,323.2 g of FCR recovered during his excavations – all from features. Structures 7, 11, 32, 34, 38, and 41 combined accounted for 64% of the total FCR recorded by Douglas. Feature 31, a very large (2.7m x 2.6m) circuloid feature accounted for 12% of the FCR on its own.

Riley et al. (1978) provided no FCR totals in their report. I recorded totals from their 1976 excavations of X101 and Mound A from the original material inventories. A total of 1,509 FCR pieces weighing 74,830.9 were recovered from these excavations. For comparison, my Block 1 (off mound) excavations and Mound A excavations yielded FCR counts over 6 times that of Riley. This is likely due to different feature contexts – the majority of Block 1 FCR came from the basin fill of Structure 4, in addition to a variety of analytical differences. These included categories he might have included in an FCR discussion, but not under that specific category heading (i.e., cobbles, chunks, etc.). The authors (Riley et al. 1978) provided a general picture of "abundant" or "moderate" FCR amounts from other excavation blocks. They (Riley et al. 1978:24) did note that a pit feature (87 x 87 cm, 32-35 cm deep) in X103 was lined with FCR and was full of "heavily organic fill with considerable charcoal flecking, sherds and firecracked rock…" This feature was likely an earth oven prior to being filled in with trash.

*FCR and Sweat Lodges*

Relevant to the FCR discussion is possible use of the material in sweat lodge ceremonies. Chapter 4 discussed two possible sweat lodges excavated by Riley. With the great quantity of FCR recovered across all excavations, is there anything that can be said in terms of identification from use in sweat lodge ceremonies? There is very little literature documenting such analyses with the exception of Jay Custer's (2017) recent experimental study on fracture attributes from different contexts. While he was unable to show any meaningful statistical differences in fracture patterns, his overall discussion of how rocks are deeply connected to the ceremonies and their use life was particularly of interest and I quoted at length here. After obtaining the proper approvals to replicate and discuss the results of the experiment from the Nanticoke Indian Tribe of Delaware and Lakota groups from South Dakota, Custer (2017:255) described the overall process of rocks used in sweat lodge ceremonies, particularly as having been a "fire-tender for at least 30 sweat lodge rituals, some in association with Lakota Sun Dances." He further described,

> In traditional sweat lodge rituals, special effort is usually taken to avoid using any rocks that had been previously heated because the ritual is seen as consuming, or sacrificing, the essential nature of the rocks. The only exception to this rule is the reuse of a single rock which is seen as a "seed" that symbolizes the long-term continuity among sweat lodge ceremonies. Rocks used in sweat lodge rituals are heated in a fire for at least 3 hours, often longer. During this heating period, which is longer than heating times of other hot rock uses, the rocks are always covered by burning wood or hot coals and are rarely visible. An experienced Lakota fire-tender told me that this procedure ensures that the rocks are sufficiently hot for ritual use and shows respect for the rocks, "the bones of the earth," whose spiritual essence is sacrificed for the success of the ritual. I was admonished that the rocks "should not catch cold." It was not considered appropriate to measure the temperature of the rocks during the ritual, but it can be noted that they had significantly different appearance when they were removed from the fires compared to hot rocks used in the other replications. The hot sweat lodge rocks exhibited a reddish-orange glow and almost appeared to "throb." Obviously, they were not "throbbing," and the visual illusion was created by significant convection currents emanating from the rocks which distorted the view of them. No such convection currents or glowing colors were observed from the rocks at the bottom of the earth ovens, whose temperatures were measured to be 400° F-500° F (204° C-260° C). These earth oven temperatures were the highest rock temperatures measured among other replications. Therefore, it is very likely that the sweat lodge rocks were even hotter.
>
> After heating, the rocks are transferred to a shallow excavated basin inside the sweat lodge structure. The door to the lodge is then closed, and the leader of the ritual douses the hot rocks

> with water or a special "medicine tea" to create steam. The dousing of the rocks continues at irregular intervals…When the ritual is complete, the rocks remain in the shallow pit until they are cool enough to be removed with a bare hand (Custer 2017:255-256).

Custer's (2017:260) replication experiment did not produce statistically meaningful differences, but he noted that fracture and cracking rates for sweat lodges "may be quite high (greater than 85%), but not for all rock types." His hypothesis for the high rate was a combination of the exceedingly high heat the stones were subjected to and then, significantly, the repetitive shock of cooling from the water. He stated, "During sweat lodge replications, repeated dousing with liquids, which were significantly cooler than the heated rocks, created multiple and rapid thermal shocks with repeated significant strains on the molecular bonds of the rocks." (Custer 2017:260). This repeated cooling shock treatment was very different from other hot stone uses including earth ovens, hearths, or stone boiling, which each had different cooling processes (Custer 2017).

Riley et al. (1978) documented 700 FCR pieces weighing 36,109.6 g from their X101 block. This block exhibited two possible sweat lodges. Riley et al. (1978) also noted 'abundant' FCR recovered from the adjacent X103 block. No fire pits were recognized within the X101 block. The number of temples at the Collins Complex, the significant amount of heating and cooking debris recovered from basin fills of decommissioned structures, and the sweat lodges for purification and engagement indicated that the Collins Complex was a place of spiritual convergence for people, for ceremony, for relations (human and other-than-human), and elements (specifically fire and water). Custer's description of how/why rocks are selected and the relational way in which the stones are active participants in the ceremony is an important distinction. Stones used in sweat lodge ceremonies are unique convergences of fire and water, powerful beings and respected elements.

## Ground Stone Assemblage

The ground stone assemblage consisted of ground stone tools including handheld (abraders and cobble tools) and hafted (celts) tools, ground stone production debris, gaming assemblage (discoidals and disks), and special-use assemblage (pigment production, adornments, and cannel coal). A site total across all excavations is not feasible due to reasons already mentioned previously.

### *Ground Stone tool production debris/debitage*

Only the 2013 and 2016 excavations recorded the presence of ground stone tool production debitage. A total of 12 flakes weighing 329.7 g make up the assemblage (Table 5.22). Ten of these flakes came from the basin fill of Structure 4. Basalt flakes accounted for five specimens. One particularly large quartzite flake weighing 319.6 g was recovered from TU 1 of the 2016 Trench in Mound A. This large flake had visible step fractures along one lateral edge and flaking present along the other indicating expedient use. Small flaking debris made up the remainder of the assemblage, suggesting that tool maintenance and possibly minimal production was occurring on site.

| | Location | Provenience | Material Type | Frag (Yes/-) | Count | Weight (g) | Comments |
|---|---|---|---|---|---|---|---|
| 2016 | Mound A | TU 1 | Quartzite | - | 1 | 319.6 | Lg. flake w/step fractures on lateral edge; |
| | Mound A | TU 10 | Diabase | Yes | 1 | 0.1 | |
| 2013 | Block 1 | Structure 4 | Meta quartzite | Yes | 2 | 1.8 | |
| | Block 1 | Structure 4 | Horn blende Amphib. | - | 1 | 4.1 | |
| | Block 1 | Structure 4 | Basalt | Yes | 1 | 2.2 | |
| | Block 1 | Structure 4 | Basalt | Yes | 1 | 0 | |
| | Block 1 | Structure 4 | Basalt | Yes | 1 | 0.3 | |
| | Block 1 | Structure 4 | Basalt | - | 1 | 0.4 | |
| | Block 1 | Structure 4 | Gabbro | - | 2 | 0.6 | |
| | Block 1 | Structure 4 | Basalt | Yes | 1 | 0.6 | |
| | | | | **TOTAL** | **12** | **329.7** | |

Table 5.22. Ground stone tool production debris from 2013 and 2016 excavations.

*Abraders*

The 2013 and 2016 excavations yielded 26 abraders weighing 1,611.3 g. Twenty-five of the twenty-six were made from sandstone, the single exception being limestone. Flat and groove (U-shape) element types were most common with 8 in each category (Table 5.23). Three slot (V-shape) element type abraders were recovered. Two flat abraders (1 from Mound A, 1 from Structure 4 in Block 1) exhibited pigment staining – hematite. One whetstone (49.1 g) was recovered from Structure 4. It was made from fine-grained sandstone and was shaped into a general rectangle. Mound A yielded the majority of abraders with 12, Block 1 had 9, and Mound C had 5. Of the 9 abraders recovered from Block 1, 8 of them came from Structure 4.

| | Mound A | | Block 1 | | Mound C | | | |
|---|---|---|---|---|---|---|---|---|
| | **Ct.** | **Wt. (g)** | **Ct.** | **Wt. (g)** | **Ct.** | **Wt. (g)** | **Element Type Total** | **Element Type Total Wt. (g)** |
| **Flat** | 5 | 159.9 | 3 | 30.3 | - | - | 8 | 190.2 |
| **Groove** | 4 | 155.7 | 3 | 29.8 | 1 | 3.5 | 8 | 189.0 |
| **Slot** | 1 | 7.3 | - | - | 2 | 13.1 | 3 | 20.4 |
| **Whetstone** | - | - | 1 | 49.1 | - | - | 1 | 49.1 |
| **Groove & Flat** | 1 | 33.5 | - | - | - | - | 1 | 33.5 |
| **Groove & Slot** | - | - | 1 | 202.2 | - | - | 1 | 202.2 |
| **Groove & Slot & Flat** | 1 | 86.2 | 1 | 790.5 | | | 2 | 876.7 |
| **Slot & Flat** | - | - | - | - | 2 | 50.2 | 2 | 50.2 |
| **TOTALS** | 12 | 442.6 | 9 | 1101.9 | 5 | 66.8 | **26** | **1611.3** |

Table 5.23. Abrader element types by location for 2013 and 2016 excavations.

Douglas (1976) reported two abraders from his excavations. Both were recovered from Feature 31, the very large (2.7 x 2.6 m) ovoid feature. One was described as irregular shaped with minimal use. The second was a groove abrader with two elements on each face (dorsal and ventral) and one each on the lateral edges.

*Cobble Tools*

The total assemblage came to a total of 141 cobble tools weighing[59] 37,572.9 g across all excavations. The 2013 and 2016 excavations made up nearly 65% of the total cobble tool assemblage by count (*n*=91). Off mound excavations yielded nearly 67% of the total assemblage by count (*n*=94).

The 2013 and 2016 excavations yielded 91 cobble tools weighing 34,106.5 g. Nearly 70% (*n*=63) of the assemblage was heat modified and 58% (*n*=53) were heated and fragmented. In other words, nearly 60% of the cobble tool assemblage from 2013 and 2016 was secondarily used as FCR. Gabbro was the dominant material, making up 40% of the assemblage by count

59 Douglas only reports a count for tools and no weights. I only have counts for the cobble tools from Riley's X103 block and no weights. The overall total weight would be significantly higher.

and 31% by weight. While igneous and metamorphic types made up the bulk (76%) of the assemblage, three tools were made from limestone – two anvils and a hammerstone (Table 5.24).

| | Mound A | | Block 1 | | Mound C | |
|---|---|---|---|---|---|---|
| | Count | Weight | Count | Weight | Count | Weight |
| Chert Hammerstone | 2 | 104.4 | 2 | 118.7 | 1 | 97.1 |
| Hammerstone | 10 | 2405.9 | 16 | 3343.8 | 4 | 291.1 |
| Mano | 9 | 604.6 | 10 | 1203.5 | - | - |
| Pitted Cobble | 5 | 5000.4 | 6 | 11296 | 1 | 91.1 |
| Pitted HS | 3 | 736.5 | 4 | 4142.8 | - | - |
| Pitted Mano | - | - | 3 | 314 | - | - |
| Pitted Mano Hammer | - | - | 2 | 2115.1 | | |
| Pitted Metate | 1 | 1065.5 | 2 | 960.7 | - | - |
| Smoother | 2 | 2.9 | 4 | 111.4 | - | - |
| Whetstone | 1 | 43.8 | - | - | - | - |
| Unidentified | 2 | 4.5 | 1 | 52.7 | - | - |
| Totals | 35 | 9968.5 | 50 | 23658.7 | 6 | 479.3 |

Table 5.24: Cobble Tool assemblage from 2013 and 2016 excavations.

Hammerstones and pitted hammerstones made up 46% (*n*=42) of the 2013 and 2016 cobble tool assemblage by count and 33% by weight. Three hammers were recovered from post pit features inside Temple C1 beneath Mound C. All three were constructed from granite. Two came from Feature 3 and one came from Feature 2. Of 42 hammers, five were chert hammerstones: two each recovered from Mound A and Block 1 excavations and one from Mound C. Chert hammers are common in ground stone production kits, specifically celt making (Koldehoff and Wilson 2010). While there is no evidence of celt production occurring at the Collins Complex in any significant way, there is evidence of maintenance, repair, and finishing of celts. In addition to the single sandstone whetstone described in the abrader section (found in Structure 4 basin fill), one basalt whetstone weighing 43.8 g was recovered from Mound A. It was rectangular and exhibits minimal use, with fine striations visible.

The second largest category of cobble tools were processing tools, manos (*n*=24) and metates (*n*=3). As a group, processing tools accounted for 30% of the assemblage by count and 18% by weight. Ninety-six percent of the processing tools were heat altered and fractured. Gabbro was the preferred material type for the processing tools, accounting for 22 of the 27 tools, all of them secondarily FCR. All three metates had loci of anvil pitting and all three were fragments. In addition to the 12 anvils (single element), anvil-use or pitting was a secondary element found on 15 cobble tools. Six smoothers were identified from the assemblage weighing 114.3 g. Smoothers are pebbles or small cobbles used in pottery production. They were identified by the linear striations from a back-and-forth motion as opposed to burnishing stone that would have circular striations. Two smoothers came from Mound A, one from Feature 5 (hearth) and one from Feature 6 (shallow pit). Four smoothers were identified from the basin fill of Structure 4 in the Block 1 excavations. One basalt specimen (14.6 g) exhibited small amounts of polish on one edge. Hematite staining was evident on six specimens. Three examples were on otherwise unmodified cobbles: one pitted mano and one pitted metate, and one hammer.

Douglas (1976:186-188) recorded a total of 39 cobble tools weighing approximately 24,732.5 g from his excavations. Manos made up the largest category of tool comprising 18 in total. He described "many" manos as exhibiting bettering-wear and most were made from glacial cobbles. Nine manos possessed anvil or pitting, six of these were bi-pitted. One elongated bi-pitted mano also exhibited flaking along the edges and may have been a celt preform. Douglas (1976:186-188) also described 13 total hammerstones recovered from his excavations. These are primarily "water-worn pebbles" of various shapes including "egg, trianguloid, irregular, elongate, and discoid." Two specimens were heavily used. One boulder size metate with anvil wear was recovered from the basin fill of Structure 7. It is recorded as having grinding on both sides and also exhibiting minor battering.

Riley et al. (1978) reported a total of 18 cobble tools (not all weights provided) from their excavations. Nearly 67% of their assemblage consisted of hammerstones (*n*=12). Five hammerstones were recovered from Mound A contexts. One combination nutting stone and hammerstone was recorded from excavation block X101 (no weight given). They described it as being pitted on both surfaces and exhibiting battering around the edges. Two sandstone milling stones were reported from their excavations. One was a pitted, irregular shaped sandstone slab from X101. The second was just noted as a sandstone milling stone from X103. One possible polishing stone (burnisher or smoother?) weighing 42.2 g. was documented from midden Feature 18 of Mound A.

*Ground Stone Tools*

The majority (80%) of the ground stone tool assemblage consisted of fragments too broken for categorization. The only identifiable tools were two celts and one fragmented axe recovered during Douglas' (1976) excavations. The one finished celt was found in the plow zone during stripping of Area 1 surrounding Mound A. It measured 125 mm in length and 58 mm at its widest point nearer to the bit (Table 5.25). Douglas (1976) noted that the bit had a small chip in it from use and the poll end was battered. The second celt came from Feature 39, an odd, very large (3.1 x 1.4 m and 67 cm deep) ovoid feature for which Douglas was unable to determine the type. This celt is much smaller and crude. Douglas (1976) reported that this was possibly a blank or simply a crude celt. Based on his excellent drawing and descriptions, it is more likely that this was a reworked celt from an earlier, much larger, finished celt. The dorsal surface exhibited the finished original face of the former celt (pecked, smoothed, and ground) and the ventral surface was the broken surface that was pitted and flaked into shape. The bit was the part of the tool where work was focused as it had been ground smooth on both faces. There was an additional celt from the John Collins collection, the farmer whom the site was named for, but it is not included as I have no further data to include. Douglas (1976) also recovered a grooved axe fragment from Feature 39. It was the poll end and was secondarily fire cracked.

The remainder of the ground stone tool assemblage were fragments of tools that were too small for further identification. The analysis of the 2013 and 2016 materials reported 11 ground stone tool fragments. Seven of these fragments were made from gabbro (*n*=6) and diabase (*n*=1), common materials for celt production (Butler 2014; Koldehoff and Wilson 2010; Pauketat and Alt 2004). Three specimens had visible polish. Structure 4 from Block 1 excavations in 2013 comprised 64% (*n*=7) of the 2013 and 2016 assemblage. Mound A yielded the remainder of that assemblage with four fragments. One specimen was a ground and polished fragment made from cannel coal. Cannel coal, discussed as a special assemblage below, is a type of block coal found in southern Indiana and in small amounts in Illinois (Ashley 1918). This fragment exhibited evidence of being ground and smoothed to a slight polish, a characteristic of cannel coal.

Riley et al. (1978) reported a single unidentified ground stone tool fragment from their Mound A excavations. It was recovered from the large midden Feature 18.

| | Loc. | Prov. | Type | Mat. Type | Mod. | Max Length (mm) | Max Width (mm) | Max Thickness (mm) | Wt (g) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 2016 | Md A | TU 14 | Unid. GS Frag | Cannel Coal | Ground, Polished | - | - | - | 0.3 | Fragment; slight polish |
| | Md A | TU 3 | Unid. GS Frag | Diabase | Ground | | | | 9.8 | unid. Groundstone frag - secondarily fcr |
| | Md A | TU 9 | Unid. GS Frag | Gabbro | Ground, Pecked | - | - | - | 1.3 | Fragment |
| | Md A | TU-10 | Unid. GS Frag | Arkose SS | Ground | | | | 1.8 | Fragment |
| 2013 | Blck 1 | Str 4 | Unid. GS Frag | gabbro | Ground | - | - | - | 0.7 | small fragment |
| | Blck 1 | Str 4 | Unid. GS Frag | gabbro | Polished | - | - | - | 0.2 | a flake off unid groundstone tool. Nice polish on it |
| | Blck 1 | Str 4 | Unid. GS Frag | gabbro | Polished | - | - | - | 3.6 | polished fragment |
| | Blck 1 | Str 4 | Unid. GS Frag | Basalt | Polished | - | - | - | 2.6 | polished fragment |
| | Blck 1 | Str 4 | Unid. GS Frag | gabbro | Ground, Pecked | - | - | - | 0.4 | small groundstone fragment/flake |
| | Blck 1 | Str 4 | Unid. GS Frag | gabbro | Ground | - | - | - | 2.4 | Fragment |
| | Blck 1 | Str 4 | Unid. GS Frag | gabbro | Ground | - | - | - | 0.3 | small groundstone fragment |
| Douglas | Ar. 1 | PZ | Celt | - | Pecked, ground | 125 | 58 | 20 | - | Battered poll end |
| | Ar. 1 | F39 | Celt | - | Flaked, pecked, ground | 78 | 50 | 12 | - | Unfinished or possibly reworked |
| | Ar. 1 | F39 | Groov ed Axe | - | Ground | - | - | - | - | Fragment-poll end; Fire cracked |
| Riley | Md A | Feat 18 | Unid GS Frag | - | - | - | - | - | 34.8 | |

Table 5.25. Ground stone tool assemblage from all excavations.

### *Gaming assemblage*

The gaming assemblage from the Collins Complex consisted of two disks and two discoidals from all excavations (Table 5.26). The 2013 excavations recovered a single sandstone disk (42.1 g) from Structure 4 in Block 1 (Figure 5.14). The disk was slightly oblong as it measured 50.4 mm by 42.4 mm and was 15.9 mm at its thickest point. The disk was pecked into shape and exhibited beveled edges. There was some pitting evident on the center of the dorsal surface and the disk exhibited evidence of heated treatment. Douglas (1976) recovered a single disk, also of sandstone. He noted that it had been pecked into shape and measured between 55-60 mm in diameter and is 25 mm at its thickest. The pitting was quite extensive and may be an unfinished or crude discoidal. This disk was recovered from Feature 39, a large (3.1 x 1.4 m) ovoid feature of unknown designation.


Figure 5.14. Sandstone disk from Structure 4 basin (2013 excavation).

Riley et al. (1978) reported two discoidals from their excavations. One was a fragment from Mound A weighing 178.5 g and made from quartzite. The second was a small discoidal with concave sides from excavation block X103. No weight or further information was provided. John Collins, the farmer for whom the Collins Complex is named, also recovered a discoidal, but I have no specific information to provide beyond observing (via old photo) that it seemed to be a well-made, Cahokia style discoidal with ridged cups and measuring ~85 mm (8.5 cm).

Discoidals, specifically Cahokia style chunkey stones, are found in other places with Mississippian contexts described as intrusive or outposts and are seen as a possible “calling card” for Mississippianization (see Figure 5.1 in Pauketat 2004:123). Sites with this style of discoidal might instead be viewed as mission sites where small amounts of powerfully connected Cahokian items work together with larger missionary practices including mound building, alignments, and access to specific religious ceremonies. Cahokia style discoidals are very likely another example of items that missionize through use and entanglement (Pauketat 2004).

| | Loc | Prov | Type | Mat Type | Mod | Max Length (mm) | Max Width (mm) | Max Thic (mm) | Wt (g) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 2013 | Blk 1 | Str 4 | Disk | SS | Pecked, Shaped, Beveled edges | 50.42 | 42.43 | 15.89 | 42.1 | Shaped disk, Pecked and beveled perimeter w/ pitting in center of dorsal side; heated |
| Douglas | Ar. 1 | F39 | Disk | Silt-SS | pecked | 55 | 60 | 25 | - | Possible unfinished/crude discoidal; pecked out cups and pecked/shaped sides |
| Riley | X 103 | X103 | Discoidal | - | - | - | - | - | - | small with concave sides |
| | Md A | 119N 7E | Discoidal | Qzte | - | - | - | - | 178.5 | Fragment |

Table 5.26. Gaming assemblage from all excavations.

*Special-Use Assemblage*

Categories within the designated Special-Use Assemblage include pigment production (minerals), cannel coal, and special things/personal adornments.

*Pigment Production*

The mineral assemblage from all excavations was almost certainly under-reported due to recovery, analysis, and reporting methods. Both Douglas (1976) and Riley et al. (1978) reported small amounts of hematite, but no further information can be provided here. The minerals recovered from the 2013 and 2016 excavations included hematite, limonite, galena, and quartz. Hematite was an umbrella term for iron ore and earthy iron oxides. Iron ore hematites are denser, more metallic and in archaeological contexts are often ground, ‘rubbed’, and/or shaped. The earthy hematites, often referred to as red ochre in archaeological contexts, are duller in color, more friable, and soft. Limonite is an iron oxide and is more often similar in texture to the earthy hematites. Hematites are used for the production of red pigment and paints. Limonite is used to produce yellow pigment/paints. Galena is lead ore and for Mississippian contexts, specifically sourced from the Ozarks of southeastern Missouri (Walthall 1981). Galena is used to produce white pigment/paints. Hematite and limonite are common and can be found locally within the till deposits and soil.

The 2013 and 2016 excavations recovered 1,102 mineral pieces weighing 825.7 g (Table 5.27). Limonite made up 60% of the total mineral assemblage by count and accounts for 68% by weight. Hematite accounted for 40% of the assemblage by count and 26% by weight. Nearly double the amount of hematite and limonite were recovered from Mound A contexts in comparison to Block 1 excavations off-mound. Two cubes of galena were recovered during the 2013 and 2016 excavations. One small piece weighing 0.7 g came from TU 3 in the 2016 Trench of Mound A. This entire unit was later found to be the basin fill for Structure 9 (house of the priest). Eleven pieces of hematite weighing 7.4 g and 18 pieces of limonite weighing 7.9 g. were recovered from TU 3. The second galena piece came from Structure 4 in Block 1. This large cube was ground on one surface with visible striations (Figure 5.15).

| | Mound A | | Block 1 | | Mound C | | Material Sub Totals | |
|---|---|---|---|---|---|---|---|---|
| | Count | Weight (g) | Count | Weight (g) | Count | Weight (g) | Totals Count | Total Wt. (g) |
| Galena | 1 | 0.7 | 1 | 44.5 | - | - | 2 | 45.2 |
| Hematite | 294 | 156.2 | 118 | 44.3 | 28 | 14 | 440 | 214.5 |
| Limonite | 376 | 436.7 | 255 | 113 | 26 | 14.5 | 657 | 564.2 |
| Quartz | 1 | 0.2 | 2 | 1.6 | - | - | 3 | 1.8 |
| Sub Totals | 672 | 593.8 | 376 | 203.4 | 54 | 28.5 | ***1102*** | ***825.7*** |

Table 5.27. Mineral assemblage from 2013 and 2016 excavations.

Figure 5.15. Select minerals from 2013 and 2016 excavations. Top: Ground galena from Structure 4 basin; Bottom: Quartz from Structure 4 basin.

In Block 1, Structure 4 yielded the bulk of the mineral assemblage with 289 pieces weighing 175.6. This accounted for 77% by count of the total Block 1 mineral assemblage. The largest concentration of limonite from any one feature or test unit came from Structure 4 at 207 pieces weighing 100.5 g. This accounted for 81% of the Block 1 assemblage and nearly 32% of the total limonite assemblage. A single ground piece of limonite was also recorded from the basin fill of this structure.

Three pieces of quartz weighing 1.8 g. were recovered from these excavations, however with the exception of a larger piece, the remaining two were likely eroded quartz from fired granite. The single large piece came from the Structure 4 basin fill in Block 1.

<u>Cannel Coal</u>

Cannel coal is a massive, block type coal of fine, compact grain, dull luster, that conchoidally fractures (Ashley 1918:8). It differs significantly from bituminous coals in the organic material that comprised them. Cannel coal is essentially a rock derived of water-laid deposits consisting primarily of large quantities of plant spores and pollen grains (Ashley 1918:8). Cannel coal ignites readily and produces a high yellow flame – how it obtained its name, candle coal. As Perino (1981) remarks, the fact that a rock that produces flames is almost certainly specially regarded.

Specific cannel coal sources semi-locally and regionally near the Collins Complex includes the more well-known sources in southern Indiana in Davies and Perry counties near the Angel Mounds site. Personal adornment or other special use artifacts made of cannel coal were reported from Angel Mounds (Black 1967). Ashley (1918) also identified cannel coal deposits in Parke County Indiana, which would be about 80 km from the Collins Complex. There are also much lower grade deposits found in McLean and LaSalle counties in North and Central Illinois. While we know that these deposits of cannel coal exist in these locations, it is unknown if they were accessible without deep mining. The only known indigenously used source is from the lower Wabash area in Indiana. It should be noted that there were surface bituminous coal deposits less than 1 mile from the Collins Complex. These deposits were not used indigenously as known at this time.

A total of 90 pieces of cannel coal weighing 25 g and 1 piece of black shale weighing 1.3 g were recovered from the 2013 and 2016 excavations (Table 5.28). I included the black shale here because the single gorget recovered was also made from black shale and likely intentionally used for its similarity to cannel coal. Neither Douglas (1976) nor Riley et al. (1978) recorded cannel coal, but they could have included it in any number of other categories. Of the 91 pieces of cannel coal from the 2013 and 2016 excavations, 71% (*n*=65) came from Mound A contexts. Thirty-two pieces came from TU 4 alone. One piece exhibited hematite staining on its surface. The eastern third of TU 3 was found to contain the western walls and portion of the basin for Structure 9, the majority of which is found in TU 3. Combining the cannel coal recovered from both TU 3 and 4, they accounted for 58% of the Mound A cannel coal assemblage by count and accounted for 42% of the total cannel coal assemblage by count. Twelve pieces of cannel coal weighing 2.1 g were recorded from TU 9, however no features were identified within that unit. This unit was directly west of TU 4 and made up the third unit in the eastern section of the 2016 Trench. Structure 4 in Block 1 excavations accounted for 23% (*n*=12).

| | Provenience | Count | Weight | Comments |
|---|---|---|---|---|
| Mound A | Feature 5 | 1 | 0 | |
| | Feature 6 | 1 | 0.2 | |
| | Feature 16 | 1 | 0.1 | |
| | General Mound | 3 | 1.7 | |
| | TU 3 | 6 | 3 | |
| | TU 4 | 32 | 5.8 | 1 piece has hematite staining |
| | TU 7 | 2 | 0.5 | |
| | TU 9 | 12 | 2.1 | |
| | TU 10 | 1 | 0.5 | |
| | TU 13 | 1 | 0.2 | |
| | TU 14 | 2 | 0.2 | |
| | TU 15 | 3 | 0.9 | |
| Block 1 | Structure 4 | 21 | 9.1 | |
| | Structure 4 | 1 | 1.3 | Black Shale |
| | Midden (NF7) | 1 | 0 | |
| | Midden, Block 1 | 3 | 0.7 | |
| | TOTALS | 91 | 26.3 | |

Table 5.28. Cannel coal assemblage from 2013 and 2016 excavations.

Special Things/Personal Adornments

This particular assemblage consisted of three possible crinoid beads, one gorget, one incised piece of cannel coal, and one shaped limestone (Table 5.29). The three possible crinoid beads (0.4 g) were all recovered from Mound A contexts. These would make natural beads with a void in the center of each. No visible modification was evident. Each bead was found in different test units (TU 7, 10, and 14). The remainder of the assemblage was recovered from the basin fill of Structure 4 in Block 1. One small (32.75 mm), shaped piece of limestone weighing 5.7 g was recovered from Structure 4 (Figure 5.16a). It was oblong in shape with rounded poles and had visible fossils throughout. It could possibly be a pendant or bundled item. It was similar to pieces recovered at the Orendorf site in the Central Illinois River Valley (Evans et al. 2019). The gorget (10.1 g) was made from black shale and measured 82.1 mm (Figure 5.16b). There were two notches near the top of the gorget. Between the notches there were three distinct, but shallow indentations/drill marks forming an isosceles triangle. In the center of these marks was a shallow incised vertical line. A portion of the bottom left side had been snapped. The top and the sides were shaped/smoothed, but overall, very little shaping was done likely due to the friable nature of the material. The final object in this assemblage was a small cannel coal fragment (Figure 5.16c). The piece weighed 1.3 g, exhibited ground surfaces, two deep grooves in an arc pattern and three shallow etches/incised lines. The two grooves made one larger groove with a slight ridge in the center evidencing the presence of two grooves. Based on other cannel coal artifacts from other sites, it was a possible pendant.

| | Prov | Item | Mat. | Portion | Mod. | Markings/Decoration | Notch Width (mm) |
|---|---|---|---|---|---|---|---|
| Block 1 | ST. 4 | Gorget | Black Shale | Bottom left corner broken | Shaped and possibly drilled | 3 indentations/drill marks making an isosceles triangle. A possible etch/engraved vertical line in the center of the triangle | 2.73 |
| Block 1 | ST. 4 | Shaped Limeston e | Limesto ne | Complete | Shaped | - | - |
| Block 1 | St 4 | Pendant? | Cannel Coal | Fragment/b roken | Ground and Incised/eng raved | 2 deep grooves with 3 shallow etches/incised lines | - |
| Mound A | TU 14 | Bead? | crinoid | Complete | - | - | - |
| Mound A | TU 10 | Bead? | crinoid fossil | Complete | - | - | - |
| Mound A | TU 7 | Bead? | crinoid fossil | Complete | - | - | - |

Table 5.29. Special things/personal adornment items from 2013 and 2016 excavations.

| | Prov. | Max Thickness (mm) | Total Length (mm) | Total Width (mm) | Weight (g) | Comments |
|---|---|---|---|---|---|---|
| Block 1 | ST. 4 | 2.62 | 82.1 | - | 10.1 | Flat, shaped gorget with notches on either upper lateral sides. Possible decoration/markings between the notches. Broken bottom corner. |
| Block 1 | ST. 4 | 10.48 | 32.75 | 14.51 | 5.7 | Shaped LS - pendent looking w/o hole. Looks similar to shaped limestone from Orendorf |
| Block 1 | St 4 | 4.4 | 22.3 | - | 1.3 | Etched fragment, maybe a pendent? |
| Mound A | TU 14 | - | - | - | 0.0 | Hole thru center - likely natural - but noted as possible bead |
| Mound A | TU 10 | - | - | - | 0.1 | used as a bead? |
| Mound A | TU 7 | - | - | - | 0.3 | Natural hole through |

Table 5.29 (Cont.). Special things/personal adornment items from 2013 and 2016 excavations.

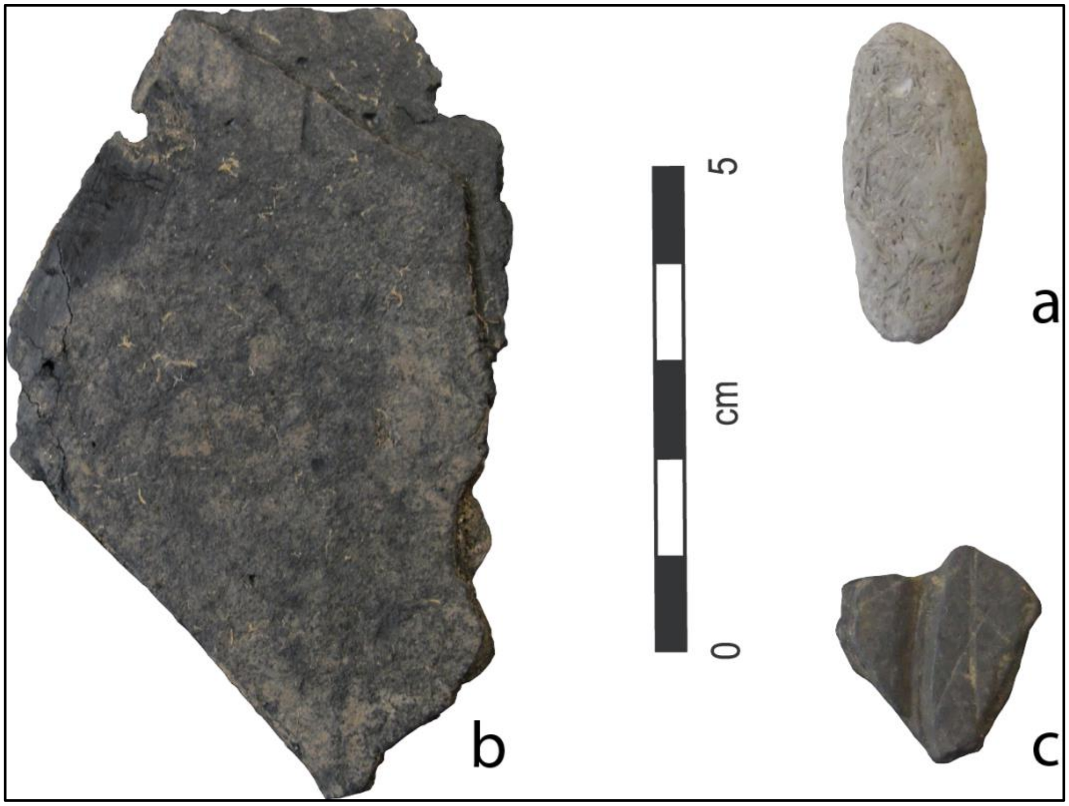

Figure 5.16. Special things and adornments from 2013 and 2016 excavations.

Lithic Summary

The large quantities of lithics from the Collins Complex is noteworthy. Comparing Terminal Late Woodland (TLW) and Lohmann Phase lithic assemblage counts and weights to Cahokia, the general American Bottom, and the Uplands surrounding Cahokia, Collins is impressive (see Boles 2018:Table 4.26 and Table 5.27). No single TLW site comes close in count or weight to the lithic assemblage of the Collins Complex. The quantity of lithics from the Collins Complex has no comparison with any single TLW site or, indeed groups, of TLW sites. The Lohmann phase lithic assemblages are far more comparable in both count and weight. These comparisons are a superficial, yet quantifiable metric and might be indicating a difference in activities. In Particular, I have demonstrated how FCR can be a useful interpretive assemblage for activities beyond fires and cooking. The differences in wet vs dry FCR between mound and off mound contexts is distinct and further studies are warranted.

The struggle in the past to place the Collins Complex (and other similarly mixed sites) within Late Woodland or Mississippian contexts is forcing a singular identity onto a vibrant and powerful place. Utilizing these kinds of metrics, like the comparative lithic assemblage, is another example that while the actual assemblage itself might look supposedly more Late Woodland than Mississippian, the quantities and contexts might be the opposite. Using a missionary lens to assess sites like the Collins Complex frees the boxed-in categorizing done in the past. By highlighting the Late Woodland variability in conjunction with Mississippian practices, evidence points to a mission and/or missionary practices within the late TLW period and Lohmann phase, catalyzing the beginning of the wider Mississippian world.

**Discussion**

All excavations documented extensive middens, both on and off mound. Specifically, middens were a physical part of Mound A construction. Off mound, there is a pattern of house basins being used as midden receptacles, often in structured ways, in addition to a general midden spread being extensive enough to be an entire layer/zone just below the plow zone in the area south of Mound A. Middens are accumulations of changed things – meat to bone, stone to FCR, cooking pot to residued sherds, and wood to ash/charcoal. The amount of artifacts (by weight) from off-mound structures/potential structures with basins accounts for 60% of the site total (Figure 5.17). That is a staggering 891,217.3 g (nearly 1 ton) of materials. More than anything else, the sheer quantities of midden residues are the evidence of the people who engaged with Collins regularly.

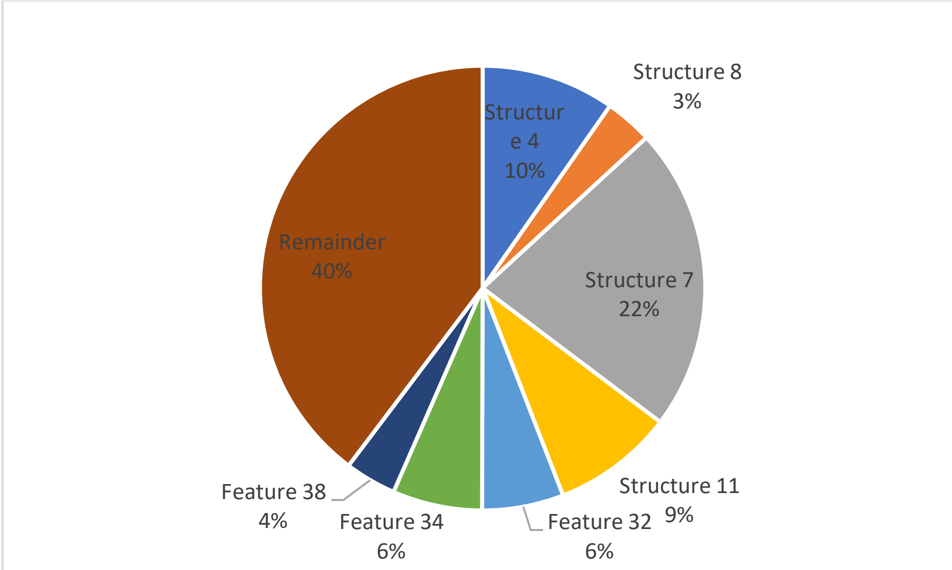

Figure 5.17. Pie chart showing the amount of material recovered from structure basins or possible structure basins.

There are differences in the materials and things from the mounds versus those found off-mound. Off-mound, the material assemblages look different, but are they *doing* different things? The off-mound structure, Structure 4 for example, became an earthly bundle that wrapped the residues of ceremony and of life. The placement of things such as bone concentrations and projectile points around the perimeter of a partially filled basin, suggest intentionality in those placements. Possibly in a similar way, Alt and Pauketat (2017) describe aspects of engagements with shrines and shrine houses. The recovery of non-domestic items from the basin, such as a Hyer Plain vessel, engraved cannel coal, ground galena, and a black slate gorget that were mixed with large quantities of bone and FCR, are reminiscent of the feasting assemblage excavated from submound 51 at Cahokia (Pauketat et al. 2002). The combination of extra-large pots and the difference in sizes between off-mound contexts and mound contexts, the portions of deer recovered, and the differential faunal from these contexts is additional evidence that indicates feasting activities (Blitz 1993).

There are specific assemblages that are indicative of powerful bundles, priestly things, and even things that highlight relationships with powerful animals/animal lodges typically associated with medicine men. These include most of the things from Mound A: minerals (paints), bone scratchers, shell bead, shell cup, powerful animals (e.g., large birds, turtle, bear, wolf/coyote, bobcat, beaver), pendants, and discoidals. It is the relational fields within which and through which these things entangle mounds, soils, color, fire, water, persons, spirits, power, and the cosmos that emphasize their mission-ness.

Ultimately, this chapter walked through the different things of the Collins Complex and highlighted their intimate connections with each other and place. Within these bundled entanglements, the things of Collins gather (feasting) and proselytize (ceremonies and special things). The final chapter will walk through a regional comparison of the mission bundle (mounds/plaza, special architectures, cosmic alignments, and assemblages of things) as outlined at the Collins Complex.

# CHAPTER 6: MISSISSIPPIAN MISSIONS AND MISSIONARIES

"Now she told them the time was drawing near when she would have to leave them, for she had gone from one place to another, showing the women what to do, how to travel, how to raise Mother-Corn, how they must eat it and offer it, in all the ways that Mother-Corn was to be used. She told the women that after she became something else she would ask the people, especially the women, to look upon her once in a while."

- Tawakoni Jim, Wichita

Using the Collins Complex data, the previous three chapters established the core components of a Mississippian mission bundle first defined in the Introduction. Each chapter unpacked the available data from all Collins excavations and contextualized that data by drawing from the complementary theoretical lenses introduced in Chapter 2, combined with oral histories and ethnographic data. This approach went beyond identifying the presence/absence of static objects on a landscape to infer mission/not mission or Mississippian/not Mississippian. Each chapter examined the affective flows of a complex relational field that missionized and proselytized through an animic geography.

In this final chapter, I summarize and reassemble the mission bundle components defined at the Collins Complex. I then provide a regional comparison to 1) show *how* that mission bundle can be differentially incorporated and experienced while still demonstrating core elements, and 2) suggest that an Indigenous mission, specifically during the period 1000-1150 CE (i.e., Edelhardt through early Stirling phases), wove together more strands of experiences into a comprehensive narrative than theories that focused on economic extractions, political intrigue, rural emulations, or chiefdom models. Following the regional comparison, I conclude with an expanded discussion of ethnographic data and oral histories emphasizing Indigenous missionary examples.

**Reassembling the Mission Bundle**

The previous investigators of the Collins Complex recognized the religious undercurrent of its founding, construction, and engagements, but struggled to break from the cultural evolutionary box of Mississippianization theories. In Douglas' (1976) conclusions he wrestled with the data that implied a Mississippian religious site but due to archaeology's continued emphasis on the presence or absence or 'significant' percentage of shell tempered pottery, he ended up disconnecting Collins from a larger relational field. In 1978, Riley and his coauthor, Gary Apfelstadt, boldly titled their published article "Prehistoric Missionaries in East Central Illinois." However, once again even with the robust data of mounds, alignments, and special architectures compelling them to be the first scholars to recognize that Cahokian missionaries were responsible for the confusing 'mixed' data sets at hinterland sites, they determined that Collins was a *failed* mission based almost exclusively on the low percentage of shell tempered pottery. What if instead, we view the data as they are, what does Collins look like and what does it do?

First, the Collins Complex makes an ideal case study for a Mississippian mission as it has a small window of primary occupation[60] (see Table 1.2). The pooled median dates provided a range of 1042-1180 CE. The earliest median date (1042 CE) for the site came from a pit within a likely structure on Mound A. This feature was not a submound feature, nor was it the earliest feature on Mound A. One of the earliest features recorded was a small, shallow pit with modest amounts of FCR, limestone, hematite and limonite, and one small grit tempered sherd. Two other features pre-date the construction of Mound A, post pit F14 and F15. These two large posts were

60 While Riley et al. (1978) indicated that the bluff top exhibits possible evidence of an archaic flaking area and some evidence of Albee/Late Woodland activity that was disturbed by the construction of Mound D, the main site terrace below the bluff has no evidence to support any kind of prior, exclusively Late Woodland occupation.

contemporaneous and subsequently pulled together and their pits filled in at the same time. Founding posts and large marker posts such as these are respected as animate and lively persons, guardians, and ancestors with direct connections to places, histories, and powers (Skousen 2012). Large posts are documented as primary features beneath Mound 72 at Cahokia and as founding posts marking place at the ESTL precinct (Brennan et al. 2018; Fowler 1999). A mound core of alternating light and dark mantle deposits was constructed, likely during the late Edelhardt or early Lohmann phase based on a Cahokia red slipped body sherd from within this core (Riley et al. 1978). Based on Riley's excavations and my own, there was a probable small plaza built in conjunction with and to the southeast of Mound A. After the initial core platform was constructed, a series of architectural features and pits were built, deconstructed, and capped over with yellow clay, including a likely sweat lodge that was built directly over the pulled posts. This seems to have occurred contemporaneously with Cahokia's Big Bang (~1050 CE).

Mound A was the axis mundi of the complex in both engagement and demands (mound levels, maintenance, etc.), but also cosmically. Douglas (1976) suggested that Mound A was the central axis of a larger site alignment to the Winter Solstice sunrise, which the recent archaeoastronomy data (see Appendix B) substantiates[61]. A handful of large, single post, rigid wall houses were built to the west and south of Mound A. Structure 4 had an alignment to the southern lunar maximum, cosmically converging the sun and the moon, connecting persons (human and other than human), place, and things to a literal creation story. The Skidi Pawnee creation of the first boy is from the union of Sakuru (sun) and Pah (moon) (Dorsey 1904). As I

61 As I mentioned in Chapter 4, we were unable to measure the original dimensions or orientations of any of the mounds due to their extensive damage and overgrowth. See my discussion on Collins alignments for more details about why using Mound A as the site line can be problematic.

discussed in Chapter 4, the combination of both solar and lunar orientations is known at Greater Cahokia, Emerald, Angel, and Aztalan.

While there is no confirming radiocarbon date, it is possible that the burial and immediate construction of Mound D occurred around the same time as some of the happenings on Mound A. The headless burial of a single individual is placed into a rectangular pit dug into the yellow clays of the bluff, the same yellow clays that were intimately enmeshed within Mound A. A low platform mound was then quickly constructed over them. As Douglas was unaware of this mound during his excavations, it was not included in the overall site grid/alignment. Riley et al. (1978) described the orientation as one that mimicked that of Mound C and thus temple C1, a Winter Solstice sunrise alignment.

The two single post structures (ST 4 and ST 8) that were fully excavated and mapped had floor dimensions and width to length ratios that fit comfortably within average Lohmann phase structure metrics (see Brennan 2019). The data from these two specific structures circumstantially suggest that they could be houses for the priestly caretakers/guardians of Collins or at the very least were ceremonially closed by one. Potential priestley occupation of single-post houses was also tentatively suggested at Emerald (Alt and Pauketat 2017; Pauketat et al. 2017). There is a growing data set that continues to indicate that single post houses not only continue (but change in size and use) well into the Stirling phases, but also that some of these earlier styles are appropriated by religious specialists and co opted into their own homes, or shrines (see Alt 2006, 2012; Alt and Pauketat 2017; Brennan 2018; Collins 1990; Emerson 1997; Pauketat 1998a, 1998b, 2013b).

At Collins, both Structures 4 and 8 ‘changed’ near the same time, but differently. Around 1086/1089 CE (median date for ST 8 and ST 4 respectively) each building was cleaned out prior to their ‘closing’ or elemental rearrangement. While Structure 8 was burned and buried, Structure 4 was dismantled, partially filled, then participated in further interactions with special deposits/placements, residues, and fire. The basin was not filled all at once but was partially filled, then offerings and/or special deposits were placed in specific locations (near the edges) (Figure 6.1).

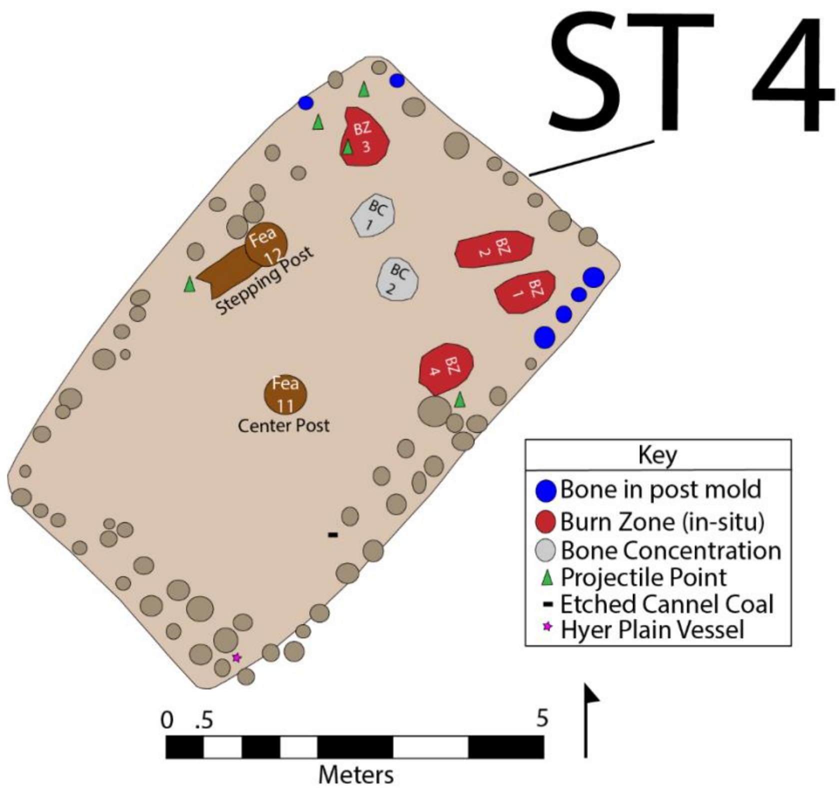


Figure 6.1. Map of Structure 4 and the locations of deposits/offerings and in-situ burning zones.

The residues of celebrations and life was well documented in the basins of all reported structures off the mound in addition to basket offerings and midden sweeps off the sides of Mound A. As I showed in Chapter 5, the seven structures or possible off-mound structures with basins accounted for 60% (by weight) of the materials recovered from the site (all excavations). That accounted for over 887.01 kg, which came to nearly 1 U.S. ton of material things and residues.

Celebrations and gatherings were so extensive that a distinct midden and submidden was identified in the 2013 geotrenches (see Figure 4.7). Large pits were scattered around the houses west of Mound A. Douglas (1970, 1976) struggled to define clear feature boundaries/limits and often mapped many of these as incomplete or 'fuzzy' edges. As discussed in Chapter 5, Douglas (1976) observed that off-mound vessels were very large, comparing them to a commercial kitchen. He hypothesized that part of the problem regarding poor feature limit definitions may have been that these large pits were cooking pits or even cooking spaces meant to hold some of the extremely large pots he documented. He argued that the size of these (especially once filled) would necessitate their fixed placement. Douglas (1976) suggested that using the pot in-situ, would distort the edges of any original excavation and thus, leave behind inexact feature boundaries.

The excavations provided limited substantial data on any significant occupation within the main area of the Collins Complex, primarily relying on the only two fully excavated domiciles on site. The thing assemblages also pointed to a 'minimalist' occupation. Compared to the quantity of FCR, deer remains, and extensive middens, the lithic assemblage did not reflect the quantity of day-to-day tools required to process such a significant amount of food or sustain a substantial village. For example, the quantity of deer remains from Collins was quite high, but processing tools such as scrapers, knives, and the like were relatively low (see Appendix C). Most of the chert debitage was smaller in size, indicating that a significant portion of the chert tools were being maintained on site, but not manufactured.

This does not mean that a more substantial village area does not exist. In fact, as I discussed in Chapter 4, Douglas' structure count was almost certainly an under-estimate based on several threads of data (maps, profiles, material, and location). It is possible that further investigation of the areas directly across the river would show evidence of more people. As a mission, the Collins Complex likely gathered people from a wider area, including the general Vincennes area. This includes the nearby Richter site (~8 miles southwest of Collins), where my magnetometry survey in 2012 indicated a substantial village with wall trench houses and a possible palisade (Figure 6.2).

No substantial evidence of pottery production exists thus far on site at Collins. While most of the assemblage were certainly “locally made” wares, the local part could be debated. The collared vessels and the Maples Mills/Mossville vessels also suggested a maintained relationship with the Central Illinois River Valley, northeastern Illinois, southern Wisconsin, and northern Indiana (see Chapter 5 for discussion). Also, the presence of ceramics that were Cahokian in form correlated with other early contact site (some discussed below) assemblages including Powell Plain, Monks Mound Red, and Cahokia Red.

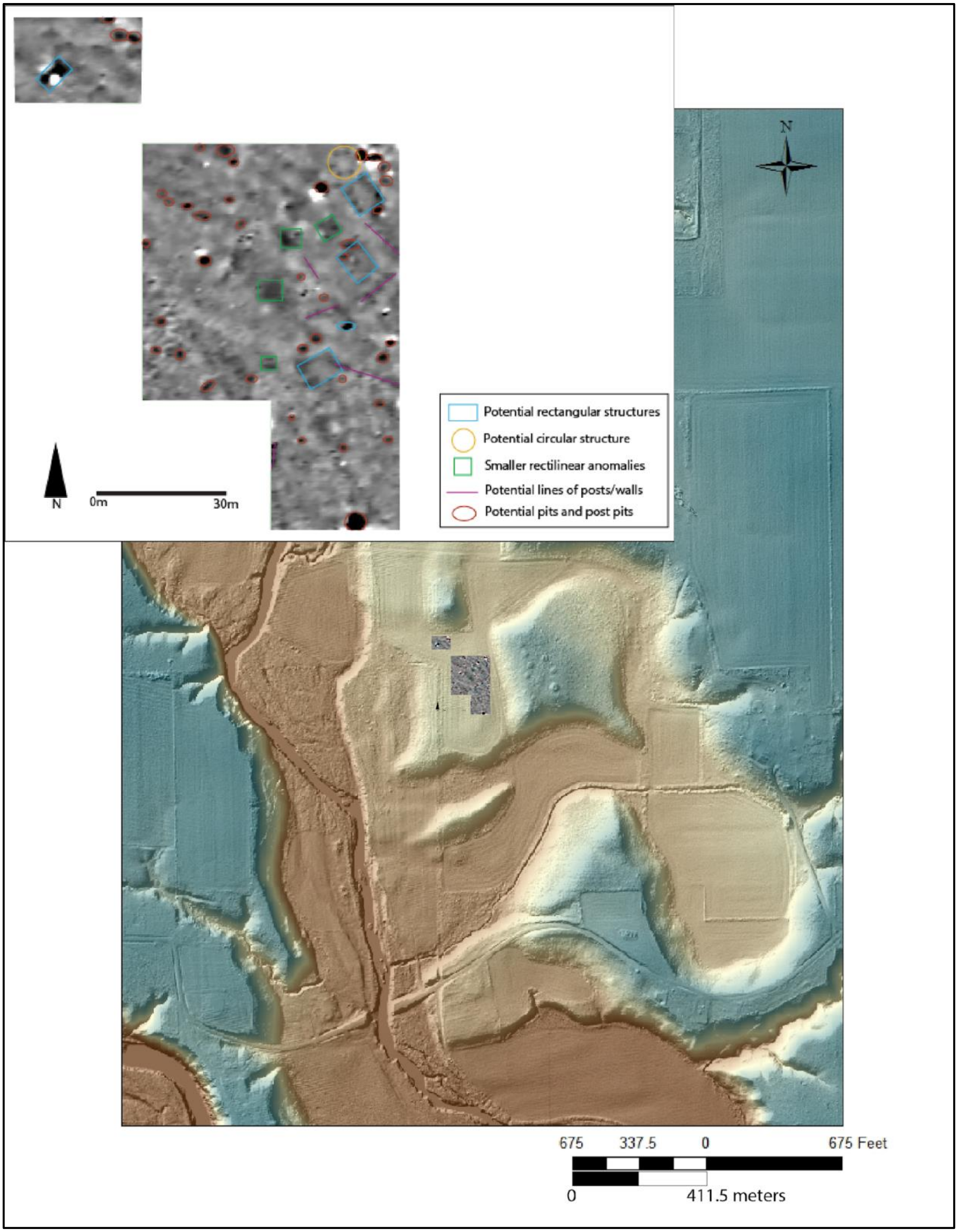


Figure 6.2. LiDAR image of the Richter Site (11V24) with an overlay of the location of the 2015 magnetometry survey. Top left inset shows a close-up of the magnetometry anomalies.

If Mound A and the surrounding terrace were the witnesses of life and celebration, then the bluff top and associated mounds were the place of the ancestors and the dead. The first temple iteration of C1 was assembled along the same Winter Solstice sunrise, as were many of the buildings below and the general site grid. A primary element of this temple was cedar. The bones of the entire building were assembled from cedar posts. The pooled mean of the median dates for temple C1 is 1114 CE if the "bad" date is excluded. If all four dates are included, the pooled mean is 1085 CE, which seems too early. I mentioned in Chapter 4 that there might be an old wood issue with these cedar dates, given their importance as a sacred tree and their longevity/slow decay. Douglas (1976) did comment that even though every effort was made to only collect samples with outer rings in-tact, the off-date was likely due to dating the heartwood. Even as the largest structure recorded at the Collins Complex it is important to note that it may never have been built for human persons.

An extended entrance or ramp faced the northeast, and that same wall and ramp was rebuilt at least once. The convergence of the sun and moon constructed into the terrace below also came together in a unique way on the bluff. The physical alignment of C1 (and ultimately the bluff itself) is that of the Winter Solstice sunrise, but the entrance faces the northwest towards Black-Star/Great Meteoric Black Star and darkness/night (Dorsey 1904a; Murie 1981a). Again, drawing from Skidi Pawnee stories of creation, the sun is always male and in the organization of the world, the god of the northwest is Black-Star/Great Meteoric Black Star and oversees darkness and night. Evening and night are overseen by the Moon and Evening Star, both of whom are female. The placement of the temple is also significant. Directly below the temple is a natural spring that oozes and flows directly from the bluff base. I mentioned in Chapter 4 that Dorsey (1904a:335) notes that Spider-Woman/Women are in some stories the daughter of Sun and Moon, while in others she *is* Moon. He stated that there are many Spider-Women and that they are known to reside in the sides of mountains and are the source of spring water. In the cosmologies of the Skidi and the Wichita for example, there are many dyads or complementary pairs – moon (female)/sun (male), Evening Star (night)/Morning Star (day), fire (sun)/water (moon), etc. Similar dyads were recognized archaeologically at Cahokia's Mound 72, within the F101 primary burial and suggested by Emerson and coauthors to be citing the Caddo creation story (Emerson et al. 2016) instead of the heavily male oriented hero story of Red Horn.

Like the buildings on the terrace below, C1 became something else. The roof was dismantled, and the central support posts pulled and filled in. Some of the posts for the walls were pulled while other sections remained in place, but likely sagged toward the center without any central support (see Chapter 4 discussion on post angles). In the center, a burial scaffold was assembled and at least five bodies were placed either on the platform itself or in bundles placed around the perimeter. At some point the disarticulated bones of the temple and the bodies inside were set aflame, changing once more. While still smoldering, the entire assemblage was blanketed in earth, creating the first layer of Mound C. The construction sequence for Mound C was similar to that of Mound D in that the core platform was built quickly. It is the only mound at the Complex, however, to document the use of sod block construction. Riley's test excavations on the bluff between Mounds C and D yielded no evidence of habitation or activity – not including the minor scatter that Mound D cut through. The bluff, as it would seem, was restricted to the animate bundles of different other-than-human life – ancestors, spirits, cedar, and fire.

The punctuated flows of gatherings and life on the terrace are the opposite of the blufftop restriction. The most noticeable being the elevation difference. Mound A is located in the middle of a floodplain terrace and at its greatest height was never more than 2 meters. The bluff steeply rises nearly 15 meters above the terrace below to an elevation of 198 msl. While not everyone was likely allowed into certain temple or lodge spaces on the mound itself, a majority of Mound A was visible to the people. One possible exception to the visibility of the special Mound A activities could be the large wall documented in 2016. This wall was rebuilt once and was substantial at nearly 50 cm wide with a northeast/southwest trend. Over 34% of the daub recovered during the excavations in 2016 came from the test unit with this feature. This suggested that while a vast majority of happenings on Mound A were visible and open to the people, some areas were not. There are several possible structures/features that this wall could have been shielding, in fact more clearly visible in the South profile wall of the 2016 trench is a probable structure (see Figure 3.20), the same probable structure that is superimposed by pit F12. A hickory shell from that feature has a median date of 1042 CE. The likely chronology is that prior to the construction of the clay platform recognized by Douglas and Riley, the wall was pulled, filled in, and capped with yellow clay (see zone CD in Figure 3.20). The same yellow clay that was used to build the platform.

Atop this clay platform was built a two-room temple, Structure 5, along with a bundle of associated features which assemble different colors, shapes, and textures. A single human tooth was recovered from the central wall/screen/bench. The shape, the lack of internal features, and the recovery of a single tooth from a post mold draw comparisons to descriptions of a Natchez temple by Le Page du Pratz (1774). He described a two-room structure with no windows. In the larger room, the sacred fire burned and the bones of the Great Sun rested in a box on a table/altar. In the other room it was complete dark, but he described two boards or shelves with small 'toys.' These are most likely ancestor statues or powerful figurines similar to those recovered from Etowah (Smith and Miller 2009). The sacred fire at Mound A was almost certainly outside of the temple walls. Riley's hearths F9 and F14 were prepared formal hearths. F9 was a clay rectangular/square platform with a circular basin that was heavily fired, cleaned, and reused. Feature 14 was described as an oval shaped clay fire basin ringed with white clay. The specific colors are important and animate themselves. In the creation of the gods in Skidi Pawnee histories, each of the four world quarter gods are color specific (Figure 6.3).

At the Collins Complex the light and dark layers of mound construction are light yellow sand and dark brown sands. Recalling the dyads featured so prominently in Pawnee and Wichita worldviews, these color combinations create another male/female dyad of gods. This color dyad (yellow and black) is one of repetition seen at Cahokia, Trempealeau, Emerald, and others. The colors are so heavily emphasized on Mound A that it further signifies the literal axis mundi of the complex – cosmic entanglements of creation along with the four quarter gods who hold up the world.

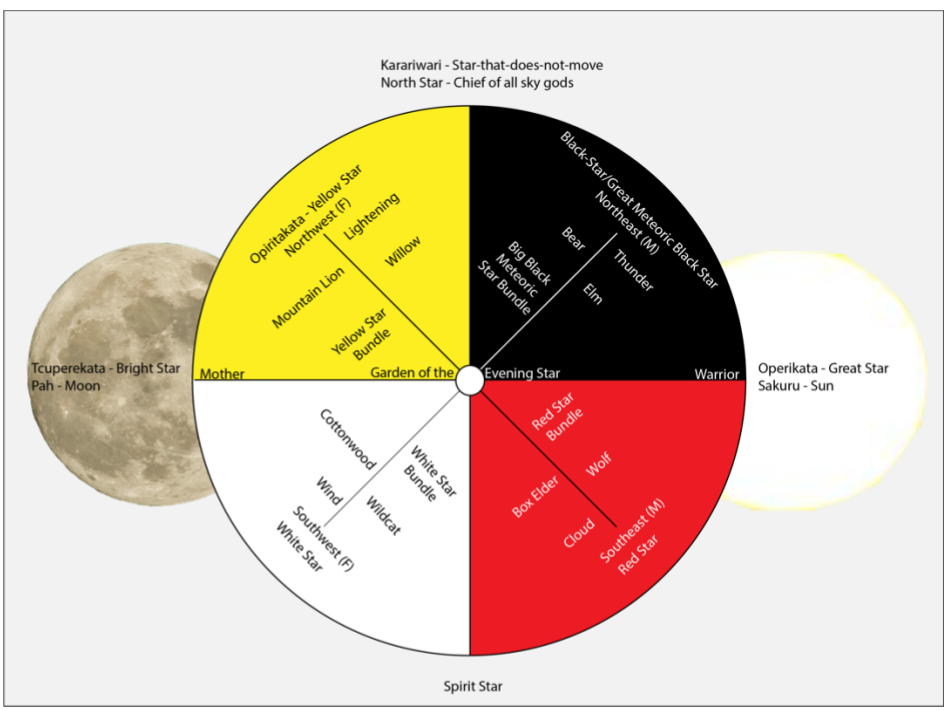


Figure 6.3. Skidi Pawnee Cosmic World Order – Gods, bundles, trees, animals, and natural forces. Information from Dorsey 1904a and Murie 1981.

Temple Structure 9, the possible house of the priest, also gathered/entangled specific colors and textures. This temple (wall trench in a deep basin) was partially excavated in 2016 and its basin cut through a thin placement of red clay over a thicker deposit of yellow clay, possibly indicating an older prepared clay platform like the one on the West side of the mound. The temple had a red and yellow floor, a priestly bundle, and a distinct closing event. The priestly assemblage included 11 bone scratchers (found on the floor) and the right valve of an Ark clam. Beneath the floor of this structure, excavations recovered a bald eagle cranial fragment and a Marginella shell bead. A variety of pigments were recovered from within the basin fill of this structure, including galena, hematite, and limonite. As I discussed in Chapter 4, this structure seemed to emphasize a repeated connection with the sky and water worlds.

After a time, this place too became something else. The roof was likely removed and at least some of the walls were left in place until a silting event washed over the floor. The remainder of the structure was dismantled and then filled in with homogenous soil. In Skidi Pawnee (also the Wichita – see Dorsey 1912) cosmologies, water is deeply connected to Moon, but storms, specifically Wind, Cloud, Thunder, and Lightning are the four assistants to the Evening Star (Dorsey 1904a). In the origin story told by Roaming Scout, a powerful Skidi Pawnee kurahus (priest), he tells of the first human being – a girl, the child of the Evening Star and Morning Star. She is placed on earth in a storm (Evening Star's assistants) and named Tcuraki or Rain-Standing (Dorsey 1904a:6-7). Alt and Pauketat (2017) recognized several similar silting events at the Emerald Complex in both temples and a large marker post burial of a young girl (Pauketat et al. 2017).

Water and clays were emphasized in numerous ways at the Collins Complex. Clays were thoroughly enmeshed within cycles of beginning and ending. For example, clays were often used to line small pits or offering spaces in Mound A. A primary surface (platform) on Mound A was constructed exclusively from yellow clay, which in its creation capped over earlier pits, fires, deposits, and features. The final addition to Mound A was a clay cap, ending a chapter in its biography and beginning another. The site itself is surrounded on three sides by the river. A natural spring oozes near the base of the bluff, directly below the C1 temple. Shells (210 recovered from 2016 excavations alone), which come from the water, were incorporated into pots, adornments, and bundles. Water as steam was emphasized in the presence of sweat lodges both on and off the mounds. Last, as I mentioned above, in the oral histories of Mississippian descendants, the moon is directly associated with water (see Dorsey 1904a, 1912). The possible lunar alignment of Structure 9 on Mound A was associated with a silting event from rain, water, or snow melt flowing into the structure basin.

Fire and thus, the sun, are equally present and active at Collins. The evidence for concentrated fires outside of temple Structure 5, the numerous burn areas on Mound A documented by Riley and his team (Riley et al. 1978) and subsequently by my excavations reinforce the idea. Additionally, the evidence of purposeful firing events of structures C1 and 8, the specific burned offerings and burn zones in the partially filled basin of Structure 4, and the primary site alignment to the Winter Solstice sunrise point to the active presence of the sun at Collins.

The final human engagements at the Collins Complex were a series of 'closings.' The median date of 1180 CE was the last date obtained for the Collins Complex. This date came from a very large pit feature (2.7m x 2.6m) west of Mound A. This pit was packed with materials weighing well over 136 kg (greater than 300 pounds of material). This final feasting event likely coincided with the capping of Mounds A and C. On Mound A, a final cap of yellow clay was draped over the entirety of the mound. At Mound C, a final homogenous loess cap was piled over the core mound, ending human interaction with this immensely powerful place.

The Collins Complex is an animate and powerful place. When viewed within a specific temporal window, Collins is best understood as a Mississippian mission. Core elements of a Cahokian-Mississippian mission bundle were identified at the Collins Complex including lively mounds and gathered spaces (plazas), special architectures, planned constructions with cosmic alignments, priestly paraphernalia, and the residues of feasting. As I stated in the Introduction, it is more than their presence, it is in the relationality and animacy of their bundling of the purposes of proselytizing and teaching a new religious worldview that defines the mission bundle. Again, missions are necessarily inclusive spaces and oriented to gather, yet they also specifically structure movement and engagement. As the mission core, mound building (and thus mound power) is inherently an engaging and immersive relational experience, socially, cosmologically, sensorially, and temporally. The invitation to participate, to experience, to engage and relate, is the active mission of a mission. In other words, missions become a convergence of history, cosmos, and ancestors (Pauketat 2000; Pauketat and Alt 2003; Thompson 2009). The affective qualities and placement of specific soils, mound buildings, orientations, and substances actively orient conversion.

While walking through the Kolomoki mound site in Georgia with his friends and Talwa teachers Harry and Scott, Archaeologist Lee Bloch would later recall some of the conversations from that visit. “Later, Harry would tell me that most non-Native people tend to be impressed with the size of certain mounds. For him, the question is not why build the mound so large, but rather why *here* and not somewhere else?" (Bloch 2018:264). This is an important question and relevant to our discussion on Mississippian missions. Why here? Place and the entanglement of other-than-human persons, substances, things, and powers is undoubtedly the answer.

## **On a Mission**

Not every Mississippian contact site is a mission. However, in previous chapters I have made the case that viewing the foundation and expansion of a Cahokia Mississippian religion through a mission lens allows for a multiplicity of religious experiences, some of which have already been highlighted by recent work discussing pilgrimage and Mississippian shrines, discussed further below (see Alt 2020b; Alt and Pauketat 2017; Skousen 2016, 2018; Skousen et al. 2020). If missionizing was a core tenet of the new Cahokia Mississippian religion, I maintain that there should be Cahokian 'founding' or contact at places geographically distant from Cahokia at or close to the 'Big Bang' and it could be traced through robust radiocarbon dating. The following examples provide a regional discussion of the different ways in which mission theories might provide a better fit for those Cahokian connections.

I introduced in Chapter 1 known hinterland sites that might be better understood through a Cahokia mission lens (see Figure 1.1). I chose to focus on places that were North and East of Cahokia and seemed to have Cahokian contact around Cahokia's Big Bang. To obtain a clear temporal window, I compiled published radiocarbon dates from 10 sites (Appendix E) and included the dates from the Collins Complex. To ensure they were cohesive, I recalibrated them using CALIB REV 8.2 (see Stuiver and Reimer 1993), which utilized the most recent calibration curve (IntCal20). Based on these data, seven of the 11 sites (with Collins) have at least one Edelhardt phase date. These seven sites can be considered the 'founding' sites (Alt and Pauketat 2017) within their commonly referred geographic region, i.e., Upper Mississippi River Valley, Central Illinois River Valley, etc. In addition to early ‘founding’ dates, another fascinating pattern emerged. In addition to Collins, 8 of the 10 sites showed the same ~30-40-year range during the Lohmann phase – the most common was ~1040-1080 CE. These dates strongly indicate a widely connected temporal flow of intensified Cahokian missionary connections during the Lohmann phase. Within each region, I begin with overviews of the places with Edelhardt (1000-1050 CE) dates, followed by the remaining sites in the area.

Before the hinterland summary descriptions and discussions, I briefly summarize some previous and some current alternative models that attempt to work through Cahokian expansion into the hinterlands. John Stoltman first attempted to model what he viewed at the time as different types of culture contact scenarios (1986). In his 1991 edited volume focusing exclusively on Mississippian interactions in Cahokia’s “periphery,” Stoltman expanded and modified his earlier model into five contact situations. Each of the five scenarios loosely follows Willey and coauthors’ original definitions of site and trait-unit intrusions (Willey et al. 1956). Stoltman’s (1991:350-351) five contact situations are summarized as follows[62]:

1) The presence of a “limited number of diagnostic American Bottom-derived or inspired traits within the context of an otherwise local cultural assemblage…It is inferred that these sites were occupied by indigenous local peoples…who engaged in at least indirect, in not direct, exchange with the American Bottom.” Stoltman offers the Rench site as an example of this type of contact.
2) The second situation is “characterized by an admixture of nonlocal elements within a predominantly local cultural context.” While this is similar to number one, it differs in the “richness and completeness of the Mississippian materials.” Stoltman offers Aztalan as an example and ponders if Rench might also fit within the second contact situation.

3) The third situation is “characterized by the occurrence of a minority of American Bottom-derived or inspired traits within an otherwise preponderantly Late Woodland assemblage, but differs in that the Late Woodland culture involved has no known local antecedents.” The Fred Edwards site in the Apple River Valley is given as an example of this situation. Stoltman hypothesizes that Fred Edwards was founded by a

62 All summaries, quotations, and paraphrasing are taken directly from Stoltman (1991:351-352) unless otherwise noted.

non-local Late Woodland group explicitly for resource extraction solely for economic gains within an American Bottom exchange network. John Kelly developed a similar economic model, but it was predicated on Cahokia being a trade center with Mississippian colonies established for resource extraction (see Kelly 1991a, 1991b).

4) Culture contact situation number four "involves sites with virtually 'pure' Middle Mississippian cultural assemblages that appear abruptly in regions that were formerly occupied by Late Woodland peoples." The Eveland site in the Central Illinois River Valley and the Red Wing region in northern Minnesota are offered as examples. Migration in some form is inferred in this situation. A similar model was hypothesized by Emerson regarding Cahokian refugees or dissidents leaving Cahokia en masse to various hinterland locations (i.e., Aztalan and the Apple River valley) (see Emerson 1991a).

5) The final contact situation is defined by "stylistic copying of Powell/Ramey technology and iconography." Stoltman argues that the presence of these imitations could be interpreted as "indirect cultural influences from American Bottom culture."

Stoltman's (1991) model primarily attempted to discern between indirect or direct Cahokian involvement in generating culture change in the hinterlands. Identifying the first four contact situations heavily relied upon the presence of an increasing percentage of Mississippian things/traits until reaching 100% Mississippian or a "pure" assemblage. Ultimately, the descriptor "Mississippianization" is in part derived from aspects of Stoltman's (and Willey et al.'s 1956 definitions) model.

Contact situation five is an emulation hypothesis devoid of any meaningful relationships or connections. Recently, scholars researching Cahokian contact in the Central Illinois River Valley (CIRV) draw from Stoltman's contact situation number five in attempting to allow for greater local agency. Their use of an emulation model was an attempt to break from the earlier unidirectional models of culture change projected onto the local peoples in the CIRV (see Friberg 2018; Wilson et al. 2017, 2020). I would argue however, that their use of cultural emulation hypotheses put the focus back on outdated trait-unit models (including Stoltman's) that fail to get at the mechanism or driving force behind culture change. It has the unintended effect of reducing cultural interaction and change in the CIRV to simplistic copycat behavior. The required esoteric knowledge for the placement, alignment, and construction of mounds or the temples leaves emulation lacking as an explanatory model.

The last model I wish to review is Robert Hall's Calumet/adoption model (see Hall 1991, 1997). Hall (1991:31) described the Calumet Ceremony as an "adoption rite to create fictions of blood relationships, useful in cementing intertribal relations…" He goes on to explain that the Calumet Ceremony "was specifically used to establish friendly relations between otherwise unrelated groups" (see Hall 1991, 1997 for further details regarding this ceremony and its history). Blending Hall's model with my mission hypothesis adds more nuanced explanations of *how* Cahokian missionaries established initial contact in places where there were local Late Woodland peoples already living. The missionary hypothesis also adds directness to Hall's Calumet Ceremony and is worth noting in the following regional comparisons.

**Upper Mississippi River Valley (UMRV)**

This region is situated within a larger cultural geography of earlier effigy mound builders. The Driftless Area, so named as it was not subjected to the scouring of the glaciers, encompass northeast Iowa, northwestern Illinois, and southern Minnesota and Wisconsin. Effigy mound construction is relatively short-lived, beginning around 800-900 CE and effectively ending at 1050 CE (Theler and Boszhardt 2000). The following discussion suggests that the local peoples who participated in that tradition seemed to have very little interest in being evangelized by/at Mississippian missions in the UMRV.

Unless specifically denoted, the information summarized in this section is taken from Pauketat et al.'s (2015) article describing their past excavations and I refer the reader to that article for more detailed descriptions. The Fisher Mounds Site Complex is considered a small possible Mississippian farmstead located at the mouth of the Coon River in southwest Wisconsin. This specific area is recognized as a veritable "No Man's Land" between two Effigy Mound territories (Boszhardt and Goetz 2000; Pauketat et al. 2015). Three radiocarbon dates are reported for the site and one of these, from the basin of house F13 (single-post structure), has an Edelhardt 1σ date range of 1037-1048 ($p$=.179). This is the earliest recorded date for a possible mission contact in the UMRV occurring just before and in conjunction with Cahokia's Big Bang.

A total of four structures are currently known from the site, one single-post structure and three wall trench structures. The placement and pairing of these structures on the terrace are "identical to the dispersed farmsteads of the Cahokia region" (Pauketat et al. 2015:268; see also Emerson 1997). The houses are considered domestic based on the debris, although locals in the area have found chunkey stones and a Cahokia point that might be related to a much larger Mississippian village or possible nodal site following Emerson's (1997) rural settlement model. The most notable aspect of these structures are the near exclusive use of stone and ceramic directly from Cahokia. Based on the materials recovered, the rebuilt structures, and the radiocarbon dates, Fisher Mounds Site Complex is interpreted to be seasonally occupied intermittently for a relatively short period – from the late Edelhardt phase to no later than the Early Stirling phase (Boszhardt and Benden 2019).

Forty-five km north of the Fisher Mounds Site Complex is a bundle of sites known collectively as the Trempealeau Site Complex. The complex is comprised of four geographically spaced areas with the dominant feature being the steep bluff (Little Bluff) that overlooks the Mississippi river and terrace below. The entire complex has six possible mounds, not all of which have been investigated (Boszhardt and Benden 2019; Pauketat et al. 2017). Three platforms were carved from and shaped atop the commanding bluff – Little Bluff. Much of the entire top of Little Bluff has been engineered, including causeways (Pauketat et al. 2015, 2017). One small burial mound was placed at the very edge of Little Bluff looking over the Mississippi River. A single interment was buried with a set of elk horns (Pauketat et al. 2017). The meticulously engineered bluff top was found to have an orthogonal alignment to a northern minimum lunar rise (Pauketat et al. 2017).

Excavations documented 15 structures (3 single-post and 12 wall trench) both on and off mound with an additional circular anomaly – possibly a sweat lodge - identified in magnetometry surveys (Boszhardt and Benden 2019; Pauketat et al. 2015). Like the Fisher Mounds Site Complex to the south, a majority of Trempealeau's lithics and ceramics originated from the Greater Cahokia Region, including Mill Creek and Crescent Hills Burlington cherts. A petrographic analysis of the pottery confirmed their Cahokian origins (see Stoltman et al. 2008). Pauketat and coauthors stated that less than 20% of the chert debitage is of local origin (2015:278). There is no evidence of any palisades, indicating the area felt no external threat and most activities would be visible to those who wished to look.

The seven radiocarbon dates for the Trempealeau Site Complex indicated a Lohmann phase founding right at or just before 1050 CE (Cahokia's 'Big Bang'). It is very likely that mound building and bluff engineering occurred before this, as two of these early dates came from the hearth of a single post structure on the primary mound on Little Bluff – Mound 1 (Pauketat et al. 2017). The deep basin, the single-set posts, the central hearth, and the yellow and black floor plastering led the investigators to identify this structure as a shrine house (Pauketat et al. 2017:187).

Like Cahokia and Collins, the same color dynamics long noted in Mississippian mound construction, light (yellow) and dark (black) was employed at Trempealeau. Pauketat and coauthors suggested that the mound profiles on Little Bluff indicated the entire construction was completed “in a single effort” (Pauketat et al. 2015:277). Similar to Collins, the top layer of the Little Bluff mounds was a distinct yellow fill. The final ‘cap’ or closing of the mounds was a black silt layer – again drawing similarities to Pawnee color associations of the possible male/female dyad of yellow star (NW) and black star (NE). Like Cahokia and Collins, the mounds at Trempealeau are varied in shape and on top of commanding locations. The differential access to Trempealeau is significant. The rearrangement of the bluff top for a very specific mound complex with a burial and shrine house indicated restrictive access to human persons while also proselytizing from the literal mountain tops in addition to connecting the entire place back to the larger Mississippian cosmic geography.

The mounds and activities in the areas on the terrace below Little Bluff were both similar and different to those at Collins. The lower platform mounds (and likely plazas – especially at the Uhl Complex) were more accessible and engaging than those on the bluff. Recent excavations of a newly identified platform in 2017-2018 (Boszhardt and Benden 2019) in the area at the eastern foot of Little Bluff, revealed a slower mound engagement – similar to Collins’ Mound A. The Ouellette platform mound was begun by stripping the topsoil to prepare for the first platform, a practice noted on Little Bluff and at Mounds A and C and the Collins Complex. A single-post (possibly bent frame) charnel structure was built on this platform and subsequently burned with human interments (Boszhardt and Benden 2019). Over these smoldering remains, new layers and deposits were regularly accumulated, including baskets of burned offerings and distinctly colored soils capping over features. Another summit/platform is emphasized, and a wall trench structure is constructed on it. This building was dismantled, and additional mound layers were added (Boszhardt and Benden 2019). The final interactions included capping the mound with a layer of both bright yellow and orange soils.

Due to the lack of mixed artifactual materials from local Late Woodland peoples and more specifically the emphasis of material directly from Greater Cahokia led Pauketat and coauthors to suggest that the Fisher Mounds Site Complex (FMSC) and Trempealeau Site Complex (TSC) were ultimately built by and for Cahokians who had little interest in the locals. Based on the presence of many of the core mission bundle elements – platform mounds, specialized architecture (shrine and potential charnel house), and cosmic alignments, I suggest an alternative, that the local peoples had little interest in the happenings of FMSC and TSC. There is little evidence of any restrictive walls/palisades that kept spaces from being accessed or viewed. Viewing TSC as a mission highlights the accessibility of the mission core - the mounds and plaza on the terrace (especially at the Uhl Complex), the possible charnel structure and material assemblages that indicated access to a priest or religious specialist – ground galena, hematite, and a sandstone tablet fragment, in addition to evidence of feasting/midden debris being swept to the edges of important areas (Boszhardt and Bendon 2019; Pauketat et al. 2015). The accessibility exception was the shrine on top of the bluff, which was a natural restricted access space and certainly fits the hypothesized power/knowledge gathering element suggested by Pauketat and coauthors (2017:194). However, without locals providing interest and engagement, the mission was ultimately preaching to the converted.

Ethnographic accounts and oral histories discussing priests and access to their knowledge/histories/songs/ceremonies were most often provided offerings or gifts for that access (see Dorsey 1904a, 1904b; Murie 1981a) and if local people were not drawn to the mission core, then those signatures would not be visible. In this way, Collins differs from Trempealeau. The

Little Bluff mounds and shrine assemblage was most certainly a restrictive place set apart from most human persons with the likely exception of powerful priests/guardians/caretakers. However, the very presence of that assemblage on the most visible point in the area is a literal proselytizing beacon, whether intended to be so or not.

So, *why* the UMRV? The investigators of Trempealeau and Fisher Mounds Site Complex suggested that possible Cahokian missionaries or pilgrims were drawn to the area because they recognized the "animate powers, elemental forces, ancestral spirits, and other-than-human beings of such places" (Pauketat et al. 2015:284). They further stated, "Cahokia's appropriation of the mysterious Driftless Area and the geomorphologically unique Trempealeau Bluffs, with their Effigy Mound spirits and other natural wonders, may have been integral to a cosmic claim" (Pauketat et al. 285). In this way, the important draw of building this mission was connecting to the specific *place* and whether or not local people participated in that mission does not negate the fact that 1) it *was* a mission and 2) it *actively* and visibly proselytized by its very existence. Pauketat and coauthors conclude,

> Great physical distance if not also directionality (north) might have carried with it great cultural significance, adding weight to any Cahokian claim that their city was a cosmic center. Without it and other possible missionizing, colonial engagements in distant lands, Cahokia may not have become Cahokia. This may be what Trempealeau was *doing*" (Pauketat et al. 2015:285, emphasis original).

**Aztalan**

The Aztalan Complex is a multi-mound and village site located on the Crawfish River in southeastern Wisconsin (Barrett 1933; Birmingham and Goldstein 2005; Richards 1992, 2020). The main complex was situated on the west bank of the river and included a palisaded main area within which were four primary platform mounds, a plaza, and a small village area. To the immediate northwest of the main site, following a linear ridge, was a series of conical mounds that date to the Mississippian occupation of the site (Richards 2020:114). Along the east bank of the river, east-southeast of the main site was a “small earthwork and mound complex…[that] has produced Middle Woodland, Late Woodland, and Mississippian materials” (Richards 2020:112). Birmingham and Goldstein remarked that along this stretch of the Crawfish River are a series of large springs, in fact they noted that some of the springs were enclosed within the palisaded main area (2005:50).

The main site was enclosed by a bastioned palisade while the interior was spatially restricted using a series of walls. The outer palisade gave the site a rectangular shape with the four primary mounds located in each of the corners (generally). A smaller bastioned enclosure extended from the southwest corner. A small village area was located along the eastern side of the palisade and sandwiched by a separate western wall, blocking direct access to the plaza. The arrangement of the palisade and inner walls explicitly directed how certain spaces were to be experienced and engaged (Krus 2016; Richards 2020).

Two mounds were built within the domestic area, the Northeast Mound and the Gravel Knoll in the southeast corner of the main area. The Gravel Knoll was found to be a natural glacial kame that had been sculpted and shaped to look like a platform mound (Goldstein 2015; Harrison and Goldstein 2015; Kolb 2015; Richards 2020). Richards (2020:115) also noted that there were “a number of large pit features on the summit of the mound [that] contained what may be the residue of feasting and ritual practices, including the deposition of copper items and other exotica.” The Northeast Mound was a low (2 meters) rectangular platform mound that was oriented East-West and constructed in a single stage (Zych 2013). Of note, was the submound structure, Structure 5. I mentioned this structure in Chapter 4 discussing similar structures to the Structure C1 beneath Mound C at the Collins Complex. Beneath the Northeast Mound at Aztalan, the area was first cleared of all debris followed by the construction of a large (greater than 300 m$^2$ floor area) rectangular structure with wall trench construction used for the lateral walls and single post construction for the poll ends (Zych 2013, 2015). Within this extra-large structure were six clay-lined hearths. Zych (2013, 2015) hypothesized that the structure was cleaned and burned, followed by a cap of yellow sand. Profiles of the Northeast Mound indicated that the mound was constructed on top of a prepared clay platform (see Richards and Zych 2018: Figure 6.7). The mound was subsequently constructed using alternating light and dark soils (Zych 2013, 2015).

The last two mounds within the main site at Aztlan were separated from the village area by walls and a large plaza (Birmingham and Goldstein 2015; Richards 2020). The Southwest Mound is the largest of the four primary platform mounds at 5 meters in height. It is two-tiered and was constructed on or into the natural hillside/rise, making it seem 'taller' than the surrounding area (Richards 2020:114). The mound was built in three stages. Excavations in the 1950s revealed that the first platform "supported a large ceremonial post in its center that had been burned" (Birmingham and Goldstein 2015:71). Barrett's profile of this post (1933:223) highlighted that not only was the post itself capped with a thick layer of yellow clay, but also a mound profile that included an array of colored clays (red, white, yellow, and brown) and white sands. Single post structures were reportedly built on each summit, with one large square structure measuring 12.8 x 12.8 meters (Birmingham and Goldstein 2015; Richards 2020). "A thick layer of light-colored clay coated the top part of the mound" (Birmingham and Goldstein 2015: 70).

The Northwest Mound was a truncated rectangular (East-West) platform mound with a height of three meters (Richards 2020). This mound was also built in three stages and is considered a mortuary mound. Goldstein and Meyers (2013:226) succinctly explain,

> On the second level of the northwestern platform mound, ten extended individuals, as well as one secondary bundle burial, were found within a structure…The charnel house was burned, either accidentally or deliberately, and remains of the individuals within it at that time were also burned. The charnel house feature included a single pot and a woven bag that contained nuts and corn.

The charnel house structure was a single post construction measuring 3.7 x 1.5 meters with a long axis orientation of northwest/southeast (Price 2007). Strontium isotope analysis by Price and coauthors (2007) indicated that five individuals did not have a local place of birth. Three individuals had similar ratios to those found in the American Bottom (Price et al. 2007). After the charnel house was burned, the mound was capped with a final layer of soil (Richards 2020).

Richards' (1992; 2007) excavations of an extensive midden deposit established that there was an initial Late Woodland population that lived along the west bank beginning in the "late tenth-century" with Mississippian contact and occupation solidly dating from 1040-1160 CE (2-sigma pooled range) (Richards 2020:118). Recent research on the palisade suggests that it was constructed between 1080-1160 CE (Krus 2016), making it the earliest known bastioned palisade, predating Cahokia's palisade by decades (Richards 2020:118). Richards (2020:118) summed up the occupation of Aztalan,

> Thus, the current date set suggests an initial late tenth-century occupation by late Woodland collared ware producers followed by a post-AD 1050 arrival of Mississippians. The major Cahokia-related Mississippian occupation occurred during the twelfth century and likely ended in the early to mid-thirteenth century. Although this date range spans Moorhead times (cal. AD 1200-1275) in the American Bottom, Aztalan's material culture inventory offers no evidence of interaction with Cahokia or other Mississippian groups following the end of the Stirling phase in the American Bottom.

Architectural construction methods at Aztalan included single post construction, wall trench structures, and a combination of both (submound Structure 5) (Richards and Zych 2018). Thirty-four non-mound structures have been excavated prior to 2018 and those structural forms included, rectangular, square, circular, and T-shaped (Birmingham and Goldstein 2005; Pfaffenroth 2018). A charnel house was also identified on a summit of the Northwest Mound

(Goldstein and Meyers 2013; Richards and Zych 2018; Richards 2020). One notable architectural feature was the stone paved spring that had been enclosed within the palisade walls of the residential area (Birmingham and Goldstein 2005:59).

Some of the Aztalan Complex mounds and possibly some of the structures (charnel house) exhibited both lunar and solar alignments (Birmingham and Goldstein 2005; Romain 2015; Scherz 1987). Romain (2015) demonstrated that the Southwest, Northwest, and the Northeast mounds have lunar alignments with other mounds outside of the main site area. Birmingham and Goldstein (2005: Figure 4.20b) also indicated that the charnel structure was aligned northwest/southeast to the Winter Solstice Sunrise and the Summer Solstice sunset. Romain also observed solstitial alignments (2015).

The dominant part of the material assemblage of Aztalan was also a combination of Late Woodland and Mississippian associations (Birmingham and Goldstein 2005, Richards 1992, 2007, 2020; Zych 2013, 2015). A recent spatial analysis of the fauna from the residential area indicated a heavy reliance on white tailed deer, like the Collins Complex (Leigl 2014). Unlike Collins, however, there was an equal presence of low, medium, and high utility elements of the deer (Leigl 2014). Leigl’s spatial analysis did show a slight difference in faunal remains (types and amounts) between the southern and northern areas of the residential precinct (2014). Specifically, the northern area, which included the Northeast Mound, had higher percentages of deer, large mammals, and birds. The northern area also had two large middens, which had been suggested as possible feasting residues (Leigl 2014; Picard 2013). The southern area had more fish and medium-sized mammals. Bone things of note included a bear tooth pendant, significant number of bone awls, drilled deer bones, antler tine projectile points, shell hoes, marine shell beads and marine shell pendants (Barrett 1933; Richards 1992). The type of mussel shell used for the shell hoes were identified as a type that was not present in the Crawfish River until recent times (Birmingham and Goldstein 2005). "Sources would have been the Mississippi River, one hundred miles away, or possibly the Illinois River" (Birmingham and Goldstein 2005:90).

An in-depth reanalysis of the ceramic collections from Aztalan suggested a diverse assemblage of both local and non-local ceramics of both Late Woodland and Mississippian styles (Richards 1992). Collared wares present included Starved Rock, Albee Cordmarked, and Point Sauble, along with cord impressed types like those from the Central Illinois River Valley (Richards 1992; Zych 2013). Mississippian forms included Powell Plain, Monks Mound Red, Cahokia Red, Merrell Red-Filmed, and Ramey Incised (Birmingham and Goldstein 2005; Goldstein and Richards 1991; Richards 1992; Zych 2013: 56). One specific hybrid form was defined by Richards (1992:348-352) as "a grit-tempered variety of companion type to the Aztalan variety of Powell Plain." He named this type Hyer Plain (Richards 1992). Emerson and coauthors summarized Richards' ceramic reanalysis,

> Roughly one-third of the vessels represent Late Woodland types, primarily Aztalan Collared with a small number of Starved Rock Collared jars. About one-half of the vessels are clear Mississippian forms, while Late Woodland/Mississippian hybrid forms comprise about three percent and several new provisional types about ten percent (Emerson et al. 2007:51).

The overall vessel assemblage generally looked like the Collins Complex assemblage with varying percentages (see Richards 1992; Zych 2013). Hall (1991:13) suggested that Aztalan could have been founded by people coming from northern or east-central Illinois, possibly the Collins Complex. Richards (1992, 2020) generally agreed with Hall, and hypothesized that a Collared ware making peoples chose the Aztalan site prior to Cahokian contact. Reiterating Douglas' (1976) assertion that the Collins Complex was not a "collared site," I illustrated in Chapter 5 that only 15% or less of the total vessel assemblage were collared (see Figure 5.7). In other words, it was not dominated by collared wares. However, Aztalan, Collins, and the Central

Illinois River Valley (see below) have relatable ceramic assemblages consisting of collared wares, cord impressed wares, and Mississippian forms, minimally suggesting broader connections and relationships (Chapter 5; Douglas 1976; Richards 1992; Esarey 1991). Other noteworthy non-vessel ceramic things included a broken clay figurine fragment, disks, discoidals, and an effigy.

The lithic assemblage was composed of both domestic and non-domestic things (Barrett 1933; Richards 1992). Notable things included discoidals, two copper, long nosed maskettes, ear spools, mill creek hoes, pipes, copper beads, and triangular points (Cahokia style and Madison) (Barrett 1933; Birmingham and Goldstein 2005). The stone hoes were made from Mill Creek, a specific type of chert found in Southern Illinois and is the dominant chert type for stone hoes at Cahokia (Birmingham and Goldstein 2005; Refs., Boles 2018; Pauketat 1998a, 2013a, 2013b). Most of the chert utilized for projectiles came from local sources, a similar pattern to the Collins Complex (Chapter 5). Barrett (1933:279) described unique, nearly perfectly spherical stone balls. The material type listed was "lava," which I assume would be basalt. They may be game pieces, specifically balls for the double ball game or shinny stick game described in oral histories (Dorsey 1904a, 1904b, 1904c).

The Aztalan Complex is the site most often compared with the Collins Complex in terms of similarities (Douglas 1976; Hall 1991; Pfaffenroth 2018; Richards 1992; Riley and Apfelstadt 1978; Zych 2013). Looking at the whole of Aztalan, the mounds (shapes, soils, colors), plaza, feasting residues, structures (circular, T-shaped, single post/wall trench), alignments (solar and lunar), and the thing assemblage, point to a Cahokian mission bundle.

> I have long favored the notion that Aztalan was settled by a dissident or disenfranchised group of Cahokians seeking to reestablish themselves well out of reach of American Bottom sociopolitical systems. I was drawn to this idea as an explanation for the peculiarities of Aztalan's location, site structure, material culture, and demographic diversity. However, this scenario lacked a specific mechanism capable of driving such an out-movement of Cahokians. Tim Pauketat's compelling

account of a Cahokian religion spread by proselytizers provides a mechanism for how this might have occurred while obviating the necessity to appeal to unspecified sociopolitical causes" (Richards 2020:123).

## Apple River Valley (ARV) Region

The Apple River Valley is the most southern part of the Driftless Area located in the northwest corner of Illinois. The river itself flows southwest through the Driftless Area before joining the Mississippi River. This region has long been an archaeological focus in questions regarding Cahokian interaction. In 1991, Emerson wrote, "The Apple River Focus of northwestern Illinois has played a central role in discussions of the northward spread of Middle Mississippian culture" (Emerson 1991:164). Within the ARV itself are several villages/nodal sites (following Emerson 1991), farmsteads, and mound centers. There was a distinct change that occured in the area at and immediately after 1050 CE, with Wilson and coauthors (2017:106) stating, "it is clear that the people of the Apple River radically reconstructed their social landscape to include temple towns and surrounding hamlets, along with a Mississippian-like ceramic assemblage with a distinctly hybrid and northern flavor." The following discussion focuses on the John Chapman, Mills, and Lundy sites in addition to the Fred Edwards site, 60 km north of the ARV. Two of the three sites discussed in this section each have one Edelhardt date.

The John Chapman site is situated on a terrace along the Apple River, the site is comprised of a small plowed down mound, a possible plaza, 12 small single-post structures set in basins, and one T-shaped structure (Millhouse 2012; Wilson et al. 2017). Associated with the John Chapman site is the Grace Chapman site, a series of Woodland mounds that includes a bear effigy, linear mounds, and conicals (Wilson et al. 2017). It is currently unknown if these mounds were earlier constructions or if they were "a part of a contemporary multi-ethnic occupation of the terrace" (Wilson et al. 2017:107). Some of the conicals were tested and yielded feasting residues, charred maize, and Grant ceramics (a type of Late Woodland collared ceramics) indicating possible contemporaneity. The mound at John Chapman likely had a charnel structure (possibly made from cedar), either as a submound structure or on a summit as many local collectors reported finding hundreds of shell beads (Hargrave 2005; Millhouse 2012). The ceramics were a mix of Late Woodland and Mississippian, with mixed/hybrid forms and Millhouse (2012) notes Cahokia points from local cherts. Like the Colins Complex, several of the Late Woodland vessels present included non-local styles such as Aztalan and Starved Rock Collared as well as Maples Mills from the Central Illinois River Valley.

Millhouse (2012:105) explained that all the structure basins were used for refuse and no specific materials were associated with floor contexts. He posited that it is possible that later "more Mississippianized" groups were using the old basins for trash, but he believed this was not the case (Millhouse 2012:105). There were two published dates for John Chapman and the one solidly Edelhardt date came from the burned single post T-shaped building, F34 (1σ date range of 975-1051 CE [*p*=0.54]). This structure has a long axis orientation of northeast/southwest with the extended entrance/alcove facing southeast. As I discussed in Chapter 4, T-shaped structures are part of a bundle of architecture forms that are distinctly associated with religious contexts (i.e., medicine lodge following Pauketat et al. 2012) and are only found during the Lohmann and Stirling phases. The Edelhardt date may be a result of dating burned wood (i.e., the outer rings are missing). Feature 34 is small, only 2.9 x 1.5 meters, with little to no associated artifacts indicating it was cleaned out prior to burning (Millhouse 2012). Most significantly, after the structure was burned it was left open to the elements to allow silt to be washed in from a storm/snow melt[63].

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63 Pauketat and coauthors (2012) salvaged a T-shaped structure from the Christy Schwaegel site in the Richland Uplands. That structure and its biography are practically identical to the one from John Chapman with the exception of being twice as large and built with wall trenches. It has the same northeast/southwest orientation,

The other important Apple River sites include the Mills site and the Lundy site. Both are located on the Apple River 8.8 km south of the John Chapman site. Wilson et al. provide a succinct summary,

> The Mills site (11JD11) is situated within a horseshoe bend of the Apple River and consists of a central precinct with an embanked depression and paired conical and platform mounds surrounded by habitation areas. A long line of small conical mounds connects the village area with a Woodland mound group to the northwest. The Mills site is surrounded by seven smaller satellite communities, including the partially excavated Lundy (11JD140) site to the north.

I do not have any dates for the Mills site, but six radiocarbon dates from the Lundy site are included in Appendix E and indicate a Lohmann through Stirling phase occupation. Millhouse (2012) described the Mills site central precinct as being the conical and platform mounds and a plaza. Early (1926-1932) excavations of the platform mound found evidence of a structure with a burned clay floor and a mound construction sequence that included "alternating layers of refuse laden fill and large internal pit features filled with abundant feasting debris" (Millhouse 2012:80). Marine shell (*Busycon perversum*) was reported from those mound excavations as well (Millhouse 2012). Further test excavations of the site by Millhouse in 1999-2000 led to the observation that just "below the topsoil was a dense midden deposit over a foot deep" (Millhouse 2012).

The last site in the immediate ARV to introduce is the Lundy site, just 1.5 km northwest of Mills. This site is primarily understood to be a small hamlet on an Apple River terrace and is most likely a satellite community of Mills (Emerson et al. 2007; Millhouse 2012). One small, single post structure that had been built over by a larger wall trench structure was the only architecture noted from the most recent excavations in 1983 (Emerson 1991; Emerson et al. 2007). Ultimately, the most important contribution of the Lundy site was the addition of several

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and the entrance is also facing the southeast. That orientation is noted to mark the Winter Solstice sunrise (see Pauketat 2012).

radiocarbon dates (Table D.1) and a fine-grained analysis leading to the identification of the Bennett Phase (1100-1250 CE), a phase that focuses on the Mississippian “intrusion” into the Apple River (see Emerson et al. 2007:11-12).

Last, I include a brief look at the Fred Edwards site in southwest Wisconsin as researchers continue to emphasize likely connections to the peoples of the ARV (see Emerson et al. 2007; Finney and Stoltman 1991; Millhouse 2012; and Wilson et al. 2017). The Fred Edwards site is located on a terrace of the Grant River, which is 13 km inland from the Mississippi River. As I mentioned above, it is actually 60 km north of the actual ARV. The Fred Edwards site was considered a single component village site, archaeologically speaking, allowing a good temporal window for observing change (Finney and Stoltman 1991). The description of the physical place of Fred Edwards is a now familiar one, “The terrace extends southward from a prominent upland ridge that rises about 60 m above it” (Finney and Stoltman 1991:231). No mention of any evidence of modification or occupation of the prominent bluff overlooking the site and river below was made.

The site itself was considered to be a large Late Woodland village comprised of several rectangular, single-post structures surrounding a plaza and protected by a palisade (Wilson et al. 2017). “Despite its relatively small size and comparative isolation, the archaeological evidence clearly indicates that the occupants of the Fred Edwards site were actively engaged in cultural interaction not only with Middle Mississippian peoples to the south, but with local peoples to the west and north as well” (Finney and Stoltman 1991:250). These connections are more prominent in the material assemblage and draw similarity with the Collins Complex. The ceramic assemblage was described as being 45% Late Woodland with the remaining two categories being Mississippian and hybrids (Finney and Stoltman 1991). The similarity was that 13% of their Late

Woodland vessels are considered to be non-local, including Aztalan Collared. Finney and Stoltman (1991:243) viewed the founding of Fred Edwards to be by a “site-unit intrusion” from the south, possibly the ARV. The dates for the primary occupation of the site can be firmly situated within the Lohmann and Stirling phases, which follows the ceramic data (see Emerson et al. 2007). However, there are three radiocarbon dates with Edelhardt dates, the highest probability specimen coming from a post in the palisade.

The fact of Cahokian contact in the ARV is not a contested one. Unfortunately, many of the sites in the region have only had limited testing/excavation. Based on the data provided above, I would argue that identifying the John Chapman and the Mills sites as missions provides a better fit for the region than a general migration, refugee, or small kin group intrusion from the American Bottom (see Emerson 1991; Millhouse 2012). This only entails viewing the data already there (mounds, plazas, feasting, special architectures, and religiously associated things) through a mission lens to get at the *why* (and the who) for initial contact/founding in the region – specifically at John Chapman and Mills. After recognizing an emphasis on cedar and marine shell at John Chapman and Mills, Millhouse (2012:57) astutely summarized, “The redundant use of symbolic wood, marine shell, minerals and earth colors was an essential part to linking these very diverse northern communities to the larger Mississippian world.”

The in-depth ceramic analyses from the Lundy and Fred Edwards sites helps clarify larger connections among the different communities of the north. The ARV highlights both the diverse mission experiences at a regional scale while also emphasizing a repeated pattern (i.e., mission bundle). That pattern underscores the power of a place to gather and to demand connections. The stark relief of the bluffs and river terraces of the ARV and UMRV were already marked as powerful places by the presence of effigy mound groups. In a pattern seen with mission archaeology of the historic period, missions are often placed near or directly over places previously known as important or powerful (Graham 1998). The closing of the T-shaped structure/medicine lodge using fire and water connects the John Chapman site to a much larger religious landscape. Comparing Collins and the ARV to Trempealeau and Fisher Mounds, underscores how missions can look very different materially when the local communities are actively participating/engaging with Cahokian missions and missionaries (human or otherwise).

**Central Illinois River Valley (CIRV)**

The Illinois River is over 330 km long, beginning in northeast Illinois and flowing into the Mississippi River just north of where the Missouri River meets the Mississippi River and is an ecologically diverse and plentiful region. The CIRV has a vibrant history of complex relationships, especially from the Terminal Late Woodland through the Mississippian periods. The popular CIRV model regarding Cahokian contact and culture change focused on migration. Specifically, a migrant Cahokian group/s of elites moving into the CIRV and "Mississippianizing" the local Late Woodland peoples (Conrad 1991; Harn 1991; Wilson et al. 2017). There has been a recent critique on this model for not sufficiently accounting for local agency (see Friberg 2019; Wilson et al. 2017; Wilson et al. 2020). Three of the earliest known places within the CIRV with evidence of Cahokian contact/influence are the Rench site, the Fandel site, and the Lawrenz Gun Club site (Esarey et al. 2017; Friberg et al. 2021; Krus et al. 2019; McConaughy 1991; Wilson et al. 2017, 2020).

The Rench site is the earliest known site with Mississippian architecture within the CIRV. Located in the northern CIRV, the site itself is 3 km West of the Illinois river. The site is typically interpreted as a small Late Woodland/Mississippian farmstead represented by the burned remains of two structures and several associated pits (McConaughy 1991; McConaughy et al. 1993; Wilson et al. 2017). Radiocarbon dates from the two structures indicated use at least by 1050 CE, possibly earlier for House #1 (McConaughy 1991; McConaughy et al. 1993).

House #1 was a combination single post and wall trench structure with a likely hipped roof, no floor, and was burned (McConaughy 1991; McConaughy et al. 1993; Wilson et al. 2017). House #2 was a single post, likely bent pole structure that also burned but was cleaned prior to burning (Wilson et al. 2017). The ceramic assemblage included a familiar mix of Late Woodland styles and Mississippian wares. The Late Woodland ceramics included Mossville, Maples Mills, and Starved Rock Collared. Recognizable Mississippian ceramics included Powell Plain, Cahokia Red Filmed, Cahokia Cordmarked, and St. Claire Plain (McConaughy 1991; Wilson et al. 2017). Nine Madison triangular points and five Cahokia triangular points were recovered from Rench. The remainder of the assemblage could be categorized as food processing tools. The fauna assemblage differed from the Collins Complex data concerning white tailed deer. However, the presence of wolf/dog, beaver, and swan was noted (McConaughy et al. 1993). White tailed deer dominated the faunal assemblage at Rench with evidence indicating processing was done on site. Unlike the Collins Complex, all elements of the deer were present within the Rench assemblage.

The Fandel Mounds site is located on the opposite side of the river (Peoria Lake) from Rench. Recent investigations at the site revealed the presence of the three platform mounds and associated village (Wilson et al. 2020). Wall trench structures were uncovered including a structure described as religious due to the presence of crushed hematite and limonite in the wall trenches (Wilson et al. 2020). The mounds were found to align to the northern minimum moonrise, a similar alignment found at Lawrenz Gun Club in the southern CIRV, Pfeffer in the Richland Uplands, Trempealeau in the Upper Mississippi Valley, and the Angel site in southern

Indiana (Friberg et al. 2021). Materially, the Fandel Mounds site assemblage was most heavily represented by local lithic material and local Late Woodland style ceramics (Esarey et al. 2017; Wilson et al. 2020). Fandel is thought to have been a relatively short occupation (Friberg et al. 2021; Wilson et al. 2020).

Over 100 km south of Fandel sits the earliest mound site in the southern CIRV, Lawrenz Gun Club (Krus et al. 2019). Lawrenz was an extensive mound and village site situated along the Little Sangamon River. Large-scale gradiometric surveys combined with ongoing small-scale excavations revealed the presence of at least 10 mounds, a plaza, 15-20 structures, and an extensive palisade wall (Krus et al. 2019; Friberg et al. 2021). Radiocarbon dating indicated that Lawrenz was occupied for at least 200 years with dates from a wall trench structure outside of the palisade wall placing it in the Lohmann phase (Krus et al. 2019). Researchers estimated that at its founding, Lawrenz consisted of at least one mound (the largest mound, Mound 14), a dozen small, rectangular wall trench structures, and a possible L-shaped structure (Friberg et al. 2021; Krus et al. 2019). Ceramics from these earlier portions of the site included Late Woodland styles and Cahokian styles (Krus et al. 2019; Wilson et al. 2020).

Viewing Cahokian contact in the CIRV through a mission lens allows for greater flexibility between the proselytized and proselytizers. The earlier model focused on unidirectional culture change that heavily emphasized a passive local population being used by an intrusive Cahokian elite (see Conrad 1991; Harn 1991). A mission hypothesis does not discount the overarching theme of that model – that Cahokian influence changed the CIRV. Considering the newest research and data on migration and population movement, a mission hypothesis can be more inclusive to a wider variety of experiences. Again, the newest Strontium isotope data indicates that at any time in Greater Cahokia's history, a minimum of 1/4 of the population was immigrants (see Hedman et al. 2018).

Hedman and coauthors stressed that the Strontium likely "represent [a point of origin from] several different regions across multiple states in the midcontinent, rather than any single location" (Hedman et al. 2018:210). Their primary point being that the point of origin for many of the Cahokian immigrants was somewhere outside of the American Bottom proper (Hedman et al. 2018:210). Taking the Strontium data into account, along with the deep archaeological data from the CIRV, there was likely significant population movement from the American Bottom through the CIRV. The significant population movement throughout the Greater Cahokia region allows for a scenario where some early CIRV emigrants came back as missionaries.

**Green and Ohio River Valleys**

Near the confluence of the Ohio River and the Green River is the Angel Mounds site, a large Mississippian mound center. Angel Mounds encompassed 11 mounds, multiple plazas, temples/shrines, and several rebuilds of a large palisade wall (Black 1967; Watts Malouchos et al. 2021). Recent radiometric dates situated the founding of Angel – the earliest constructions of two mounds – at just before 1050 CE (Monaghan and Peebles 2010; Watts Malouchos et al. 2021).

New research on the alignments at the Angel site demonstrated that, like the Emerald Acropolis (discussed below), there is a primary site axis (Pauketat 2013, 2017; Romain 2019; Watts 2020; Watts Malouchos et al. 2021). The Angel Axis was orthogonally aligned to a major northern minimum lunar moonset (Romain 2019; Watts Malouchos et al. 2021:3). In addition to several lunar alignments, the angel site was also planned along a significant solar alignment

(Herrmann personal communication). The location of the site along the north bank of the Ohio River naturally aligned with a Winter Solstice Sunrise (Herrmann personal communication).

While no associated village has yet been definitively tied to the earliest phase of Angel, dense village areas were recognized later in Angel's timeline (Black 1967; Monaghan and Peebles 2010; Watts 2020; Watts Malouchos et al. 2021). Recently, E. Watts Malouchos (2020) demonstrated that the Angel Axis enfolded a much larger landscape than just the site itself. The Angel Axis connected smaller communities not only to Angel via a cosmic lunar alignment, but also back to Cahokia itself (see Watts 2020).

**The Richland Complex**

The Richland Complex (Figure 6.4) is a loosely defined geographic area situated in the uplands to the east of Greater Cahokia comprised of farming villages, "nodal" sites, and shrine complexes (Alt 2002, 2006; Alt and Pauketat 2017; Emerson 1997a, 2018; Kruchten 2012; Pauketat 2003; Pauketat et al. 2017, 2018). Many of the Richland Complex sites were settled just prior to or early in the Lohmann Phase (1050 CE) (Alt 2006; Kruchten 2012; Pauketat 2003). Ceramics from southern Indiana, southeast Missouri, northeast Arkansas, and even the southern Mississippi River valley, signify immigrants founded or were a significant part of many Richland Complex sites (Alt 2002, 2006; Pauketat 2003). This differs from the previous regional/site comparisons, which had existing or nearby local populations into which Cahokian missionaries proselytized (Trempealeau is the exception).

Many Richland Complex sites contained a mix of regional Woodland and Cahokian ceramic styles, architectural forms, and overall site organization (Alt 2006:79). As a part of the Greater Cahokia region, the Richland Complex both helped to shape and was shaped by Cahokia's 'Big Bang' (Alt 2002, 2006; Alt and Pauketat 2017; Emerson 2018; Kruchten 2012;

Pauketat 2003; Pauketat et al. 2017; Skousen 2016, 2018). I provide a brief overview of some Richland sites followed by a more in-depth look at two major mound centers currently identified as shrine complexes (Alt and Pauketat 2017; Pauketat et al. 2017).

Three sites in the Richland Complex had pre-Big Bang (pre-1050 CE) occupations, the Hal Smith site, the Knoebel site, and the Emerald Acropolis (Alt 2006; Alt and Pauketat 2017; Kruchten 2012). The Knoebel site, located along the Silver Creek, had evidence of a considerable occupation in the late Edelhardt phase (1000-1050 CE) (Alt 2006:88). The earliest architecture at the Emerald Acropolis was a lunar aligned shrine house that dated to the Edelhardt phase (Alt and Pauketat 2017). As abruptly as the area was founded, it was just as quickly emptied (Pauketat 2003). By 1150 CE nearly all the people living in the uplands had left (Pauketat 2003; Alt and Pauketat 2017).

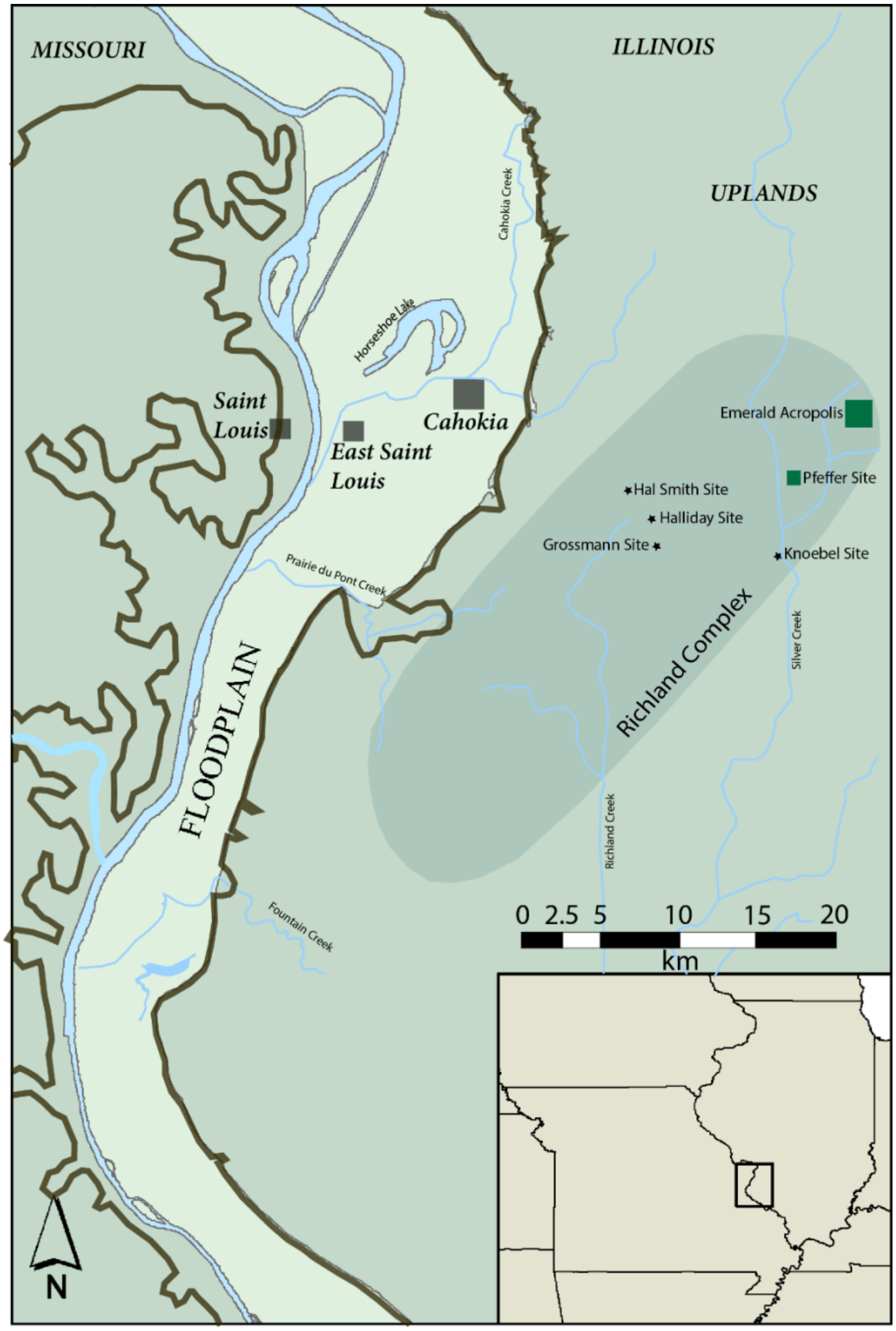


Figure 6.4. Map showing Greater Cahokia and the Richland Complex area with sites highlighted in the text.

Specialized architecture (sensu Emerson 1997a architecture of power) such as T and/or L-shaped buildings were identified at Halliday, Grossmann, Knoebel, and Emerald; numerous sweat lodges were reported from Emerald, and a charnel structure was identified from Grossmann (Alt 2006; Alt and Pauketat 2017; Kruchten 2012; Pauketat 2003; Pauketat et al.

2017). Some sites exhibited a mix of both single post structures and wall trench structures, and in some cases faux wall trenches (Alt 2006; Pauketat 2003). With the exception of the Emerald and Pfeffer Acropolises, many of the Richland Complex sites were more similar to American Bottom sites and in some ways, Greater Cahokia, than to other hinterland sites further away (Alt 2006). However, as Alt (2002, 2006, 2012) points out, these same sites also held onto/blended their own traditions and experiences and was not simply a Cahokian stamp, a similar trend at other hinterland sites previously discussed.

The remainder of this section focuses on the two mound centers (now recognized as shrine complexes) from the Richland Complex, the Emerald and Pfeffer Acropolises. These mound centers have been termed acropolises because of their significance and their specific locations on prominent glacial ridges (see Alt and Pauketat 2017; Pauketat et al. 2017). Pauketat and coauthors (2018:Box 2.2) define shrine complexes as,

> [O]utlying nonresidential, partially intermittent ceremonial sites…including sites marked by monumental architecture such as Emerald and Pfeffer in the uplands of the American Bottom. These large complexes indicate concentrated ritual activities, specialized religious architecture, and religious versus domestic residues and may involve pilgrimage activities (Skousen 2016). This category of religious site may also include small shrines of isolated ritual architecture lacking domestic refuse and pits that likely mark a significant place on the landscape.

The Emerald Acropolis is the largest site in the Richland Complex. The site consisted of 12 lunar aligned, rectangular and circular mounds that sat atop a heavily sculpted 12-meter-high glacial ridge (Alt and Pauketat 2017; Pauketat et al. 2017:Figure 2). The earliest known architectural feature at Emerald was a lunar aligned shrine house that dated to the early Edelhardt phase (Alt and Pauketat 2017). The site dates to 1000-1300 CE with a possible hiatus in the twelfth century (Alt and Pauketat 2017: 56). Shrine houses were identified by their deep basins, often deliberately plastered floors of yellow and black, and in most cases, walls were constructed using a single post technique (Pauketat et al. 2017). At Emerald, all the identified shrine houses were lunar aligned. Pauketat and coauthors (2017:211) explained further regarding shrine houses, "Materials burned inside the building basins, water-laid sediments, replastered floors, rebuilt walls and structured fills invariably accompanied their apparent renewal, dismantling, and abandonment."

Excavations at Emerald revealed dense stands of religious architecture (shrines, medicine lodges, and sweat lodges) along with concentrations of temporary housing (Alt and Pauketat 2017). A suite of specialized architecture was present at Emerald including oversized council houses or temples, shrine houses, a T-shaped medicine lodge, small sweat lodges, and large circular rotundas (Alt and Pauketat 2017; Pauketat et al. 2017). Absent from the Emerald Acropolis was any mortuary facility or complex, though a charnel structure was identified at the Grossmann site to the southwest of Emerald (Alt 2006).

Like other sites discussed in this larger regional comparison, Emerald was built on/into a very powerful place full of vibrant connections (sensu Bennett 2010) to powerful other-than-human persons, substances, things, and cosmic alignments. The entirety of the Emerald Acropolis was precisely planned from the main site axis alignment to a major lunar standstill, to the anthropogenically shaped landscape. Greater than 50% of all architecture was lunar aligned (solar alignments are also present). There was also a substantial association with water even though no permanent water source was available, only a prominent spring (Alt 2020; Pauketat and Alt 2017). Recent research suggested that Emerald was specifically constructed along the newly verified Emerald Avenue, which provided a direct route into the American Bottom and Greater Cahokia (Alt and Pauketat 2017; Pauketat et al. 2017; Skousen 2016; Skousen et al. 2020). The archaeological evidence suggested that Emerald was constructed and occupied (at least by human persons) in a series of intermittent pulses (Pauketat and Alt 2018). The presence of both religious architecture and temporary architecture, but the lack of long term or domestic housing possibly indicates that Emerald was recognized and engaged as a pilgrimage destination (Alt and Pauketat 2017; Skousen 2016, 2018).

The Pfeffer Acropolis is located on a small glacial ridge 5 km from the Emerald Acropolis. The site consists of a central platform mound, a plaza, and areas of habitation (Alt 2006:83; Alt and Pauketat 2017); Alt and Pauketat (2018:56) described Pfeffer as a second, smaller lunar shrine complex that dates 1050-1100 CE. The shrine house was located off-mound and exhibited a yellow plastered floor and post holes, basin fill that had concentrations of burned corn, along with hematite, quartz crystals, and two broken chunkey stones. There was also evidence of the basin being re-excavated and new deposits placed (Alt 2006:84). Like other Richland Complex sites, non-local ceramics (Yankeetown and French Fork Incised) were identified from the Pfeffer assemblages (Alt 2006:84).

The Richland Complex (specifically Emerald and Pfeffer) provides a complimentary thread to the larger tapestry of a Cahokian Mississippian religious landscape. As I summarized above, the recent data from the Emerald Acropolis suggests it was a “special religious installation or shrine-complex” with an emphasis on water, the moon, sun, earth, and feminine powers (Pauketat et al. 2017:219). The timing of Emerald’s first shrine house suggests that the “founding and enlargement of Cahokia and Emerald were part of an expansionist religious (if not also political) movement that underwrote what became ‘Mississippian culture’ (Pauketat et al. 2017:219). The prominence of religious structures, the hypothesized temporary housing, and the intense associations with water, the moon, and feminine powers, might also point to Emerald being a place where people make pilgrimages to experience and learn to be priests and/or missionaries. Hypothesized shrines at other sites like Trempealeau might also be pilgrimage sites to obtain power and knowledge (see Alt and Pauketat 2017; Pauketat et al. 2015; Skousen 2016, 2018). The identification of shrines and/or shrine complexes, pilgrimage centers, and missions adds depth to the discourse regarding a Cahokian religious movement while still recognizing the connectedness of a much larger religious landscape.

**Regional Discussion**

The above discussion has shown that missions and missionaries as part of a religious movement are a better fit for the archaeological data concerning Cahokian contact and culture change in the regions outside of Cahokia then previous models of military expansion, resource extractive colonies, political refugees, chiefdom conflicts, or markets/trade. I would argue it directly answers a question first posed by Emerson in 1991:233 – "What was the role of religion in the spread of Mississippian culture into northern areas?" Religion was central. Following Alt (2020:45), I believe that a religious movement is the missing piece of a larger puzzle in understanding *how* Cahokia became Cahokia and *why* "there is evidence of Cahokians living in distant places, and even why Mississippian culture spread in the way that it did." Like historic-era religious movements by Native American prophets, theories of missionizing provide a more cohesive narrative that account for the long recognized Mississippian connections across a larger geographic area while also allowing for a wider range of experiences situated within specific historical contexts. In other words, no two missions or missionizing experiences are the same, but that does not negate the fact that a founding principle of the Cahokia religion is to missionize.

> Over the years I have occasionally heard Aztalan referred to as a 'Little Cahokia,' and I have usually been at pains to disabuse the speaker of this notion. But there may be some truth in such a gloss. If, for instance, Trempealeau can be thought of as a model *for* Cahokia as spiritual center of the world, Aztalan seems more a model *of* Cahokia (Richards 2020:126).

## **The Mission of Corn Mother**

Throughout these chapters I drew from oral histories of probable Cahokian descendants to add context or to flesh out the archaeology. I particularly drew more heavily from Caddoan speaking groups including South Band Pawnee, Wichita, Skidi-Pawnee, and Arikara. I followed other archaeologists (Emerson and Girard 2004; Griffin 1967; Hall 1997; Pauketat 2021) who recognized that the rich, multifaceted religious worlds of the Caddoan speaking nations are very likely ancestrally connected to the religious foundations of a Cahokia Mississippian religion. Further, following Echo-Hawk's (2000, 2018) call for archaeologists to acknowledge the historical value in oral histories in archaeological research, I drew from the oral histories and stories of the Skidi-Pawnee in particular, and found numerous narratives that unambiguously involve missionizing/proselytizing. In the following section I show that Indigenous missionizing has precedent.

I begin with *The Enchanted Mirror: Ancient Pawneeland* by Echo-Hawk (2018), book one of three, which focuses on Pawnee history. Specifically, it is an examination of Pawnee oral history and the archaeological record and "how their stories harmonize" (Echo-Hawk 2018: About). In this book, there is a chapter titled "Mother Corn Messengers" where he succinctly lays out a case not only for a religious movement with missionizing intent beginning at 1000 CE, but one that was very distinctly a women's movement tied to maize. I quote a section of this chapter at length (Echo-Hawk 2018:140-142).

> The South Band Pawnees, like the Arikara, engaged in Mother Corn ceremonialism. According to Curly Chief, Kitkahahki Pawnee women once performed a ceremony known as the Corn Dance every spring, utilizing corn, hoes, and a pipe. In accordance with women's religious ideology, this ceremony was designed to benefit humanity, and the leading female sponsor was "respected and highly thought of." And after the ceremony "she is like a chief." An intriguing statement is made in one story recorded by Grinnell, probably regarding the South Band Pawnees, that prior to the events of the story "the Pawnees had always had a woman chief[.]" The status of women underwent change over time among the Pawnees, and Mother Corn influenced these events.

> Wichita tradition also referred to a female religious figure in this ancient era who traveled from community to community for the sole purpose of proselytizing other women into accepting Mother Corn ideology. In Tawakoni Jim's Wichita origin story, corn was given to the first woman as a gift to sustain future generations. Later, this woman – identified as Moon, a female deity – began her work to educate women about how to live, primarily through corn cultivation. She was a fount of instruction, advice, and knowledge, and through her authority she empowered women to perform certain ritual activities to bring blessings. In this oral tradition she also told of a game using a ball which served as her symbol for traveling; then she spoke explicitly of her missionary activities:
>
>> When [Moon] began her work among the women she gave them Mother-Corn, and told them that this was theirs, and this was their mother; that from this time they should be nursed; that with the use of Mother-Corn they could live and it would strengthen the young ones; that Mother-Corn was to be used as long as the world should last…She showed them how to play the [double-ball] game and told them that the ball was for their use in traveling. Now she told them the time was drawing near when she would leave them, for she had gone from one place to another, showing the women what to do, how to travel, how to raise Mother-Corn, how they must eat it and offer it, in all the ways that Mother-Corn was to be used.
>
> Across North America after 1000 CE, it is apparent that incarnations of Mother Corn periodically redefined the social authority of women. We should not look for women battling men, or for separate communities of women and men, but rather for situations involving polarization between competing ideologies…A continent-wide women's empowerment movement seems memorialized in traditions told from the Southwest to the Northeast.

Over the years Echo-Hawk has maintained a webpage/blog where he shares his research into his Pawnee oral histories. Some of these are earlier drafts from which he drew upon for later publication (i.e., his 2018 book). The story below is from a section to the above-mentioned chapter that had been in earlier drafts. In that section he expands on the missionizing aspect of Mother Corn.

> The Sioux story of White Buffalo Calf Woman also fits the Mother Corn missionary pattern. In the story, a female deity bearing corn and a pipe visited the Sioux with specific teachings to impart. As explained by Joyzelle Godfrey: "[T]he first four days She taught us the rituals, and the songs, and admonished us to treat each other at all times with love, honor, and respect. The second ten days that She was here, she taught us how to hunt buffalo. We were still on foot…" In Sioux traditions, White Buffalo Calf Woman appears as [a] figure of great authority and perilous beauty. At various points in time, the ancestors of the Sioux encountered Mother Corn, and she left an indelible imprint upon their culture (2001:paragraph 27).

Echo-Hawk provides the most compelling and succinct accounts of missionizing in Pawnee oral histories, particularly as they might be tied to the introduction of maize. I suggested in

Chapter 1 (following Rogers 1991:234) that the particular notion of missionizing may have come from the ancestral Northern Caddo. Echo-Hawk's research lends weight to that notion.

While I took pains to highlight the human and other-than-human gods/stars/priests/missionaries through oral histories and correlated archaeological data, I want to re-emphasize the wider multi-dimensional reality of an animic world full of other-than-human persons, things, substances, and powers.

**Mission Movements Beyond Mississippian**

The research presented here has potential value in thinking through other Indigenous religious movements viewed through a mission lens. For example, Chaco Canyon and its relationships with nearly 100 outlying settlements within the surrounding San Juan Basin (Van Dyke 2020:42). A mission model has previously been introduced by Bruce Bradley (2004) to theorize Chaco's connection with Wallace Ruin, an outlying settlement Bradley defined as a mission.

A second example for potential value of a mission hypothesis outside the Mississippian world, is Tiwanaku in the Bolivian highlands. The urban city of Tiwanaku has recently been recognized as a gathering place for persons (human and other-than-human), powers, spirits, and things (see Janusek 2008, 2020). Scholars have debated the level of influence that Tiwanaku had on the surrounding regions, often focusing narrowly within a political/economic framework (see Owen 2005; Knudson et al. 2004; Goldstein 2014). Research using Strontium isotope data has shown that there were non-local peoples present at both Tiwanaku and hinterland sites (labeled as colonies) (Knudson et al. 2004). Like the Cahokian religious movement, viewing Chaco's and Tiwanaku's founding and expansion through a mission lens helps get at the underlying mechanism of that expansion while also allowing for a greater diversity of local experiences.

**Conclusion**

In the introduction I established the problem – getting at the *how* and *why* of Cahokia's rise and religiously influenced expansion. My approach to these questions involved testing Indigenous mission theories as the underlying mechanism of that expansion. I argued that a bundled dataset of mounds, special/religious architecture, cosmic alignments, and things, when viewed through a mission lens, is not only a better explanatory narrative for Cahokia's rise and expansion, but also a complimentary one that fits within current understandings of the religious foundations of Cahokia (see Alt 2006, 2020; Alt and Pauketat 2017; Baires 2017; Baltus 2015; Emerson 1997, 2015; Pauketat 2013, 2020; Pauketat and Alt 2015, 2017, 2018; Pauketat and Emerson 2008; Pauketat et al. 2012, 2015, 2017; Skousen 2018; Skousen et al. 2020). I focused on the Collins Complex in east-central Illinois as a case study for contextualizing a Mississippian mission, but more importantly, what that mission *does*.

Before opening and engaging with the contents of a mission bundle, Chapter 1 traced the possible origins of some of those contents (mounds/plazas, feasting, cosmic alignments, and special architectures), along with the act of missionizing itself, through the Southeast before converging at Cahokia. I reviewed Cahokia's mission foundations with the tethering of cosmic forces with earthly powers in the construction of the core of Cahokia – Monks Mound, the Grand Plaza, the Rattlesnake Complex, and submound 72. The mission of the mission core, once established, was to gather and proselytize. The inpouring of immigrants (Hedman et al. 2018) were actively missionized through their structured movements through place, and their daily entanglements with cosmic orientations via buildings, pathways, or mound construction. At or just before 1050 CE the Cahokia mission bundle traveled. This outward movement was a religious one, missionizing local communities within and through an animic geography of persons, places, things, and substances connecting them back to Cahokia via complex relational fields – cosmic and otherwise.

This chapter reassembled the mission bundle individually deconstructed in Chapters 3-5. I demonstrated that the Collins Complex is an entanglement of lively mounds, special/religious architectures, specific cosmic alignments, priestly paraphernalia, bundled substances of fire, water, clays, and colors, that proselytizes a religious movement. I illustrated how a Cahokian mission theory is a better explanation of the *why* of the long documented Cahokian contact/intrusions into the northern hinterlands. Lending weight to this conclusion, I showed precedent for pre-colonial missionaries by drawing attention to Pawnee oral histories. Specifically highlighting the work by Roger Echo-Hawk that shows missionizing in the spread of Corn Mother ideology. Lastly, I illustrated the value in Indigenous mission theories outside of the Mississippian southeast by briefly introducing Chaco and Tiwanaku. Drawing from Indigenous theories of missionizing and New Materialist theories that recognize animate other-than-human actors as causal to long-term historic change, data sets that already exist at places such as Cahokia, Chaco, and Tiwanku are contextualized, resulting in a forced reset/reframing of significant historical narratives.

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## APPENDIX A: COLLINS COMPLEX FAUNAL REMAINS

### Collins Complex Faunal Analysis

### Vermillion County, Illinois

### Steven R. Kuehn - August 2018

Archaeological investigations at the Collins Complex between 2013 and 2016 resulted in the recovery of a small faunal assemblage. Bone and shell preservation was fair to moderate, with roughly two-thirds of the assemblage minimally identifiable to the class level. Unfortunately, relatively few specimens could be classified to the genus and species level, which hindered discussion of faunal exploitation and resource utilization at the site. The remains were recovered from three locations, the Indian Springs Mound (11V82), and two locations within the main Collins Complex (11V15), Mound A and off-mound excavations south of Mound A. The great majority was obtained from Mound A. As nearly all of the faunal material was obtained from mound context, the assemblage is interpreted as representing remains primarily associated with ceremonial or ritual rather than habitation or household activity.

### Method of Analysis

All faunal material from the Collins Complex was examined individually and the following information recorded for each specimen larger than 2 mm: element, side of the body (when applicable), section or portion of the element, and taxonomic classification. Relative (e.g., adult or juvenile) or approximate chronological age was recorded when it could be reliably determined based on the degree of epiphyseal fusion, tooth eruption, and occlusal wear. Refitting of bone fragments was restricted to specimens recovered from within the same feature or unit. An osteological comparative collection and various reference manuals facilitated specimen identification. Each specimen was examined for exposure to heat, in the form of burned and calcined bone. Evidence of butchering (e.g., cut and chop marks, spiral fractures) was recorded when observed. Bone and shell tools and worked fauna are described in detail. Due to specimen fragmentation, otherwise unidentifiable pieces of mammal and bird bone are categorized as large-sized, medium-sized, or small-sized based on the relative size and thickness of each specimen. The approximate live weight of large-sized mammals is considered to be greater than 50 lbs (23 kg), 11-50 lbs (5-23 kg) for medium-sized mammals, and less than 10 lbs for small-sized mammals. Indeterminate bird remains were treated in a similar fashion, divided into large-sized (e.g., turkey, Canada goose, or larger), medium-sized (e.g., large duck, cormorant), and small-sized (e.g., teal-sized duck or smaller). When it was not possible to reliably categorize a specimen based on size, it is listed simply as mammal or bird of indeterminate size.

The quantitative measure of the number of identified specimens per taxon (NISP) is used throughout this report unless otherwise noted. Minimum number of individuals per taxon (MNI) determinations are based on comparison of repeating or multiple elements, relative age, and overall size and calculated for the assemblage as a whole. In general, MNI estimates are made only for specimens minimally identifiable to the genus or species level (following Reitz and Wing 1999:198-199). However, MNI estimates are provided for terrestrial and aquatic snails classified to the family level. In addition to NISP and MNI, a food utility index (FUI) is calculated for the white-tailed deer remains (Metcalfe and Jones 1988; see also Kelly 1997; Styles and Purdue 1996). Each element is assigned a food utility value based on the amount of meat, marrow, and bone grease it contains. Low-utility elements include the skull, mandible, and distal limb bones. Mid-utility bones include most trunk elements, the pelvis, and the upper forelimb bones. High-utility remains include the upper hind limb bones and the sternum. The FUI percentages for a standard deer are 59.5% low utility, 29.0% mid utility, and 11.5% high utility. FUI determinations, based on the NISP, provide insight on deer butchering, carcass processing, and transportation practices. Habitat information for the various taxa recovered is taken from Jackson (1961) for mammals, Kaufman (1996) for birds, Smith (1979) for fish, Phillips et al. (1999) for reptiles, and Cummings and Mayer (1992) for freshwater mussels. Other specific sources are cited where appropriate.

## Collins Faunal Assemblage

The Collins faunal assemblage contains 3,571 faunal remains, recovered from feature and test unit context (Table A.1). A total of 1,022 bone fragments cannot be identified to element or class and are listed as taxon indeterminate (Vertebrata). Of these, 305 are burned or calcined. Eleven Vertebrata remains from Feature 8 have been modified and fashioned into flattened pins. These worked items are described in detail below.

### Mammals

Mammal remains account for 2,258 specimens. A total of 177 white-tailed deer (*Odocoileus virginianus*) elements were recovered. A minimum of seven individuals is indicated with adult, young adult, and juvenile elements recognized. Deer element representation is skewed towards ribs and vertebra fragments, but all body portions are represented (Table A.2). The prevalence of trunk elements translates to a mid food utility index (FUI) of 70.9%, over twice that of 29.0% ascribed to a standard deer. The occurrence of high FUI remains is 10.9%, comparable to the 11.5% found in a standard deer. The paucity of cranial pieces and distal limb bones (except for tooth fragments and phalanges) results in a low FUI of 18.3%, approximately one-third of the 59.5% of a standard deer. Overall, this pattern indicates that head and distal limb portions were typically discarded at the kill location, and only trunk and upper limb portions returned to the site for further processing. Given the ceremonial (e.g., mound) nature of the site, it is also conceivable that meat-rich portions were transported to the site for feasting events or ritual-activity related consumption. Dropped deer antler and frontal pieces were recovered from Features 5 and 16, respectively, indicative of a late fall-winter season of use. None of the deer remains show butchery marks, but one 1$^{st}$ phalanx from Test Unit (TU) 4 has a drilled interior and may represent a cup-and-pin game piece or tinkling cone fragment.

One distal femur fragment, a complete mandibular incisor, and a maxillary premolar fragment are identifiable as elk (*Cervus elaphus*). The teeth are from an adult while the femur fragment is from a young adult, indicating the presence of two individuals. No butchery marks or modification evidence was noted on any of the elk remains.

Two specimens, a distal metapodial fragment and a complete 2$^{nd}$ mandibular molar, are categorized as indeterminate dog/wolf/coyote (*Canis* sp.). Four raccoon (*Procyon lotor*) bones were recovered, and consist of a humerus fragment, a baculum, a premaxilla fragment, and one maxillary 1$^{st}$ molar. The baculum may represent ritual paraphernalia, based on the context in which some examples have been found (e.g., Bluhm and Liss 1961:129-130; Griffin et al. 1970:47-56; Heckenberger et al. 1990:130, 135; Kuehn 2016) although the exact function of these items is not clear. None of the dog or raccoon bones display butchery marks or evidence of modification.

Small mammal remains encountered in the assemblage include cottontail rabbit (*Sylvilagus floridanus*), plains pocket gopher (*Geomys bursarius*), common mole (*Scalopus aquaticus*), and indeterminate rodent (Rodentia). None of the small mammal bones exhibit butchery marks or modification evidence. The common mole and indeterminate rodent remains likely represent intrusive or commensal taxa; similarly, the plains pocket gopher humerus may not reflect a dietary item, as it was obtained from non-feature context.

A total of 395 specimens, mostly long bone shaft fragments, are categorized as large-sized mammal. Many of the remains are consistent in size with deer elements. One long bone shaft piece from Feature 16 exhibits a spiral fracture, and may reflect processing related to marrow extraction. Thirty-two pieces of bone are listed as medium-large mammal, and one canine fragment and a complete terminal phalanx as classified as medium-sized mammal. One terminal phalanx fragment is listed as small-medium mammal. A total of 1,630 specimens, mostly small fragments unidentifiable to element, are categorized as indeterminate mammal. No butchery marks or modification evidence, other than the spiral fracture noted above, were observed on any of the large-sized through indeterminate mammal remains.

### Birds

Forty-two bird remains were recovered, of which only one specimen could be identified to species. One premaxilla fragment from TU3 compares favorably with bald eagle (*Haliaeetus leucocephalus*), based on the overall size, shape, and curvature of the specimen. The element does not show any definitive evidence of modification, but as a raptor cranial element it may represent a ritual or ceremonial item (e.g., Kuehn 2016).

Eight specimens, mostly long bone shaft pieces, are categorized as large-sized bird. Seven and six remains, respectively, are classified as medium-large bird and medium-sized bird. Another 20 bone fragments, primarily long bone shafts, are listed as indeterminate bird. None of the Collins bird remains exhibit butchery marks or modification evidence, and none are burned.

## Reptiles

Twenty-four reptile bones are present in the assemblage. Three carapace/plastron fragments are identifiable as snapping turtle (*Chelydra serpentina*) and four carapace pieces are from an indeterminate box turtle (*Terrapene* sp.). A single individual of each taxon is represented. One box turtle carapace fragment from TU13 has a smoothed interior, and likely represents part of a bowl or vessel. None of the other box turtle or snapping turtle remains display butchery marks or evidence of modification.

Three carapace fragments are classified as indeterminate pond/box turtle (Emydidae). One terminal phalanx and 12 carapace and plastron fragments are listed as indeterminate turtle. One trunk vertebra fragment is from an indeterminate non-venomous snake (Colubridae). None of the pond/box turtle, snake, or indeterminate turtle remains show butchery marks or modification evidence.

## Fish

Fifteen fish bones were recognized in the Collins assemblage. None of the fish remains display butchery marks or evidence of modification, and none are burned. One left premaxilla fragment is identifiable as freshwater drum (*Aplodinotus grunniens*) and one right supracleithrum is from an indeterminate bass (*Micropterus* sp.). A minimum of one individual of each taxon is represented.

One right hyomandibular is classified as indeterminate catfish/bullhead (Ictaluridae). The overall shape and size of the specimen suggests it is from a small bullhead (*Ameiurus* sp.). The remaining 13 pieces of bone, primarily cranial fragments and vertebral centra, are categorized as indeterminate fish.

## Mollusks and Gastropods

A total of 210 invertebrate remains are present in the assemblage. Freshwater mussels are the most common, although 181 pieces are non-diagnostic shell fragments categorized as indeterminate mussel. Identifiable mussels encountered consist of spike (*Elliptio dilatata*), flutedshell (*Lasmigona costata*), and yellow sandshell (*Lampsilis teres*). Two valve fragments are listed as indeterminate threeridge/washboard (*Amblema plicata/Megalonaias nervosa*) and one valve is from an indeterminate fatmucket, pocketbook, or closely related species (*Lampsilis* sp.). Two small shells are identifiable as peaclam (Sphaeriidae) and probably represent commensal taxa recovered inadvertently during mussel harvesting.

Similarly, most of the aquatic and terrestrial snails recovered likely represent commensal species or specimen obtained accidentally. Snails recognized in the assemblage include campeloma (*Campeloma* sp.), discus (*Discus* sp.), mystery (Viviparidae), pond (Lymnaeidae), and horn (Pleuroceridae) snails. Of these, only the somewhat larger campeloma snail may have been procured intentionally, for use as a bead or ornament. None of the snails present in the Collins assemblage, however, show evidence of modification, butchery, or processing.

Two marine mollusks were recovered. One nearly complete right valve of an ark clam (Arcidae) was found in Level 6 of TU3. The specimen is unburned and shows no evidence of processing or modification. A modified marginella shell (*Marginella* sp.) was also found in TU3, but was recovered from Level 12. A portion of the shoulder edge of the spire has been worn down, creating a small hole that likely facilitated the attachment of a cord, thus creating a decorative bead. No other modification was observed on the specimen.

**Habitat Procurement**

The taxa identified provide important insight on the resource use and and procurement strategies of the site inhabitants. Overall, it appears that a variety of aquatic and terrestrial settings were exploited. White-tailed deer occur in a variety of habitats but prefer forest-edge and open forest settings. Raccoons and cottontail rabbits can be found in similar areas, with the latter also present in meadows and brushy areas. Elk occupy both forest-edge and prairie habitats, while the plains pocket gopher is restricted to prairies and dry meadows. Bald eagles have an extensive range, but prefer woods and forested setting in proximity to rivers and large lakes.

Snapping turtles occur in a range of aquatic settings, but show some preference for shallow backwaters and ponds with muddy bottoms and lush vegetation. Eastern box turtles (*Terrapene carolina*) are found in forest and forest-edge areas, while ornate box turtles (*Terrapene ornata*) occupy prairies and open meadows. The various snails recognized in the assemblage occur in a variety of woodlands, meadows, forests, ponds, wetlands, rivers, and streams, depending on the species (Clarke 1981).

Freshwater drum are most commonly found in large rivers, but may occur in large lakes and some smaller rivers. Largemouth bass (*Micropterus salmoides*) inhabit a variety of aquatic settings including swamps, ponds, lakes, creeks, and large rivers. Smallmouth bass (*Micropterus dolomieui*), in contrast, prefer clear, swiftly flowing rivers. Bullheads, depending on the species, occur in lakes, ponds, and rivers. Yellow sandshells and flutedshells are found in medium to large rivers, and spikes occur in small to large streams and occasionally lakes. Threeridges and washboards prefer large rivers and medium streams through large rivers, respectively. Ark clams and marginella snails both occur in marine environments along the Atlantic and Gulf coasts (Morris 1975).

**Modified Remains**

Relatively few faunal remains display butchery or modification evidence. One large-sized mammal long bone shaft piece from Feature 16 has a spiral fracture, likely indicative of breakage related to marrow extraction.

One marginella shell bead was recovered from Level 12 of TU3, and can be classified as a decorative item or ornament. Other than the worn hole in the shoulder cap, the shell bead shows no other evidence of modification. One white-tailed deer 1st phalanx has a drilled interior, possibly reflecting the initial stages in the manufacture of a cup and pin game piece or a tinkling cone. The deer phalanx was found in Level 1 of TU4. One box turtle carapace fragment from Level 4 of TU13 has a smoothed interior, and likely served as a cup, scoop, or bowl.

The most unusual modified remains are the flattened pins recovered from Feature 8, which was identified in Level 7 of TU3. None of the artifacts can be identified to element or a specific taxon, and thus are listed as taxon indeterminate (Vertebrata). However, the specimens do compare somewhat favorably to long bone shaft pieces from a large-sized or indeterminate bird; the extensive modification precludes a definitive identification. The assemblage contains 11 pins; 10 are complete and one has a missing tip. In length, the complete pins range from a minimum of 49.2 mm to a maximum of 55.0 mm, with an average of 52.4 mm (Table A.3). The maximum width of the pins ranges from 3.2 mm to 4.2 mm, and averages 3.9 mm. The thickness of each pin ranges from 1.1 mm to 2.2 mm, with an average of 1.6 mm. Each pin has long, parallel sides and a squared but slightly rounded bit end. The pointed end is flattened, not conical, in cross section. The shape of the tip suggests that these items were not used as perforating items. It is possible they functioned as scratchers or scribing instruments, but there is no evidence of use-wear damage on any of the intact tips. Given their overall shape, degree of smoothing and polish, and size, it is most likely that these artifacts served as decorative or ornamental pins, possibly for use in hair or clothing.

## Distribution

As indicated in Table A.1, virtually all of the faunal remains were recovered from Mound A at the Collins habitation/village site. With the exception of two likely intrusive items, none of the fauna from the Indian Springs Mound area could be identified to the genus/species level. As such, examination of the general distribution of faunal material is restricted to specimens from Collins Mound A contexts.

Mound A faunal material was obtained almost equally from test unit and feature context, with a slightly greater percentage recovered from test units (Table A.4). The largest test unit faunal assemblages were found in TU3, TU11, and TU15, which together contained 916 remains or 47.9% of the test unit fauna. Features 4 and 12 contained the largest amount of feature fauna, totaling 1,061 specimens or 75.5%. Most of the specifically identifiable remains were recovered from features and test units containing the most specimens, as might be expected. Less favorable preservation is likely responsible for the limited occurrence of identifiable bone in the other features and units. A cursory examination of the distribution of identifiable specimens by feature and test unit revealed no specific patterns. Deer are most common in those contexts in which identifiable specimens were found, but this is undoubtedly skewed as deer represent the most commonly identified species in the assemblage.

## Discussion

The Collins Complex faunal assemblage is relatively small with few specifically identifiable remains, due in part to the less than favorable preservation. The majority of specimens were obtained in proximity to Mound A at the Collins habitation site, and likely represent a mix of material associated with ritual or ceremonial activity and some residential or habitation debris.

The overall composition of the assemblage suggests a broad-based subsistence strategy, with faunal resources procured from a variety of local habitats. White-tailed deer are relatively abundant, with some aquatic resources (e.g., fish, shellfish, turtles) also present. Terrestrial animals identified demonstrate use of forest, forest-edge, and prairie resources. Seasonality evidence is limited, with the taxa present indicative of an open-water, spring through early winter season of use.

Examination of the deer elements recovered provides insight on at least one aspect of dietary consumption at Collins. Deer trunk elements predominate, suggesting that cranial and distal limb portions were discarded at the kill site. Meatier portions were preferentially returned to the site for further processing, distribution, and consumption, possibly within the context of ritual activity or feasting. Other specimens likewise suggest ritual or ceremonial activity, including the raccoon baculum, the bald eagle premaxilla, and the marine mollusk shells. The flattened pins recovered from Feature 8 in TU3 can also be categorized as non-utilitarian ornamental or decorative items, like the marginella shell bead also recovered from TU3.

Although limited in size and hindered by poor preservation, the faunal assemblage provides some insight on faunal exploitation at the Collins Complex. The recovery of additional specimens, and comparison with assemblages from similar sites in the region, would likely provide important information on late prehistoric faunal exploitation and resource utilization in east-central Illinois.

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| Taxon | Mound A NISP | 11V15 NISP | 11V82 NISP | Total NISP | Total MNI | MD A Burned | V15 Burned | V82 Burned | Total Burned |
|---|---|---|---|---|---|---|---|---|---|
| **White-tailed deer (*Odocoileus virginianus*)** | **135** | **42** | **0** | **177** | **7** | **6** | **11** | **0** | **17** |
| **Elk (*Cervus elaphus*)** | **3** | **0** | **0** | **3** | **2** | **0** | **0** | **0** | **0** |
| **Dog/wolf/coyote, indet. (*Canis* sp.)** | **2** | **0** | **0** | **2** | **1** | **0** | **0** | **0** | **0** |
| **Raccoon (*Procyon lotor*)** | **2** | **2** | **0** | **4** | **2** | **0** | **0** | **0** | **0** |
| **Cottontail rabbit (*Sylvilagus floridanus*)** | **8** | **0** | **0** | **8** | **1** | **0** | **0** | **0** | **0** |
| **Plains pocket gopher (*Geomys bursarius*)** | **1** | **0** | **0** | **1** | **1** | **0** | **0** | **0** | **0** |
| **Common mole (*Scalopus aquaticus*)** | **1** | **0** | **1** | **2** | **1** | **0** | **0** | **0** | **0** |
| **Rodent, indet. (Rodentia)** | **1** | **0** | **0** | **1** | **--** | **0** | **0** | **0** | **0** |
| **Large-sized mammal** | **286** | **109** | **0** | **395** | **--** | **44** | **67** | **0** | **111** |
| **Medium-large mammal** | **19** | **0** | **13** | **32** | **--** | **3** | **0** | **13** | **16** |
| **Medium-sized mammal** | **2** | **0** | **0** | **2** | **--** | **0** | **0** | **0** | **0** |
| **Small-medium mammal** | **1** | **0** | **0** | **1** | **--** | **0** | **0** | **0** | **0** |
| **Mammal, indet.** | **1063** | **561** | **6** | **1630** | **--** | **159** | **397** | **6** | **562** |
| **Bald eagle (*Haliaeetus leucocephalus*)** | **1** | **0** | **0** | **1** | **1** | **0** | **0** | **0** | **0** |
| **Large-sized bird** | **8** | **0** | **0** | **8** | **--** | **0** | **0** | **0** | **0** |
| **Medium-large bird** | **7** | **0** | **0** | **7** | **--** | **0** | **0** | **0** | **0** |
| **Medium-sized bird** | **6** | **0** | **0** | **6** | **--** | **0** | **0** | **0** | **0** |
| **Bird, indet.** | **20** | **0** | **0** | **20** | **--** | **0** | **0** | **0** | **0** |
| **Snapping turtle (*Chelydra serpentina*)** | **3** | **0** | **0** | **3** | **1** | **0** | **0** | **0** | **0** |
| **Box turtle, indet. (*Terrapene* sp.)** | **4** | **0** | **0** | **4** | **1** | **0** | **0** | **0** | **0** |
| **Box/pond turtle, indet. (Emydidae)** | **3** | **0** | **0** | **3** | **--** | **0** | **0** | **0** | **0** |
| **Turtle, indet.** | **10** | **3** | **0** | **13** | **--** | **1** | **0** | **0** | **1** |

Table A.1. Collins Complex faunal remains from 2013 and 2016 excavations.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Non-venomous snake, indet. (Colubridae)** | **1** | **0** | **0** | **1** | **--** | **0** | **0** | **0** | **0** |
| **Catfish/bullhead, indet. (Ictaluridae)** | **1** | **0** | **0** | **1** | **1** | **0** | **0** | **0** | **0** |
| **Bass, indet. (*Micropterus* sp.)** | **1** | **0** | **0** | **1** | **1** | **0** | **0** | **0** | **0** |
| **Freshwater drum (*Aplodinotus grunniens*)** | **1** | **0** | **0** | **1** | **1** | **0** | **0** | **0** | **0** |
| **Fish, indet.** | **12** | **0** | **0** | **12** | **--** | **0** | **0** | **0** | **0** |
| **Threeridge/washboard (*Amblema/Megalonaias* sp.)** | **2** | **0** | **0** | **2** | **1** | **0** | **0** | **0** | **0** |
| **Spike (*Elliptio dilatata*)** | **1** | **0** | **0** | **1** | **1** | **0** | **0** | **0** | **0** |
| **Flutedshell (*Lasmigona costata*)** | **1** | **0** | **0** | **1** | **1** | **0** | **0** | **0** | **0** |
| **Yellow sandshell (*Lampsilis teres*)** | **1** | **0** | **0** | **1** | **1** | **0** | **0** | **0** | **0** |
| **Fatmucket/pocketbook, indet. (*Lampsilis* sp.)** | **1** | **0** | **0** | **1** | **1** | **0** | **0** | **0** | **0** |
| **Peaclam (Sphaeriidae)** | **2** | **0** | **0** | **2** | **2** | **0** | **0** | **0** | **0** |
| **Mussel, indet.** | **181** | **0** | **0** | **181** | **--** | **7** | **0** | **0** | **7** |
| **Marginella (*Marginella* sp.)** | **1** | **0** | **0** | **1** | **1** | **0** | **0** | **0** | **0** |
| **Ark clam, indet. (Arcidae)** | **1** | **0** | **0** | **1** | **1** | **0** | **0** | **0** | **0** |
| **Campeloma snail (*Campeloma* sp.)** | **1** | **0** | **0** | **1** | **1** | **0** | **0** | **0** | **0** |
| **Mystery snail (Viviparidae)** | **1** | **0** | **0** | **1** | **1** | **0** | **0** | **0** | **0** |
| **Pond snail (Lymnaeidae)** | **4** | **0** | **0** | **4** | **4** | **0** | **0** | **0** | **0** |
| **Horn snail (Pleuroceridae)** | **1** | **0** | **0** | **1** | **1** | **0** | **0** | **0** | **0** |
| **Discus snail (*Discus* sp.)** | **1** | **0** | **1** | **2** | **2** | **0** | **0** | **0** | **0** |
| **Snail, indet. (Gastropoda)** | **9** | **1** | **0** | **10** | **--** | **0** | **0** | **0** | **0** |
| **Taxon indet. (Vertebrata)** | **783** | **227** | **12** | **1022** | **--** | **130** | **164** | **11** | **305** |
| **Total** | **2593** | **945** | **33** | ***3571*** | ***39*** | **350** | **639** | **30** | **1019** |
| | **0.72612 714** | **0.26463** | | | | **0.34347** | **0.62709** | **0.02944 063** | |

Table A.1 (Cont.). Collins Complex faunal remains from 2013 and 2016 excavations.

| Body Portion | Representative Elements | NISP | %NISP |
|---|---|---|---|
| **Head** | **cranium, teeth, antler** | **12** | **6.8** |
| **Trunk** | **vertebra, ribs, pelvis** | **98** | **55.4** |
| **Upper Forelimb** | **humerus, radius, ulna, scapula** | **19** | **10.7** |
| **Upper Hindlimb** | **femur, tibia, patella** | **13** | **7.3** |
| **Distal Limb** | **metapodials, podials, phalanges** | **35** | **19.8** |
| | **Total** | **177** | **100.0** |

| Food Utility Index | Element | NISP | %FUI |
|---|---|---|---|
| **High** | **femur** | **5** | |
| | **tibia** | **5** | |
| | **patella** | **3** | |
| | **tarsals** | **6** | |
| | | **19** | **10.9** |
| **Mid** | **rib** | **57** | |
| | **vertebra** | **28** | |
| | **pelvis** | **10** | |
| | **humerus** | **9** | |
| | **metatarsus** | **8** | |
| | **scapula** | **6** | |
| | **sacrum** | **2** | |
| | **radius** | **2** | |
| | **ulna** | **2** | |
| | | **124** | **70.9** |

Table A.2. Food Utility Index of White Tailed Deer at Collins (2013 and 2016).

| | | | |
|---|---|---|---|
| **Low** | **antler** | **2** | |
| | **cranium** | **1** | |
| | **caudal vertebra** | **1** | |
| | **mandible** | **1** | |
| | **teeth** | **8** | |
| | **carpals** | **4** | |
| | **metacarpals** | **3** | |
| | **phalanges** | **9** | |
| | **sesamoids** | **3** | |
| | | **32** | **18.3** |
| **Mid/Low** | **metapodials** | **2** | |
| | | **2** | **n/a** |
| | **Total** | **177** | **100.1** |

Table A.2 (Cont.). Food Utility Index of White Tailed Deer at Collins (2013 and 2016).

| Artifact | Length | Width | Thickness |
|---|---|---|---|
| **1** | **55.0** | **3.6** | **1.2** |
| **2** | **54.0** | **4.2** | **1.4** |
| **3** | **49.4** | **4.2** | **2.0** |
| **4** | **52.3** | **3.2** | **2.0** |
| **5** | **49.2** | **4.2** | **1.2** |
| **6** | **50.4** | **4.0** | **2.2** |
| **7** | **53.6** | **3.7** | **1.4** |
| **8** | **53.2** | **3.8** | **2.1** |
| **9** | **52.9** | **3.8** | **1.1** |
| **10** | **53.9** | **3.8** | **1.4** |
| **11*** | **36.1** | **3.9** | **1.3** |

***Specimen broken, missing tip; measurements in mm**

Table A.3. Bone Scratcher/Pins Metrics (2016)

| Feature | NISP | Feature | NISP |
|---|---|---|---|
| **1** | **1** | **8** | **27** |
| **2** | **4** | **9** | **1** |
| **4** | **853** | **10** | **3** |
| **5** | **63** | **11** | **7** |
| **6** | **36** | **12** | **208** |
| **7** | **78** | **16** | **124** |

Table A.4. NISP by Feature and Test Unit (2013 and 2016).

| Test Unit | NISP | Test Unit | NISP |
|---|---|---|---|
| 1 | 47 | 8 | 3 |
| 2 | 8 | 9 | 130 |
| 3 | 461 | 10 | 178 |
| 4 | 158 | 11 | 248 |
| 5 | 5 | 13 | 124 |
| 6 | 162 | 14 | 178 |
| 7 | 3 | 15 | 207 |

| Non-Feature, Non-Test Unit | NISP |
|---|---|
| Context; Backdirt | 221 |

Table A.4 (Cont.). NISP by Feature and Test Unit (2013 and 2016).

# APPENDIX B: ARCHAEOASTRONOMY DATA

Interpolating declinations for AD 1000 derived from Hawkins 1966, table 3

| | Max lunar north | Summer solstice | Min lunar north | Min lunar south | Winter solstice | Max lunar south |
|---|---|---|---|---|---|---|
| 1000 BC | 28.966 | 23.816 | 18.666 | 18.666 | 23.816 | 28.966 |
| 500 BC | 28.907 | 23.757 | 18.607 | 18.607 | 23.757 | 28.907 |
| 0 BC | 28.846 | 23.696 | 18.546 | 18.546 | 23.696 | 28.846 |
| AD 500 | 28.783 | 23.633 | 18.483 | 18.483 | 23.633 | 28.783 |
| **AD 1000** | **28.718** | **23.568** | **18.418** | **18.418** | **23.568** | **28.718** |
| sin of AD 1000 declination | 0.4805 | 0.3998 | 0.3159 | -0.3159 | -0.3998 | -0.4805 |
| | | | | | | |
| latitude of Collins V15 mound | 40.21 | 40.21 | 40.21 | 40.21 | 40.21 | 40.21 |
| **cos latitude** | **0.7637** | **0.7637** | **0.7637** | **0.7637** | **0.7637** | **0.7637** |
| **sin latitude** | **0.6456** | **0.6456** | **0.6456** | **0.6456** | **0.6456** | **0.6456** |
| distance to bluffs/foresight (meters) | 360 | 360 | 360 | 2189 | 2189 | 2189 |
| Elevation of bluffs/foresight, plus 25 meter high trees | 225.6 | 225.6 | 225.6 | 219.5 | 219.5 | 219.5 |
| elevation of Md A | 185 | 185 | 185 | 185 | 185 | 185 |
| Vertical / horizontal distances | 0.112777778 | 0.112777778 | 0.112777778 | 0.015760621 | 0.015760621 | 0.015760621 |
| Angular elevation of Collins: Inverse tan of vertical distance / horizontal distance | 6.4345 | 6.4345 | 6.4345 | 0.9029 | 0.9029 | 0.9029 |
| corrected h for Collins (refraction correction of 0.35, ala Wood fig. 4.5, and lower limb tangency of 0.25 + corrected for parallax 0.95 | 7.2845 | | 7.2845 | 1.7529 | | 1.7529 |

| | | | | | | |
|---|---|---|---|---|---|---|
| corrected h for Collins (refraction correction of 0.35, plus .25 lower limb tangency, ala Wood fig. 4.5 for sun | | 6.3345 | | | 0.8029 | |
| cos a.e. | 0.9919 | 0.9939 | 0.9919 | 0.9995 | 0.9999 | 0.9995 |
| sin a.e. | 0.1268 | 0.1103 | 0.1268 | 0.0305 | 0.0140 | 0.0305 |
| for Collins | | | | | | |
| Cos A (Azimuth, see Wood p. 62) | 0.5262 | 0.4329 | 0.3090 | -0.4396 | -0.5354 | -0.6553 |
| inverse cos (and hence azimuth of AD 1000 positions) | 58.25 | 64.35 | 72.00 | 63.92 | 57.62 | 49.06 |
| actual rise **azimuths** | 58.25 | 64.35 | 72.00 | 116.08 | 122.38 | 130.94 |
| actual rise azimuth **orthogonals** | 148.25 | 154.35 | 162.00 | 26.08 | 32.38 | 40.94 |
| Md A grid azimuths corrected (10.26 degrees) | 68.51 | 74.61 | 82.26 | 126.34 | 132.64 | 141.20 |
| Md A grid azimuths corrected orthogonal (10.26 degrees) | 158.51 | 164.61 | 172.26 | 36.34 | 42.64 | 51.20 |
| | Max lunar north | Summer solstice | Min lunar north | Min lunar south | Winter solstice | Max lunar south |
| site grid angle of mortuary house = 134.19 | | | | | | |
| site grid angle of F4 house = 40.49 or 130.49 | | | | | | |

Table B.1. Collins Complex Archaeoastronomy Data

# APPENDIX C: ARTIFACT SUMMARY - ALL EXCAVATIONS

| | Mound A (2016) | | V15 (2013) | | V82 (2013) | | Douglas V15 | |
|---|---|---|---|---|---|---|---|---|
| | **No.** | **Wt. (g)** | **No.** | **Wt. (g)** | **No.** | **Wt. (g)** | **No.** | **Wt. (g)** |
| **Projectiles** | - | - | 9 | 43.9 | 1 | 3.1 | 16 | - |
| **Bifaces** | 2 | 4.3 | 1 | 0.1 | 2 | 15.1 | 11 | - |
| **Drills** | - | - | 1 | 1.2 | - | - | 3 | - |
| **Scrapers** | 1 | 26.6 | 4 | 54.6 | - | - | - | - |
| **Spokeshape** | - | - | - | - | - | - | - | - |
| **Cores/Tested Cobbles** | 43 | 1581.9 | 143 | 3589.6 | 7 | 110.3 | 3 | - |
| **Informal Tools** | 8 | 48.9 | 33 | 217.8 | 4 | 16.2 | - | - |
| **Wedges** | 1 | 17.9 | 2 | 16.6 | - | - | - | - |
| **Debitage** | 1156 | 1877.3 | 2393 | 3311.7 | 653 | 683.3 | - | 27044.7 |
| **Chert Chunks** | - | - | - | - | - | - | - | - |
| **Nodules** | - | - | - | - | - | - | - | - |
| **CHIPPED TOTALS** | **1211** | **3556.9** | **2586** | **7235.5** | **667** | **828** | **33** | **27044.7** |
| **Special Objects** | 3 | 0.4 | 3 | 17.1 | - | - | - | - |
| **Gaming Assemblage** | - | - | 1 | 42.1 | - | - | 1 | - |
| **Groundstone Tools & Flakes** | 6 | 332.9 | 17 | 20.2 | - | - | 5 | - |
| **Abraders** | 12 | 442.6 | 9 | 1101.9 | 5 | 66.8 | 2 | - |
| **Cobble Tools** | 35 | 9968.5 | 50 | 23658.7 | 6 | 479.3 | 32 | - |
| **Cannel Coal** | 65 | 15.2 | 26 | 11.1 | - | - | - | - |
| **Minerals** | 672 | 593.8 | 376 | 203.4 | 54 | 28.5 | - | 56.7 |
| **FCR** | 4424 | 53359.4 | 7123 | 126770.5 | 347 | 2444.1 | - | 661323.2 |

Table C.1. Material summary from all excavations.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Rough Rock** | 2186 | 5849.6 | 1576 | 3354.0 | 1109 | 1418.8 | - | 330194.5 |
| **Pebbles/Small Screened Mat** | - | - | - | - | - | - | - | - |
| **NON-CHIPPED TOTALS** | **7403** | **70562.4** | **9181** | **155179** | **1521** | **4437.5** | **40** | **991574.4** |
| **Body sherds (Grit)** | 1386 | 1936.6 | 3357 | 7656.4 | - | - | - | - |
| **Body sherds (Shell)** | 79 | 184.4 | 340 | 342.4 | - | - | - | 1366.7 |
| **Body sherds (Limestone)** | 9 | 3.4 | - | - | - | - | - | 51.4 |
| **Body Sherds (Grit/Shell)** | 3 | 3.7 | 2 | 1.0 | - | - | - | - |
| **Body Sherds (Grit/Grog)** | 1 | 3.6 | 63 | 223.0 | - | - | - | 52456.1 |
| **Body sherds (Grog)** | - | - | 1 | 0.4 | - | - | - | - |
| **Body Sherds (ind)** | - | - | - | - | - | - | - | - |
| **Vessels (Grit)** | 13 | 192.3 | 44 | 785.5 | - | - | - | - |
| **Vessels (Shell)** | 1 | 19.3 | 3 | 2.6 | - | - | 8 | - |
| **Vessels (Grit/Grog)** | 1 | 34.4 | 4 | 32.1 | - | - | 284 | - |
| **Vessels (Shell/Limestone)** | 1 | 12.7 | - | - | - | - | - | - |
| **Vessels (Limestone)** | - | - | - | - | - | - | 3 | - |
| **Vessels (Grog)** | - | - | 1 | 0.5 | - | - | - | - |
| **Vessels (Ind)** | - | - | - | - | - | - | 6 | - |
| **Burned Clay** | 96 | 34.4 | 211 | 74.4 | 4 | 1.1 | - | 5606.8 |
| **Daub** | 706 | 250.4 | - | - | - | - | - | - |
| **CERAMIC TOTALS** | **2296** | **2675.2** | **4026** | **9118.3** | **4** | **1.1** | **301** | **59481** |
| **FAUNA TOTALS** | **2593** | **-** | **945** | **-** | **33** | **-** | **-** | **4216.7** |
| **COMBINED SITE TOTALS** | **13503** | **76794.5** | **16738** | **171532.8** | **2225** | **5266.6** | **374** | **1082316.8** |

Table C.1 (Cont.). Material summary from all excavations.

| | Douglas Mound A* | | Riley V15 Off-Mound | | Riley Mound A | | | |
|---|---|---|---|---|---|---|---|---|
| | **No.** | **Wt. (g)** | **No.** | **Wt. (g)** | **No.** | **Wt. (g)** | **No. Totals** | **Wt. Totals** |
| **Projectiles** | 2 | - | 7 | 15.2 | 2 | 7.3 | **37** | **69.5** |
| **Bifaces** | - | - | 4 | 28.6 | 5 | 39.7 | **25** | **87.8** |
| **Drills** | - | - | 3 | 14 | - | - | **7** | **15.2** |
| **Scrapers** | - | - | 2 | 21.8 | 2 | 13.8 | **9** | **116.8** |
| **Spokeshave** | - | - | 1 | 5.1 | - | - | **1** | **5.1** |
| **Cores/Tested Cobbles** | - | - | 7 | 132.3 | 10 | 337.5 | **213** | **5751.6** |
| **Informal Tools** | - | - | 7 | 59.3 | 34 | 160.4 | **86** | **502.6** |
| **Wedges** | - | - | - | - | - | - | **3** | **34.5** |
| **Debitage** | - | - | 1014 | 488.11 | 827 | 1470.3 | **6043** | **34875.41** |
| **Chert Chunks** | - | - | 22 | 453.4 | 173 | 2188.5 | **195** | **2641.9** |
| **Nodules** | - | - | 126 | 518.5 | 561 | 2593.7 | **687** | **3112.2** |
| **CHIPPED TOTALS** | 2 | 0 | 1193 | 1736.31 | 1614 | 6811.2 | **7306** | **47212.6** |
| **Special Objects** | - | - | - | - | - | - | **6** | **17.5** |
| **Gaming Assemblage** | - | - | 1 | - | 1 | 178.5 | **4** | **220.6** |
| **Groundstone Tools & Flakes** | - | - | - | - | 1 | 34.8 | **29** | **387.9** |
| **Abraders** | - | - | - | - | - | - | **28** | **1611.3** |
| **Cobble Tools** | - | - | 12 | 2092.2 | 6 | 1374.2 | **141** | **37572.9** |
| **Cannel Coal** | - | - | - | - | - | - | **91** | **26.3** |
| **Minerals** | - | - | - | - | 3 | 14.3 | **1105** | **896.7** |

Table C.1 (Cont.). Material summary from all excavations.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **FCR** | - | - | 700 | 36109.6 | 809 | 38721.3 | **13403** | **918728.1** |
| **Rough Rock** | - | - | 1716 | 14626.8 | 1749 | 34181.6 | **8336** | **389625.3** |
| **Pebbles/Small Screened Mat** | - | - | - | 274.9 | - | 1232.5 | **0** | **1507.4** |
| **NON-CHIPPED TOTALS** | 0 | 0 | 2429 | 53103.5 | 2569 | 75737.2 | **23143** | **1350594.0** |
| **Body sherds (Grit)** | - | - | 1749 | 2738.76 | 428 | 1708.4 | **6920** | **14040.2** |
| **Body sherds (Shell)** | - | - | 8 | 16.3 | 26 | 177.1 | **453** | **2086.9** |
| **Body sherds (Limestone)** | - | - | - | - | 4 | 13.5 | **13** | **68.3** |
| **Body Sherds (Grit/Shell)** | - | - | - | - | 7 | 35.8 | **12** | **40.5** |
| **Body Sherds (Grit/Grog)** | - | - | - | - | - | - | **64** | **52682.7** |
| **Body sherds (Grog)** | - | - | 1 | 1.6 | - | - | **2** | **2.0** |
| **Body Sherds (ind)** | - | - | 19 | 8.4 | 5 | 7.5 | **24** | **15.9** |
| **Vessels (Grit)** | - | - | 8 | 100.7 | 12 | 231.6 | **77** | **1310.1** |
| **Vessels (Shell)** | 1 | - | - | - | 1 | 6.3 | **14** | **28.2** |
| **Vessels (Grit/Grog)** | - | - | - | - | - | - | **289** | **66.5** |
| **Vessels (Shell/Limestone)** | - | - | - | - | - | - | **1** | **12.7** |
| **Vessels (Limestone)** | - | - | - | - | - | - | **3** | **0.0** |
| **Vessels (Grog)** | - | - | 1 | 1.7 | - | - | **2** | **2.2** |
| **Vessels (Ind)** | - | - | 16 | 0.7 | - | - | **22** | **0.7** |
| **Burned Clay** | - | - | - | - | - | - | **311** | **5716.7** |

Table C.1 (Cont.). Material summary from all excavations.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Daub** | - | - | - | - | - | - | **706** | **250.4** |
| **CERAMIC TOTALS** | 1 | 0 | 1802 | 2868.16 | 483 | 2180.2 | **8913** | **76323.96** |
| **FAUNA TOTALS** | - | - | 110 | - | 1598 | - | **5279** | **4216.7** |
| **COMBINED SITE TOTALS** | 3 | 0 | 5534 | 57707.97 | 6264 | 84728.6 | | |
| | | | | | | ***SITE TOTAL*** | ***44641*** | ***1478347.3*** |

Table C.1 (Cont.). Material summary from all excavations.

# APPENDIX D: CERAMIC DATA

| Vessel # | Site | Provenience | Associations /Feature | Vessel Type | Temper | Lip Shape | Rim Stance | Lip Decoration |
|---|---|---|---|---|---|---|---|---|
| **TU 3-1** | Md A | TU 3-1 | Feature 9 Basin | Jar | Gr | Round | Outcurved | - |
| **TU 15-2** | Md A | TU 15-10 (2/2) PP8 | - | Jar | Grit/Grog | Flattened | Vertical | Exterior Notching (vertical) |
| **TU 7-1** | Md A | 900-6 (1/2), TS5 + TU7-1 | 900-6 (1/2), TS5 piece possibly associated with Fea. 9 Basin | Jar | Shell | Rolled | Inslanted | Superior Lip Slip (dark) |
| **TU 3-2** | Md A | TU 3-3 | Feature 9 basin | Ind. | Gr | - | - | - |
| **900-3a** | Md A | 900-4 | Mound A - general | Jar | Gr | square | Vertical | - |
| **TU 11-1** | Md A | TU-11-10 | - | Jar | Gr | Collared | Inslanted | Superior CM + Exterior Castellation |
| **900-1a** | Md A | 900-2 (6/7) | Mound A - general | Ind. | Gr | Extruded | Ind. | - |
| **900-2a** | Md A | 900-3 (2/4) | Mound A - general | Ind. | Gr | Ind. | Ind. | - |
| **TU 1-2** | Md A | TU 1-3 | - | Ind. | Gr | square | Ind. | - |
| **TU 1-1** | Md A | TU 1-3 | - | Jar | Gr | Extruded | Outcurved | - |
| **TU 10-1** | Md A | TU 10-26 | - | Jar | Gr | Thickened | Vertical | - |
| **TU 10-2** | Md A | TU 10-12 | - | Jar | Gr | Extruded | Inslanted | - |
| **TU 15-3** | Md A | TU 15-10 (2/2) PP12 | - | Jar | Gr | Round | Outcurved | Bumpy/irregular |
| **TU 7-2** | Md A | TU 7-1 | - | Jar | Gr | Thickened | Inslanted | - |
| **TU 15-1** | Md A | TU 15-10 (2/2) PP7 | - | Jar | Shell w/ some LS | Round | Vertical | Superior and Interior Lip slip (dark) |
| **4-1** | V15 | 4-9 (2/4) + 4-11 (2/2) + 4-14 (1/5) | Feature 4 | Jar | Grit/Grog | square | Vertical | Superior left diagonal notching |
| **4-22** | V15 | 4-15 (1/5) | Feature 4 | Jar | Gr | Folded | Ind. | - |

Table D.1. 2013 and 2016 Vessel Inventory

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **4-2** | **V15** | **4-30 (2/3) + 4-14 (2/5) + 4-14 (1/5)** | **Feature 4** | **Jar** | **Gr** | **Round (w/fold)** | **Flared** | **-** |
| **NF 7-4** | V15 | 7-7 (1/2) | - | Jar | Gr | Collared | Vertical | Cord-wrapped stick impressed - Interior (pie crust) |
| **4-17** | V15 | 4-7 (8/9) | Feature 4 | Jar | Gr | Extruded | Outcurved | - |
| **4-24** | V15 | 4-7 (2/9) | Feature 4 | Jar | Gr | Extruded | Vertical | - |
| **4-3** | V15 | 4-11 (2/2) + 4-15 (2/5) | Feature 4 | Jar | Gr | Square | Outcurved | - |
| **NF 3-2** | V15 | 3-6 | - | Ind. | Gr | square | Ind. | Superior CM |
| **4-5** | V15 | 4-7 (8/9) | Feature 4 | Jar | Gr | Square (w/fold) | Outcurved | Superior Cordmarked-Smoothed |
| **4-20** | V15 | 4-12 (2/6) | Feature 4 | Jar | Gr | Collared | - | Superior Castellated (minimal) |
| **4-21** | V15 | 4-15 (1/5) | Feature 4 | Jar | Gr | Exterior Beveled | Vertical | - |
| **4-40** | V15 | 4-3 (1/2_ | Feature 4 | Funnel | Gr | - | - | - |
| **4-39** | V15 | 4-12 (2/6) | Feature 4 | Ind. | Chert/Grit | - | - | - |
| **4-12** | V15 | 4-11 (3/3) + 4-9 (2/4) | Feature 4 | Jar Hyer Plain | Gr | - | - | - |
| **4-4** | V15 | 4-14 (2/5) | Feature 4 | Jar | Gr | Collared | - | Superior Castellated |
| **4-31** | V15 | 4-13 (2/2) | Feature 4 | Jar | Gr | Collared | Inslanted | - |
| **4-6** | V15 | 4-12 (2/6) | Feature 4 | Jar | Gr | Square (w/fold) | Vertical | - |
| **4-18** | V15 | 4-7 (8/9) | Feature 4 | Jar | Grit/Grog | Round | Vertical | - |
| **4-33** | V15 | 4-9 (2/4) | Feature 4 | Jar | Gr | Folded | Outcurved | - |
| **4-8** | V15 | 4-7 (2/9) | Feature 4 | Bowl | Gr | square | Outcurved | Exterior Cord Impressed (Z) right diagonal |
| **4-19** | V15 | 4-9 (2/4) | Feature 4 | Bowl? | Gr | Ind. | Ind. | Superior Notched + Interior Notched |
| **4-7** | V15 | 4-7 (2/9) + 4-7 (1/9) | Feature 4 | Bowl/Jar | Gr | Folded | Outcurved | Interior Cord impressed - vertical (Z-twist) |
| **4-9** | V15 | 4-30 (1/3) | Feature 4 | Ind. | Gr | Round | Outslanted/Outcurved? | Superior Cord impressed (Z-twist) |
| **4-25** | V15 | 4.22 (2/2) | Feature 4 | Ind. | Grit/Grog | square | - | - |
| **4-35** | V15 | 4-2 (1/3) | Feature 4 | Ind. | Gr | Round | - | - |
| **4-36** | V15 | 4-44 | Feature 4 | Ind. | Gr | Folded | - | - |
| **4-37** | V15 | 4-25 (2/3) | Feature 4 | Ind. | Gr | Thickened | Inslanted | - |
| **4-38** | V15 | 4-7 (1/9) | Feature 4 | Ind. | Gr | Thickened | - | - |
| **900-2** | V15 | 900-7 (1/2) | - | Ind. | Gr | square | Vertical | - |
| **NF 3-1** | V15 | 3-5 | - | Ind. | Gr | square | Ind. | - |
| **NF 7-2** | V15 | 7-4 (2/2) | - | Ind. | Shell | Ind. (missing lip) | Everted | - |
| **PLOW-1** | V15 | PLOW-2 | - | Ind. | Gr | square | - | - |

Table D.1 (Cont.). 2013 and 2016 Vessel Inventory.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **4-13** | **V15** | **4-5 (2/2)** | **Feature 4** | **Jar** | **Gr** | **square** | **Vertical** | **-** |
| **4-14** | V15 | 4-7 (8/9) | Feature 4 | Jar | Gr | Round | Outslanted | - |
| **4-15** | V15 | 4-7 (8/9) | Feature 4 | Jar | Gr | Ind. | Ind. | - |
| **4-16** | V15 | 4-15 (2/5) | Feature 4 | Jar | Shell | Extruded | Ind. | - |
| **4-23** | V15 | 4-15 (1/5) | Feature 4 | Jar | Gr | square | Ind. | - |
| **4-26** | V15 | 4-22 (2/2) | Feature 4 | Jar | Gr | Collared | - | - |
| **4-27** | V15 | 4-22 (2/2) | Feature 4 | Jar | Gr | Folded | Inslanted | - |
| **4-28** | V15 | 4-4 (2/2) | Feature 4 | Jar | Gr | Extruded | Inslanted | - |
| **4-29** | V15 | 4-2 (3/3) | Feature 4 | Jar | Gr | Thickened | Inslanted | - |
| **4-30** | V15 | 4-6 (2/2) | Feature 4 | Jar | Gr | Thickened | Inslanted | - |
| **4-32** | V15 | 4-13 (2/2) | Feature 4 | Jar | Gr | Collared | Vertical | Interior vertical Double Cord impressed (Z-twist) |
| **4-34** | V15 | 4-9 (2/4) | Feature 4 | Jar | Gr | Extruded | Vertical | - |
| **900-1** | V15 | 900-4 | - | Jar | Gr | Collared | Inslanted | Superior CM + Exterior Castellation |
| **900-3** | V15 | 900-7 (1/2) | - | Jar | Gr | square | Inslanted | - |
| **NF 5-7** | V15 | 5-7 | - | Jar | Gr | Folded | Outcurved | - |
| **NF 7-1** | V15 | 7-4 (1/2) | - | Jar | Gr | square | Outcurved | - |
| **NF 7-3** | V15 | 7-2 (1/2) | - | Jar | Gr | Extruded | Ind. | Notches - Left Diagonal Exterior |
| **NF 7-5** | V15 | 7-7 (1/2) | - | Jar | Gr | Interior Beveled | Inslanted | - |
| **4-10** | V15 | 7-4 (1/2) + 7-4 (2/2) + 4-15 (2/5) | Feature 4 + NF 7 | Jar | Shell | Round | Everted | - |
| **4-11** | V15 | 4-11 (2/5) + 4-25 (3/3) | Feature 4 | Jar? | Grog | Round | Flared? | - |

Table D.1 (Cont.). 2013 and 2016 Vessel Inventory

| | | **Exterior Surface** | | | | |
|---|---|---|---|---|---|---|
| **Vessel #** | **Surface Treatment** | **Decoration** | **Slip Color** | **CM Orientation** | **CM Twist** | **Collar Treatment** |
| **TU 3-1** | Plain | - | - | - | - | - |
| **TU 15-2** | Plain | Symmetrical Zoned: Double Cord impressed nested chevrons (left and right diagonals) w/ double cord impressed horizontals in the V trough | - | Horizontal + Left + Right | Z-Twist | - |
| **TU 7-1** | Slip | - | Dark ext. | - | - | - |
| **TU 3-2** | Fabric Impressed | - | - | - | - | - |
| **900-3a** | Plain | - | - | - | - | - |
| **TU 11-1** | Cordmarked | - | - | Vertical | - | - |
| **900-1a** | Plain | - | - | - | - | - |
| **900-2a** | Ind. | - | - | - | - | - |
| **TU 1-2** | Plain | - | - | - | - | - |

Table D.1 (Cont.). 2013 and 2016 Vessel Inventory

| | | | | | | |
|---|---|---|---|---|---|---|
| **TU 1-1** | **Plain** | **-** | **-** | **-** | **-** | **-** |
| **TU 10-1** | Cordmarked | - | - | Vertical | - | - |
| **TU 10-2** | Plain | - | - | - | - | - |
| **TU 15-3** | Plain | - | - | - | - | - |
| **TU 7-2** | Plain | - | - | - | - | - |
| **TU 15-1** | Slip | - | Dark | - | - | - |
| **4-1** | Plain-Cordmarked | Asymmetrical Zoned: Narrow Incised (Linear left diagonal/Simple linear [hor.+vert] w/ vertical punctates w/ tan slip over decoration | - | Left Diagonal | S-Twist | - |
| **4-22** | Cordmarked | - | - | Vertical | - | - |
| **4-2** | Plain | - | - | - | - | - |
| **NF 7-4** | Plain-Cordmarked - Smoothed | - | - | Vertical | - | - |
| **4-17** | Cordmarked -Smoothed | - | - | Vertical | - | - |
| **4-24** | Plain | - | - | - | - | - |
| **4-3** | Cordmarked | - | - | Vertical | - | - |
| **NF 3-2** | Missing | - | - | - | - | - |
| **4-5** | Cordmarked -Smoothed | - | - | Vertical | - | - |
| **4-20** | Cordmarked -Smoothed | Vertical Cord Impressed | - | - | Z-Twist | - |
| **4-21** | Cordmarked -Smoothed | Vertical Cord Impressed | - | Vertical | - | - |
| **4-40** | Plain | - | - | - | - | - |
| **4-39** | Cordmarked | - | - | - | - | - |
| **4-12** | Plain | - | - | - | - | - |
| **4-4** | Cordmarked | - | - | Vertical | - | Cordmarked |
| **4-31** | Cordmarked | - | - | Vertical | Z-Twist | - |
| **4-6** | Cordmarked -Smoothed | - | - | Vertical | - | - |
| **4-18** | Cordmarked | - | - | Left Diagonal | - | - |
| **4-33** | Plain | - | - | - | - | - |
| **4-8** | Plain | - | - | - | Z-Twist | - |
| **4-19** | Cordmarked | - | - | Vertical | - | - |
| **4-7** | Cordmarked | - | - | Slight Left Diagonal | - | - |

Table D.1 (Cont.). 2013 and 2016 Vessel Inventor

| | | | | | | |
|---|---|---|---|---|---|---|
| **4-9** | **Plain** | **-** | **-** | **-** | **-** | **-** |
| **4-25** | Plain | - | - | - | - | - |
| **4-35** | Ind. | - | - | - | - | - |
| **4-36** | Plain | - | - | - | - | - |
| **4-37** | Plain | - | - | - | - | - |
| **4-38** | Plain | - | - | - | - | - |
| **900-2** | Plain | - | - | - | - | - |
| **NF 3-1** | Cordmarked | - | - | Ind. | - | - |
| **NF 7-2** | Plain | - | - | - | - | - |
| **PLOW-1** | Plain | - | - | - | - | - |
| **4-13** | Plain | - | - | - | - | - |
| **4-14** | Plain | - | - | - | - | - |
| **4-15** | Plain | - | - | - | - | - |
| **4-16** | Plain | - | - | - | - | - |
| **4-23** | Cordmarked | - | - | Vertical | - | - |
| **4-26** | Cordmarked | - | - | Vertical | - | - |
| **4-27** | Cordmarked | - | - | Vertical | - | - |
| **4-28** | Plain | - | - | - | - | - |
| **4-29** | Cordmarked | - | - | Vertical | - | - |
| **4-30** | Cordmarked | - | - | Vertical | - | - |
| **4-32** | Plain-Cordmarked | - | - | Vertical | - | - |
| **4-34** | Cordmarked | - | - | Vertical | - | - |
| **900-1** | Cordmarked | - | - | Vertical | - | - |
| **900-3** | Plain | - | - | - | - | - |
| **NF 5-7** | Plain | - | - | - | - | - |
| **NF 7-1** | Plain | - | - | - | - | - |
| **NF 7-3** | Plain | - | - | - | - | - |
| **NF 7-5** | Plain | Horizontal Cord Imp. | - | - | S-Twist | - |
| **4-10** | Slip | - | Dark | - | - | - |
| **4-11** | Slip | - | Red | - | - | - |

Table D.1 (Cont.). 2013 and 2016 Vessel Inventory

| Vessel # | Orifice Diameter (cm) | % of Orifice | Lip Length (mm) | Wall Thickness (mm) | Rim Curvature (mm) | Lip Thickness (mm) | Collar Height (mm) | LP Index (mm) |
|---|---|---|---|---|---|---|---|---|
| **TU 3-1** | 22 | ≥5 | - | 7.6 | - | 6.11 | - | - |
| **TU 15-2** | 28 | <5 | - | 5.46 | - | 6.06 | - | 0.9 |
| **TU 7-1** | 52 | >5 | 14.6 | 7.65 | 0.059 | 6.28 | - | 0.54 |
| **TU 3-2** | - | - | - | - | - | - | - | - |
| **900-3a** | 16-18 | ≤5 | - | 6.52 | - | 6.11 | - | - |
| **TU 11-1** | 22-24 | 11 | - | 12.63 | - | 8.15 | 37.8 | - |
| **900-1a** | Indeterminate | <5 | 3.92 | 2.91 | - | 2.44 | - | 0.74 |
| **900-2a** | Indeterminate | <5 | - | - | - | 4.77 | - | - |
| **TU 1-2** | Indeterminate | <5 | - | - | - | 4.65 | - | - |
| **TU 1-1** | Indeterminate | <5 | 9.04 | 7.96 | - | 3.16 | - | 0.88 |
| **TU 10-1** | Indeterminate | <5 | - | 7.88 | - | 8.1 | - | - |
| **TU 10-2** | Indeterminate | <5 | - | 6.96 | - | 8.17 | - | - |
| **TU 15-3** | Indeterminate | <5 | - | 8.89 | - | 9.09 | - | - |
| **TU 7-2** | Indeterminate | <5 | - | 7.52 | - | 8.08 | - | - |
| **TU 15-1** | Indeterminate | <5 | - | 8.91 | - | 9.75 | - | - |
| **4-1** | 10 | 13-15 | - | 4.43 | 0.145 | 3.72 | - | - |
| **4-22** | 10 | 6 | - | 8.58 | - | 7.46 | - | - |
| **4-2** | 16 | ≥15 | - | 6.75 | - | 6.32 | - | - |
| **NF 7-4** | 16 | 6 | - | 7.25 | - | 9.62 | 18.23 | 0 |
| **4-17** | 18 | 5-6 | 7.32 | 6.27 | - | 3.82 | - | 0.85 |
| **4-24** | 18 | 5 | 7.77 | 7.48 | - | 4.74 | - | 0.96 |
| **4-3** | 20 | ≤8 | - | 5.23 | - | 5.14 | - | - |
| **NF 3-2** | 22 | 5 | - | - | - | - | - | - |
| **4-5** | 22 | <10 | - | 7.55 | 0.117 | 7.49 | - | - |
| **4-20** | 22 | 7 | - | 11.26 | - | 5.15 | 28.45 | - |
| **4-21** | 22 | 5 | - | 9.62 | - | 8.16 | - | - |
| **4-40** | - | - | - | - | - | - | - | - |
| **4-39** | - | - | - | - | - | - | - | - |
| **4-12** | - | - | - | - | - | - | - | - |
| **4-4** | 16-22 | 12-15 | - | 8.94 | - | 7.11 | 16.91 | - |
| **4-31** | 20-24 | ≥5 | - | 9.41 | - | 6.81 | 15.11 | - |
| **4-6** | ≥16 | ≤5 | - | 8.85 | - | 8.85 | - | - |
| **4-18** | ≥16 | ≤5 | - | 8.28 | - | 6.7 | - | - |

Table D.1 (Cont.). 2013 and 2016 Vessel Inventory

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **4-33** | ≥30 | **<5** | **-** | **6.22** | **0.1** | **7.15** | **-** | **-** |
| **4-8** | Indeterminate | <5 | - | 6.78 | - | 6.23 | - | - |
| **4-19** | Indeterminate | <5 | - | 3.89 | - | 3.16 | - | - |
| **4-7** | Indeterminate | <5 | - | 7.24 | - | 7.62 | - | - |
| **4-9** | Indeterminate | ≤5 | - | 7.76 | - | 8.03 | - | - |
| **4-25** | Indeterminate | <5 | - | 5.53 | - | 4.83 | - | - |
| **4-35** | Indeterminate | <5 | - | - | - | 5.05 | - | - |
| **4-36** | Indeterminate | <5 | - | 9.28 | - | 9.86 | - | - |
| **4-37** | Indeterminate | <5 | - | 4.91 | - | 5.91 | - | - |
| **4-38** | Indeterminate | <5 | - | 7.61 | - | 7.35 | - | - |
| **900-2** | Indeterminate | <5 | - | 5.77 | - | 5.5 | - | - |
| **NF 3-1** | Indeterminate | <5 | - | 5.63 | - | 5.63 | - | - |
| **NF 7-2** | Indeterminate | <5 | - | 2.43 | - | 2.61 | - | - |
| **PLOW-1** | Indeterminate | <5 | - | 6.64 | - | 5.99 | - | - |
| **4-13** | Indeterminate | <5 | - | 4.66 | - | 2.88 | - | - |
| **4-14** | Indeterminate | <5 | - | 5.02 | - | 5.27 | - | - |
| **4-15** | Indeterminate | <5 | 2.69 | 5.31 | - | - | - | 0.51 |
| **4-16** | Indeterminate | <5 | 5.28 | 3.39 | - | 3.36 | - | 0.64 |
| **4-23** | Indeterminate | <5 | - | - | - | 5.91 | - | - |
| **4-26** | Indeterminate | <5 | - | 6.36 | - | 4.75 | 15.91 | - |
| **4-27** | Indeterminate | <5 | - | 6.42 | - | 6.19 | - | - |
| **4-28** | Indeterminate | <5 | 12.3 | 9.67 | - | 5.27 | - | 0.786 |
| **4-29** | Indeterminate | <5 | - | 8.75 | - | 8.32 | - | - |
| **4-30** | Indeterminate | <5 | - | 7.38 | - | 7.18 | - | - |
| **4-32** | Indeterminate | <5 | - | 7.31 | - | 5.85 | 16.28 | - |
| **4-34** | Indeterminate | <5 | 8.25 | 6.8 | 0.159 | 3.38 | - | 0.824 |
| **900-1** | Indeterminate | ≤5 | - | 7.64 | - | 5.24 | 28.11 | - |
| **900-3** | Indeterminate | <5 | - | 7.81 | - | 7.15 | - | - |
| **NF 5-7** | Indeterminate | <5 | - | 5.09 | - | 5.3 | - | - |

Table D.1 (Cont.). 2013 and 2016 Vessel Inventory.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **NF 7-1** | **Indeterminate** | **<5** | **-** | **3.41** | **-** | **3.6** | **-** | **-** |
| **NF 7-3** | Indeterminate | <5 | - | 6.71 | - | 7.41 | - | - |
| **NF 7-5** | Indeterminate | <5 | - | 11.18 | - | 13.13 | - | - |
| **4-10** | Indeterminate | <5 | 7.43 | 4.43 | 0.03 | 3.76 | - | 0.59 |
| **4-11** | Indeterminate | <5 | - | - | - | 2.54 | - | - |

Table D.1 (Cont.). 2013 and 2016 Vessel Inventory.

| | | **Use-Wear/Surface Alterations** | | | **Interior** | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Vessel #** | **Lip** | **Rim Exterior** | **Shoulder** | **Body** | **Surface** | **Slip Color** | **No. of sherds** | **Wt (g)** | **Comments** |
| **TU 3-1** | Soot | - | - | - | Plain w/soot | | 1 | 25.3 | slight bulge on interior near rim |
| **TU 15-2** | - | Soot | - | - | Plain/Burned | | 1 | 34.4 | Maples Mills; Orifiice is +/- 2 cm; Burned at the interior top; Similar to Douglas (1976) Plates 7a; 16c |
| **TU 7-1** | - | - | - | - | Plain | | 2 | 19.3 | 900-6, TS5 piece possibly associated w/ Fea. 9 basin; Similar to Douglas (1976) Plate 17L (Mound A) |
| **TU 3-2** | - | - | - | - | - | - | 1 | 5.5 | Designated a vessel due to unique surface treatmeant/décor |
| **900-3a** | - | - | - | - | Plain w/soot | | 1 | 8.4 | |
| **TU 11-1** | - | Soot/Patch | - | - | Plain w/soot | | 1 | 121.8 | Collar is CM |
| **900-1a** | Soot | - | - | - | Plain | | 1 | 0.2 | Too small for accurate angle/rim stance |
| **900-2a** | Soot | - | - | - | Plain w/soot | | 1 | 0.7 | Too small for accurate angle/rim stance/lip form |
| **TU 1-2** | - | - | - | - | Plain | | 1 | 0.5 | Too small for accurate angle/rim stance |
| **TU 1-1** | Soot | Soot | - | - | Burned | | 5 | 5.7 | |
| **TU 10-1** | - | - | - | - | Plain | | 1 | 2.6 | |
| **TU 10-2** | Soot | Soot | - | - | Plain w/soot | | 1 | 3.4 | Minimal lip extrusionn |
| **TU 15-3** | Soot | Soot | - | - | Burned | | 1 | 10.3 | |
| **TU 7-2** | - | - | - | - | Plain w/soot | | 1 | 5.1 | |
| **TU 15-1** | - | - | - | - | Missing/Eroded | | 11 | 12.7 | |
| **4-1** | Soot | - | Soot | - | Burned | | 3 | 12.6 | Paired left diagonal narrow incising along the upper rim (w/ vertical incising in between a wider pair), pair of horizontal narrow incised lines below diagonals, horizontal row of vertical punctates below the incising; with a left diagonal notched rim top - matches Douglas' Plate 2 z |
| **4-22** | - | - | - | - | Plain | | 1 | 4.2 | Too small for accurate angle/rim stance |

Table D.1 (Cont.). 2013 and 2016 Vessel Inventory.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **4-2** | **-** | **Soot** | **-** | **-** | **Plain w/soot** | | **3** | **20** | |
| **NF 7-4** | Soot | Soot | - | - | Plain/Burned | | 1 | 27.7 | Orifice is +/- 2 cm; Similar Douglas (1976) Plates 4a, c; 5a, b; 18m |
| **4-17** | - | - | - | - | Plain | | 1 | 12.7 | Orifice is +/- 2 cm |
| **4-24** | - | - | - | - | Plain | | 1 | 5.9 | |
| **4-3** | Soot | Soot | Soot | - | Plain w/soot | | 2 | 17.5 | |
| **NF 3-2** | - | - | - | - | Sooting | | 1 | 3.6 | Missing exterior; Too fragmentary for rim stance |
| **4-5** | Soot | Soot | - | - | Plain w/soot | | 1 | 100.7 | May be part of Vessel 6. They don't refit and profiles slightly off, but look very similar |
| **4-20** | - | - | - | - | Plain | | 1 | 21.3 | Possible slight castellation; Collar is CM-sm; below is cord impressed |
| **4-21** | - | Soot | - | - | Burned | | 1 | 21.6 | Distinct vertical cord impressions on top of smoothed over cordmarking |
| **4-40** | - | - | - | - | - | - | 2 | 47.9 | |
| **4-39** | - | - | - | - | - | - | 3 | 41.6 | Designated a vessel due to unique chert combo and 3 sherds of the same vessel |
| **4-12** | - | - | Soot | Soot | Burned | | 41 | 233 | 7 Primary sherds; Missing rim; Angled shoulder |
| **4-4** | Soot | Soot | - | - | Burned | | 2 | 44.2 | |
| **4-31** | Soot | - | - | - | Sooting | | 1 | 20.2 | Heavy soot on lip and interior; Collar is CM |
| **4-6** | Soot | Soot | - | - | Burned | | 1 | 46.8 | May be part of Vessel 5. They don't refit and profiles slightly off, but look similar |
| **4-18** | - | - | - | - | Plain | | 1 | 16.3 | Cordmarking is 'smooshed' |
| **4-33** | Soot | Soot | - | - | Plain w/burned spot near lip | | 1 | 25.2 | Heavy sooting on lip and exterior |
| **4-8** | - | - | - | - | Plain | | 1 | 2.9 | |
| **4-19** | - | - | - | - | Plain | | 1 | 4 | Too Fragmentary for proper orientation; Interior slightly curves in, but too small to be sure |
| **4-7** | - | - | - | - | Plain | | 2 | 4.6 | Probable bowl |
| **4-9** | - | - | - | - | Plain | | 1 | 3.9 | |
| **4-25** | - | - | - | - | Plain | | 1 | 1.1 | Too small for accurate angle |
| **4-35** | - | - | - | - | Sooting | | 1 | 1.7 | Too small for accurate angle/rim stance |
| **4-36** | - | - | - | - | Plain | | 1 | 1.4 | Too small for rim stance |
| **4-37** | - | - | - | - | Plain | | 1 | 0.7 | Too small for accurate angle |
| **4-38** | - | - | - | - | Plain | | 1 | 2.9 | Too small for accurate angle/rim stance |
| **900-2** | - | Soot | - | - | Plain | | 1 | 2.9 | |

Table D.1 (Cont.). 2013 and 2016 Vessel Inventory.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **NF 3-1** | **-** | **-** | **-** | **-** | **Burned** | | **1** | **1.3** | **Too fragmentary for rim stance** |
| **NF 7-2** | - | Burned | - | - | Slip + sooting near rim | Dark | 1 | 0.5 | Missing rim top |
| **PLOW-1** | - | - | - | - | Plain? | | 1 | 0.8 | Too small for accurate angle/rim stance |
| **4-13** | - | - | - | - | Plain | | 1 | 9.6 | |
| **4-14** | Burned | Burned | - | - | Burned | | 4 | 5.1 | |
| **4-15** | - | - | - | - | Plain/Burned | | 1 | 2.5 | Lip seems pinched? |
| **4-16** | - | - | - | - | Missing/Eroded | | 1 | 0.5 | |
| **4-23** | - | - | - | - | Sooting | | 1 | 1.5 | Too small for accurate angle/rim stance |
| **4-26** | - | Soot | - | - | Burned | | 1 | 4 | Collar is CM |
| **4-27** | - | Soot | - | - | Burned | | 1 | 3.2 | fold |
| **4-28** | - | - | - | - | Plain | | 1 | 10.2 | |
| **4-29** | - | Soot/Residue | - | - | Plain | | 1 | 7.3 | Heavy soot/residue on ridges of CM |
| **4-30** | - | - | - | - | Plain | | 1 | 8.3 | |
| **4-32** | - | - | - | - | Plain | | 1 | 10.2 | Collar is plain, below is CM |
| **4-34** | - | - | - | - | Plain/Burned w/ horizontal striations | | 1 | 37.7 | Stirring striations |
| **900-1** | Soot | - | - | - | Plain w/ heavy soot | | 1 | 14.4 | Collar is CM |
| **900-3** | - | - | - | - | Plain | | 1 | 24.8 | |
| **NF 5-7** | - | - | - | - | Burned | | 1 | 1.8 | |
| **NF 7-1** | - | - | - | - | Plain | | 1 | 0.4 | Too small for accurate angle |
| **NF 7-3** | - | Soot | - | - | Burned | | 1 | 1 | |
| **NF 7-5** | - | - | - | - | Plain w/soot | | 1 | 9.6 | Seen at Aztalan (Zych personal communication 2018) |
| **4-10** | - | - | - | - | Plain w/ slip | Dark (lip slip) | 3 | 1.6 | |
| **4-11** | - | - | - | - | Slip | Red + Red Lip slip | 2 | 0.5 | Interior, exterior, and lip have red slips; Thin and finely made, possibly a miniature vessel? |

Table D.1 (Cont.). 2013 and 2016 Vessel Inventory.

# APPENDIX E: RADIOCARBON DATES

| Lab # | Sample # | Material | Dated Context |
|---|---|---|---|
| ***Collins Complex*** | | | |
| **ISGS A4581** | CI-962 | Corn Kernal | PM 50 of F4 (S-P structure) |
| | | | |
| **ISGS A4582** | CI-963 | Hickory Shell | F12 (TU 11), pit - Mound A |
| | | | |
| **ISGS** | 112 | Wood Charcoal | F12, Pit - associated with LW pottery, charred maize kernals, Chenopodium and other wild seeds |
| **ISGS** | 113 | Wood Charcoal | F31, Pit - associated with LW & Miss. Pottery, charred maize kernals, Chenopodium and other wild seeds, and fauna |
| | | | |
| **ISGS** | 175 | Wood Charcoal | F41, (S-P structure) - associated with LW and Miss. Pottery |
| **ISGS** | 176 | Wood Charcoal | 11V82, F1 (Charnel structure) |
| **ISGS** | 191 | Wood Charcoal | 11V82, F1 (Charnel structure) |
| **ISGS** | 193 | Wood Charcoal | 11V82, F1 (Charnel structure) |
| **ISGS** | 196 | Wood Charcoal | 11V82, F1 (Charnel structure) |
| | | | |
| ***Fisher Mounds Site Complex*** | | | |
| **BGS 2417** | - | Wood charcoal | 2001 MVAC excavations, F12 |
| **UGA 11558** | - | Nutshell | 2001 MVAC excavations, F13 (S-P structure) |
| **ISGS A2410** | CI-605 | River Birch wood charcoal | F13 house basin, Fisher site |
| | | | |
| ***Trempealeau Site Complex*** | | | |
| **ISGS A2407** | CI-600 | Unid nutshell | Pelkey site midden |
| **ISGS A2408** | CI-603 | Oak wood charcoal | F20 hearth inside F4 (WT structure), uhl site |
| **ISGS A2405** | CI-598 | Charred chenopod seeds | F7 hearth inside F5 (S-P? structure), Little Bluff |
| **ISGS A2404** | CI-597 | Oak wood charcoal | F7 hearth inside F5 (S-P? structure), Little Bluff |
| **ISGS A2409** | CI-604 | Oak wood charcoal | F7, hearth fill, Squire Garden site |
| **ISGS A2406** | CI-599 | Unid wood charcoal | Pelkey site midden |
| **ISGS A2403** | CI-596 | Unid wood charcoal | F5 (S-P? structure) basin fill, Md 1 Little Bluff |
| ***Emerald Acropolis*** | | | |
| **ISGS 3110** | CI-663 | hickory wood | F104-51, burned house fill |
| **ISGS 3109** | CI-662 | oak wood | F104-49, burned house fill |
| **ISGS A3272** | CI-710 | Elm wood | F17, Zone F fill |
| **ISGS A3273** | CI-711 | Maize cupule | F44, Zone C fill |
| | | | |
| **ISGS A3275** | CI-713 | Hickory wood | F25, PM 38 |
| | | | |
| **ISGS 3126** | CI-679 | hickory wood | F124-27, wall trench of structure |
| **ISGS 3112** | CI-665 | hickory nutshell | F111-9, burned house fill |
| **ISGS 3113** | CI-666 | elm wood | F157-2, upper zone of burned building |
| **ISGS 3115** | CI-668 | hickory nutshell | F157-15, Zone 3 B burned structure |
| **ISGS 3122** | CI-675 | hickory nutshell | F110-5, wall trench of structure |
| | | | |
| **ISGS 3116** | CI-669 | ash wood | F157-59, bottom of house basin |

Table E.1. Regional Site Comparison of Radiocarbon Dates.

| | | | | |
|---|---|---|---|---|
| | **ISGS A3269** | **CI-707** | **Hickory nutshell** | **F8, Zone A fill** |
| | | | | |
| | **ISGS A3274** | CI-712 | Hickory nutshell | F54, Zone A fill |
| | **ISGS 3108** | CI-661 | Hazelnut shell | F104-2, burned house fill |
| | **ISGS 3123** | CI-676 | oak(?) wood | F120-5, post pit |
| | **ISGS A3271** | CI-709 | Hickory nutshell | F17, Zone B fill |
| | **ISGS 3111** | CI-664 | hickory nutshell | F111-5, burned house fill |
| | **ISGS 3114** | CI-667 | walnut shell | F157-3, upper zone of burned building |
| | **ISGS 3127** | CI-680 | oak wood | F192-5, burned house fill |
| | **ISGS 3118** | CI-671 | hickory wood | F157-100, ashy lens in house basin |
| | **ISGS 3124** | CI-677 | hickory wood | F120-11, post pit |
| | **ISGS 3119** | CI-672 | hickory nutshell | F157-65, bottom of house basin |
| | **ISGS 3117** | CI-670 | diffuse porous wood | F157-60, bottom of house basin |
| | | | | |
| | **ISGS 3125** | CI-678 | walnut shell | F124-26, structure basin floor |
| | | | | |
| | **ISGS 3121** | CI-674 | hickory wood | F172-6, house basin fill |
| | **ISGS A3270** | CI-708 | Hickory nutshell | F16, Zone A fill |
| ***Rench*** | | | | |
| | **ISGS 1215** | - | charcoal | House #2 |
| | **ISGS 1216** | - | nutshell | House #2 |
| | **ISGS 1217** | - | burned hickory wood | House #1 |
| | | | | |
| ***Fred Edwards*** | | | | |
| | **WIS-2062** | | Wood Charcoal | F148, Post 12, Palisade |
| | **WIS-1886** | | Wood Charcoal | F51, rock-filled, 2.5x1.5 m basin, possible sweat lodge or roast pit. Diag. LW ceramics |
| | | | | |
| | **WIS-1853** | | Wood Charcoal | F63, basin shaped pit w/ LW and Miss ceramics |
| | **WIS-1864** | | Wood Charcoal | F47, basin shaped pit |
| | **WIS-1773** | | Wood Charcoal | F63, basin shaped pit w/ LW and Miss ceramics |
| | | | | |
| | **WIS-1665** | | Wood Charcoal | F26, Basin shaped pit - east of F6 |
| | | | | |
| | **WIS-1664** | | Wood Charcoal | F15, center pit of (F6 Structure), directly assoc. w/ powell plain |
| | | | | |
| | **WIS-1668** | | Wood Charcoal | F6, S-P structure, PMs 35, 36, 59 |
| | | | | |
| | **WIS-2044** | | Wood Charcoal | F155, a ST w/ basin 30 cm deep containing 2 distinct fill episodes and 5 ceramic vessels |
| | **WIS-2061** | | Wood Charcoal | F148, Post 11, Palisade |
| | **WIS-1694** | | Wood Charcoal | F7, lg oval pit w/ chert, bone, pottery, and LS that overlaps NW corner of F6 |
| | **WIS-1887** | | Wood Charcoal | F73, rectangular, shallow, semi-sub. ST w/ LW and Miss (Ramey) ceramics |
| | **WIS-1774** | | Wood Charcoal | F67, basin shaped pit w/ LW and Miss Ceramics |
| | **WIS-1695** | | Wood Charcoal | F8, nutshells, hickory with some walnut |
| | **WIS-1693** | | Wood Charcoal | F8, basin shaped pit near F6 entrance |
| | **WIS-1662** | | Wood Charcoal | F2, S-P structure, w/ basin, from log |

Table E.1 (Cont.). Regional Site Comparison of Radiocarbon Dates.

| | | |
|---|---|---|
| ***Angel Site*** | | |
| **Beta 39235** | - | Angel House/ feature ("older") |
| **Beta-237767** | Juncus (spp., Juncaceae) (rush) [charred] | Md A.; conical offset; Core 5 [468cm],(ca. 4 m above Beta-232869) |
| | | |
| **Beta-232869** | grass/grass roots (no id) [uncharred] | Md A.; upper platform (south); Core 7 [625cm] |
| | | |
| **Beta-232870** | grass/grass roots (no id) [uncharred] | Md A.; upper platform (south); Core 7 [810cm] |
| | | |
| **Beta 39232** | - | Mound F |
| **M 7** | - | Angel House/ feature ("older") |
| **Beta 39234** | - | Angel House/ feature ("older") |
| ***Aztalan Site*** | | |
| **M 1037** | Wood charcoal | PH of rectangular ST located in riverbank enclosure |
| **DIC 3135** | Wood charcoal | F6, in situ ash dump, Str. 11, 1984 UWM midden exc. |
| **DIC 3133** | Wood charcoal | F20, conc. Of mussel shells, Str. 5, 1984 UWM midden exc. |
| **BETA 47JE1/6** | Charred bulrush | Charred bulrush matting, charnel house, NW mound |
| **WIS 191** | Wood charcoal | F30, (pit?) superimposed by 2 episodes of riverbank palisade const. |
| | | |
| **DIC 3044** | Wood charcoal | F5, shallow pit containing grit temp. pottery in plaza area |
| | | |
| **WIS 68** | Wood charcoal | F17a, pit east of NE mound in riverbank enclosure; corn, shell, and gr temp pottery |
| **BETA 360268** | - | Submound NE Mound |
| **WIS 160** | Wood charcoal | Recovered Barrett 13 feet below surface of SW mound |
| **WIS 63** | Wood charcoal | F1, ash layer in pit in riverbank enclosure |
| **BETA 360270** | - | Submound NE Mound |
| **DIC 3136** | Wood charcoal | F10, Structure 11, 1984 UWM midden exc. |
| **DIC 3134** | Wood charcoal | Structure 1110, 1984 UWM midden exc. |
| **WIS 73** | Wood charcoal | Structure 1110, 1984 UWM midden exc. |
| **WIS 162** | Wood charcoal | Wooden post from structure on 'top'? Of SW mound |
| ***Lawrenz Gun Club*** | | |
| **UCIAMS-164698** | Monocot stems | Floor of second early Miss. WT structure, North of fortified village |
| **UCIAMS-164692** | Wood charcoal (unid) | Core of paleochannel adjacent to northern structures outside palisade |
| **UCIAMS-169486** | Porous wood charcoal (unid) | Floor of an early Miss. WT structure, North of fortified village |
| **UCIAMS-164693** | Wood charcoal (unid) | Core of probable WT structure on or below upper platform of Mound 14 |
| | | |
| **UCIAMS-164696** | Monocot stem | Core of probable structure below lower platform of Mound 14 |
| | | |
| **UCIAMS-164700** | Porous wood charcoal (unid) | Posthole w/I circular bastion along palisade's north wall that is superimposed by rectangular bastion |

| | | | |
|---|---|---|---|
| | | | |
| **UCIAMS-164694** | | Cucurbit rind | Burnt, rectangular deposit immediately northeast of rectangular bastion superimposing a circular bastion along the palisade's north wall |
| **UCIAMS-145762** | | Hickory nutshell | PM w/I the west flank of a rectangular bastion along palisade's north wall |
| **UCIAMS-164695** | | Willow/poplar wood charcoal | Posthole from the 2nd (southern) iteration of a circular bastion on the NW corner of the fortified village |
| **UCIAMS-164697** | | Willow/poplar wood charcoal | First (southern) iteration of a circular bastion trench on the northwest corner of the fortified village |
| **UCIAMS-164699** | | Red/white oak wood charcoal | Analytical sample of burnt layer from collapse of the ciruclar-bastioned palisade on the NW corner of the fortified village |
| **UCIAMS-145763** | | Willow/poplar wood charcoal | Base of the west flank of a rectangular bastion trench along palisade's north wall; possible bottom of a large burnt post |
| **UCIAMS-145761** | | Hickory nutshell | PM w/I the west flank of a rectangular bastion along palisade's north wall |
| ***Lundy*** | | | |
| **ISGS 4998** | CI 220 | Mixed Wood | F29/A |
| **ISGS 4999** | CI 221 | Mixed Wood | F39/C |
| **ISGS 1315** | CAA | Wood-Nuts | F50/C |
| **ISGS 1092** | CAA | Mixed Wood | F3/A |
| | | | |
| **ISGS 4997** | CI 222 | W. Oak | F50C |
| | | | |
| **ISGS 1307** | CAA | Mixed Nuts | F35/B |
| ***John Chapman*** | | | |
| **ISGS 5614** | CI-310 | Hickory | F34, Burned T-Shape (Single Post) |
| | | | |
| **ISGS 5616** | CI-312 | Mixed Wood | F41, Roasting pit |

Table E.1 (Cont.). Regional Site Comparison of Radiocarbon Dates.

| Lab # | $^{14}$C yr B.P. | +/- | Median | Cal A.D. at 1$\sigma$(68.3%) | *p* |
|---|---|---|---|---|---|
| ***Collins Complex*** | | | | | |
| **ISGS A4581** | 925 | 15 | 1088 | 1048-1082 | 0.644 |
| | | | | | |
| **ISGS A4582** | 990 | 20 | 1042 | 1021-1045 | 0.642 |
| | | | | 1105-1119 | 0.23 |
| **ISGS** | 930 | 140 | 1100 | 994-1229 | 0.973 |
| **ISGS** | 853 | 75 | 1179 | 1052-1079 | 0.156 |
| | | | | 1155-1267 | 0.844 |
| **ISGS** | 975 | 75 | 1085 | 1019-1159 | 0.954 |
| **ISGS** | 1045 | 75 | 998 | 938-1045 | 0.676 |
| **ISGS** | 960 | 75 | 1095 | 1022-1164 | 0.99 |
| **ISGS** | 950 | 75 | 1102 | 1023-1167 | 1 |

Table E.1 (Cont.). Regional Site Comparison of Radiocarbon Dates.

| | | | | | |
|---|---|---|---|---|---|
| **ISGS** | **890** | **85** | **1144** | **1043-1086** | **0.268** |
| | | | | 1117-1222 | 0.66 |
| ***Fisher Mounds Site Complex*** | | | | | |
| **BGS 2417** | 1019 | 60 | 1028 | 977-1049 | 0.607 |
| **UGA 11558** | 920 | 70 | 1121 | 1039-1176 | 0.967 |
| **ISGS A2410** | 955 | 20 | 1102 | 1037-1048 | 0.179 |
| | | | | 1082-1129 | 0.648 |
| ***Trempealeau Site Complex*** | | | | | |
| **ISGS A2407** | 925 | 20 | 1097 | 1047-1083 | 0.555 |
| **ISGS A2408** | 920 | 20 | 1097 | 1047-1083 | 0.577 |
| **ISGS A2405** | 915 | 20 | 1099 | 1048-1082 | 0.602 |
| **ISGS A2404** | 910 | 20 | 1116 | 1049-1081 | 0.566 |
| **ISGS A2409** | 955 | 20 | 1102 | 1082-1129 | 0.648 |
| **ISGS A2406** | 940 | 20 | 1100 | 1115-1156 | 0.524 |
| **ISGS A2403** | 880 | 20 | 1184 | 1187-1212 | 0.597 |
| ***Emerald Acropolis*** | | | | | |
| **ISGS 3110** | 990 | 20 | 1042 | 1021-1045 | 0.642 |
| **ISGS 3109** | 990 | 15 | 1034 | 1022-1041 | 0.842 |
| **ISGS A3272** | 985 | 20 | 1085 | 1023-1046 | 0.559 |
| **ISGS A3273** | 970 | 20 | 1099 | 1030-1047 | 0.32 |
| | | | | 1102-1125 | 0.374 |
| **ISGS A3275** | 970 | 15 | 1099 | 1030-1046 | 0.342 |
| | | | | 1103-1124 | 0.388 |
| **ISGS 3126** | 930 | 15 | 1095 | 1047-1083 | 0.554 |
| **ISGS 3112** | 925 | 15 | 1088 | 1048-1082 | 0.644 |
| **ISGS 3113** | 915 | 15 | 1079 | 1049-1081 | 0.725 |
| **ISGS 3115** | 910 | 20 | 1116 | 1049-1081 | 0.566 |
| **ISGS 3122** | 900 | 20 | 1159 | 1052-1078 | 0.415 |
| | | | | 1155-1179 | 0.421 |
| **ISGS 3116** | 935 | 15 | 1099 | 1060-1084 | 0.319 |
| **ISGS A3269** | 935 | 15 | 1099 | 1060-1084 | 0.319 |
| | | | | 1123-1142 | 0.278 |
| **ISGS A3274** | 960 | 20 | 1102 | 1100-1127 | 0.419 |
| **ISGS 3108** | 955 | 15 | 1104 | 1101-1127 | 0.437 |
| **ISGS 3123** | 965 | 15 | 1102 | 1102-1125 | 0.41 |
| **ISGS A3271** | 960 | 15 | 1104 | 1102-1126 | 0.432 |
| **ISGS 3111** | 940 | 20 | 1100 | 1115-1156 | 0.524 |
| **ISGS 3114** | 940 | 15 | 1101 | 1117-1156 | 0.56 |
| **ISGS 3127** | 940 | 15 | 1101 | 1117-1156 | 0.56 |
| **ISGS 3118** | 900 | 15 | 1160 | 1156-1177 | 0.512 |
| **ISGS 3124** | 900 | 15 | 1160 | 1156-1177 | 0.512 |
| **ISGS 3119** | 895 | 15 | 1168 | 1157-1179 | 0.574 |
| **ISGS 3117** | 890 | 20 | 1173 | 1158-1181 | 0.5 |
| | | | | 1186-1212 | 0.475 |
| **ISGS 3125** | 875 | 15 | 1188 | 1164-1180 | 0.426 |
| | | | | 1187-1212 | 0.713 |
| **ISGS 3121** | 880 | 15 | 1186 | 1188-1210 | 0.574 |
| **ISGS A3270** | 750 | 15 | 1272 | 1270-1278 | 1.0 |

Table E.1 (Cont.). Regional Site Comparison of Radiocarbon Dates.

| | | | | | |
|---|---|---|---|---|---|
| ***Rench*** | | | | | |
| **ISGS 1215** | 940 | 70 | 1108 | 1029-1166 | 1.0 |
| **ISGS 1216** | 930 | 70 | 1114 | 1033-1168 | 0.97 |
| **ISGS 1217** | 1000 | 70 | 1058 | 992-1053 | 0.448 |
| | | | | 1075-1157 | 0.529 |
| ***Fred Edwards*** | | | | | |
| **WIS-2062** | 1040 | 50 | 1003 | 955-1039 | 0.843 |
| **WIS-1886** | 1010 | 70 | 1041 | 977-1053 | 0.523 |
| | | | | 1076-1156 | 0.477 |
| **WIS-1853** | 920 | 70 | 1121 | 1039-1176 | 0.967 |
| **WIS-1864** | 980 | 70 | 1083 | 1060-1157 | 0.684 |
| **WIS-1773** | 990 | 70 | 1073 | 994-1053 | 0.427 |
| | | | | 1076-1156 | 0.573 |
| **WIS-1665** | 900 | 70 | 1137 | 1046-1084 | 0.279 |
| | | | | 1122-1218 | 0.659 |
| **WIS-1664** | 880 | 70 | 1158 | 1046-1084 | 0.246 |
| | | | | 1145-1226 | 0.606 |
| **WIS-1668** | 860 | 80 | 1171 | 1049-1081 | 0.189 |
| | | | | 1152-1266 | 0.801 |
| **WIS-2044** | 840 | 70 | 1192 | 1157-1272 | 0.967 |
| **WIS-2061** | 840 | 70 | 1192 | 1157-1272 | 0.967 |
| **WIS-1694** | 830 | 70 | 1201 | 1160-1274 | 1.0 |
| **WIS-1887** | 810 | 70 | 1219 | 1198-1277 | 0.829 |
| **WIS-1774** | 810 | 70 | 1219 | 1198-1277 | 0.829 |
| **WIS-1695** | 800 | 70 | 1226 | 1199-1280 | 0.857 |
| **WIS-1693** | 790 | 70 | 1233 | 1201-1283 | 0.894 |
| **WIS-1662** | 810 | 60 | 1224 | 1203-1276 | 0.885 |
| ***Angel Site*** | | | | | |
| **Beta 39235** | 950 | 80 | 1101 | 1023-1168 | 0.975 |
| **Beta-237767** | 890 | 40 | 1159 | 1050-1080 | 0.283 |
| | | | | 1153-1219 | 0.717 |
| **Beta-232869** | 890 | 40 | 1159 | 1050-1080 | 0.283 |
| | | | | 1153-1219 | 0.717 |
| **Beta-232870** | 900 | 40 | 1140 | 1048-1082 | 0.325 |
| | | | | 1151-1216 | 0.618 |
| **Beta 39232** | 840 | 80 | 1187 | 1156-1273 | 0.903 |
| **M 7** | 760 | 100 | 1248 | 1166-1306 | 0.899 |
| **Beta 39234** | 750 | 80 | 1261 | 1213-1306 | 0.869 |
| ***Aztalan Site*** | | | | | |
| **M 1037** | 1200 | 75 | 830 | 773-895 | 0.732 |
| **DIC 3135** | 1130 | 55 | 914 | 878-992 | 0.934 |
| **DIC 3133** | 950 | 65 | 1102 | 1030-1159 | 1.0 |
| **BETA 47JE1/6** | 940 | 60 | 1107 | 1035-1159 | 1.0 |
| **WIS 191** | 920 | 55 | 1119 | 1040-1107 | 0.544 |
| | | | | 1114-1168 | 0.421 |

Table E.1 (Cont.). Regional Site Comparison of Radiocarbon Dates.

| | | | | | |
|---|---|---|---|---|---|
| **DIC 3044** | **870** | **50** | **1175** | **1154-1228** | **0.762** |
| | | | | 1050-1080 | 0.2 |
| **WIS 68** | 850 | 80 | 1179 | 1154-1270 | 0.839 |
| **BETA 360268** | 890 | 30 | 1166 | 1157-1215 | 0.911 |
| **WIS 160** | 840 | 70 | 1192 | 1157-1272 | 0.967 |
| **WIS 63** | 820 | 80 | 1205 | 1157-1279 | 0.972 |
| **BETA 360270** | 880 | 30 | 1177 | 1158-1218 | 1.0 |
| **DIC 3136** | 850 | 50 | 1194 | 1161-1234 | 0.801 |
| **DIC 3134** | 850 | 45 | 1196 | 1162-1231 | 0.85 |
| **WIS 73** | 820 | 60 | 1217 | 1200-1272 | 0.826 |
| **WIS 162** | 810 | 60 | 1224 | 1203-1276 | 0.885 |
| ***Lawrenz Gun Club*** | | | | | |
| **UCIAMS-164698** | 925 | 20 | 1097 | 1047-1083 | 0.555 |
| **UCIAMS-164692** | 940 | 20 | 1100 | 1115-1156 | 0.524 |
| **UCIAMS-169486** | 940 | 15 | 1101 | 1117-1156 | 0.56 |
| **UCIAMS-164693** | 935 | 20 | 1099 | 1059-1085 | 0.309 |
| | | | | 1122-1157 | 0.45 |
| **UCIAMS-164696** | 850 | 20 | 1173 | 1158-1181 | 0.5 |
| | | | | 1186-1212 | 0.475 |
| **UCIAMS-164700** | 875 | 20 | 1187 | 1166-1181 | 0.362 |
| | | | | 1186-1213 | 0.638 |
| **UCIAMS-164694** | 845 | 20 | 1208 | 1200-1225 | 0.623 |
| **UCIAMS-145762** | 840 | 20 | 1215 | 1202-1228 | 0.621 |
| **UCIAMS-164695** | 840 | 20 | 1215 | 1202-1228 | 0.621 |
| **UCIAMS-164697** | 830 | 20 | 1226 | 1214-1234 | 0.511 |
| **UCIAMS-164699** | 830 | 20 | 1226 | 1214-1234 | 0.511 |
| **UCIAMS-145763** | 805 | 20 | 1243 | 1237-1261 | 0.72 |
| **UCIAMS-145761** | 810 | 20 | 1242 | 1239-1260 | 0.678 |
| ***Lundy*** | | | | | |
| **ISGS 4998** | 960 | 70 | 1096 | 1024-1160 | 1 |
| **ISGS 4999** | 940 | 70 | 1108 | 1029-1166 | 1 |
| **ISGS 1315** | 940 | 70 | 1108 | 1029-1166 | 1 |
| **ISGS 1092** | 910 | 70 | 1128 | 1044-1086 | 0.306 |
| | | | | 1118-1181 | 0.435 |
| **ISGS 4997** | 890 | 70 | 1147 | 1046-1084 | 0.27 |
| | | | | 1145-1221 | 0.558 |

Table E.1 (Cont.). Regional Site Comparison of Radiocarbon Dates.

| | | | | | |
|---|---|---|---|---|---|
| **ISGS 1307** | **800** | **70** | **1226** | **1199-1280** | **0.857** |
| ***John Chapman*** | | | | | |
| **ISGS 5614** | 1020 | 70 | 1028 | 975-1051 | 0.54 |
| | | | | 1080-1154 | 0.401 |
| **ISGS 5616** | 940 | 70 | 1108 | 1029-1166 | 1 |

Table E.1 (Cont.). Regional Site Comparison of Radiocarbon Dates.

| Lab # | Cal A.D. at 2$\sigma$(95.4%) | *p* | Source |
|---|---|---|---|
| ***Collins Complex*** | | | |
| **ISGS A4581** | 1041-1108 | 0.62 | |
| | 1115-1164 | 0.38 | |
| **ISGS A4582** | 1019-1049 | 0.494 | |
| | 1081-1134 | 0.384 | |
| **ISGS** | 821-1303 | 0.984 | Douglas 1976:177-188 |
| **ISGS** | 1036-1277 | 1 | Douglas 1976:177-188 |
| | | | |
| **ISGS** | 950-1222 | 0.968 | Douglas 1976:177-188 |
| **ISGS** | 826-1166 | 0.985 | Douglas 1976:177-188 |
| **ISGS** | 973-1229 | 0.971 | Douglas 1976:177-188 |
| **ISGS** | 977-1233 | 0.979 | Douglas 1976:177-188 |
| **ISGS** | 1019-1277 | 0.99 | Douglas 1976:177-188 |
| | | | |
| ***Fisher Mounds Site Complex*** | | | |
| **BGS 2417** | 892-1162 | 1.0 | Pauketat et al. 2015:Table 3 |
| **UGA 11558** | 1018-1234 | 0.954 | Pauketat et al. 2015:Table 3 |
| **ISGS A2410** | 1031-1053 | 0.192 | Pauketat et al. 2015:Table 3 |
| | 1075-1157 | 0.789 | |
| ***Trempealeau Site Complex*** | | | |
| **ISGS A2407** | 1037-1168 | 1.0 | Pauketat et al. 2015:Table 3 |
| **ISGS A2408** | 1039-1110 | 0.58 | Pauketat et al. 2015:Table 3 |
| **ISGS A2405** | 1040-1108 | 0.551 | Pauketat et al. 2015:Table 3 |
| **ISGS A2404** | 1043-1087 | 0.438 | Pauketat et al. 2015:Table 3 |
| **ISGS A2409** | 1075-1157 | 0.789 | Pauketat et al. 2015:Table 3 |
| **ISGS A2406** | 1037-1158 | 1.0 | Pauketat et al. 2015:Table 3 |
| **ISGS A2403** | 1156-1220 | 0.931 | Pauketat et al. 2015:Table 3 |
| ***Emerald Acropolis*** | | | |
| **ISGS 3110** | 1019-1049 | 0.494 | Pauketat et al. 2017:Table S2 |
| **ISGS 3109** | 1020-1048 | 0.641 | Pauketat et al. 2017:Table S2 |
| **ISGS A3272** | 1081-1152 | 0.549 | Skousen 2016:Table 6.1 |
| **ISGS A3273** | 1078-1156 | 0.723 | Skousen 2016:Table 6.1 |
| | | | |
| **ISGS A3275** | 1081-1152 | 0.71 | Skousen 2016:Table 6.1 |
| | | | |
| **ISGS 3126** | 1040-1108 | 0.601 | Pauketat et al. 2017:Table S2 |
| **ISGS 3112** | 1041-1108 | 0.62 | Pauketat et al. 2017:Table S2 |
| **ISGS 3113** | 1043-1087 | 0.551 | Pauketat et al. 2017:Table S2 |
| **ISGS 3115** | 1043-1087 | 0.438 | Pauketat et al. 2017:Table S2 |

Table E.1 (Cont.). Regional Site Comparison of Radiocarbon Dates.

| | | | |
|---|---|---|---|
| **ISGS 3122** | **1147-1217** | **0.606** | **Pauketat et al. 2017:Table S2** |
| **ISGS 3116** | 1040-1109 | 0.582 | Pauketat et al. 2017:Table S2 |
| **ISGS A3269** | 1040-1109 | 0.582 | Skousen 2016:Table 6.1 |
| **ISGS A3274** | 1075-1157 | 0.772 | Skousen 2016:Table 6.1 |
| **ISGS 3108** | 1076-1156 | 0.811 | Pauketat et al. 2017:Table S2 |
| **ISGS 3123** | 1080-1153 | 0.758 | Pauketat et al. 2017:Table S2 |
| **ISGS A3271** | 1079-1155 | 0.789 | Skousen 2016:Table 6.1 |
| **ISGS 3111** | 1037-1158 | 1.0 | Pauketat et al. 2017:Table S2 |
| **ISGS 3114** | 1058-1157 | 0.872 | Pauketat et al. 2017:Table S2 |
| **ISGS 3127** | 1058-1157 | 0.872 | Pauketat et al. 2017:Table S2 |
| **ISGS 3118** | 1151-1215 | 0.642 | Pauketat et al. 2017:Table S2 |
| **ISGS 3124** | 1151-1215 | 0.642 | Pauketat et al. 2017:Table S2 |
| **ISGS 3119** | 1154-1215 | 0.766 | Pauketat et al. 2017:Table S2 |
| **ISGS 3117** | 1152-1219 | 0.798 | Pauketat et al. 2017:Table S2 |
| **ISGS 3125** | 1161-1218 | 1.0 | Pauketat et al. 2017:Table S2 |
| **ISGS 3121** | 1157-1219 | 0.99 | Pauketat et al. 2017:Table S2 |
| **ISGS A3270** | 1260-1284 | 0.982 | Skousen 2016:Table 6.1 |
| ***Rench*** | | | |
| **ISGS 1215** | 992-1230 | 0.987 | McConaughy 1991:101-102 |
| **ISGS 1216** | 994-1230 | 0.986 | McConaughy 1991:101-102 |
| **ISGS 1217** | 942-1182 | 0.904 | McConaughy 1991:101-102 |
| ***Fred Edwards*** | | | |
| **WIS-2062** | 890-1050 | 0.836 | Steventon and Kutzbach 1990 |
| **WIS-1886** | 889-1179 | 0.986 | Steventon and Kutzbach 1988 |
| **WIS-1853** | 1018-1234 | 0.954 | Steventon and Kutzbach 1987 |
| **WIS-1864** | 955-1219 | 0.973 | Steventon and Kutzbach 1987 |
| **WIS-1773** | 950-1217 | 0.959 | Steventon and Kutzbach 1987 |
| **WIS-1665** | 1025-1263 | 1.0 | Steventon and Kutzbach 1986 |
| **WIS-1664** | 1032-1267 | 1.0 | Steventon and Kutzbach 1986 |
| **WIS-1668** | 1030-1279 | 1.0 | Steventon and Kutzbach 1986 |
| **WIS-2044** | 1113-1280 | 0.81 | Steventon and Kutzbach 1990 |
| **WIS-2061** | 1113-1280 | 0.81 | Steventon and Kutzbach 1990 |
| **WIS-1694** | 1114-1284 | 0.837 | Steventon and Kutzbach 1986 |
| **WIS-1887** | 1116-1299 | 0.89 | Steventon and Kutzbach 1988 |
| **WIS-1774** | 1116-1299 | 0.89 | Steventon and Kutzbach 1987 |
| **WIS-1695** | 1118-1303 | 0.901 | Steventon and Kutzbach 1986 |

Table E.1 (Cont.). Regional Site Comparison of Radiocarbon Dates.

| | | | |
|---|---|---|---|
| **WIS-1693** | **1123-1307** | **0.907** | **Steventon and Kutzbach 1986** |
| **WIS-1662** | 1148-127 | 0.92 | Steventon and Kutzbach 1986 |
| ***Angel Site*** | | | |
| **Beta 39235** | 975-1263 | 0.988 | Monaghan and Peebles 2010:Table 2 |
| **Beta-237767** | 1037-1225 | 1.0 | Monaghan and Peebles 2010:Table 1 |
| | | | |
| **Beta-232869** | 1037-1225 | 1.0 | Monaghan and Peebles 2010:Table 1 |
| | | | |
| **Beta-232870** | 1039-1219 | 1.0 | Monaghan and Peebles 2010:Table 1 |
| | | | |
| **Beta 39232** | 1032-1286 | 1.0 | Monaghan and Peebles 2010:Table 2 |
| **M 7** | 1118-1401 | 0.92 | Monaghan and Peebles 2010:Table 2 |
| **Beta 39234** | 1155-1399 | 0.975 | Monaghan and Peebles 2010:Table 2 |
| ***Aztalan Site*** | | | |
| **M 1037** | 674-990 | 1.0 | Richards and Jeske 2002:44 |
| **DIC 3135** | 796-996 | 0.902 | Richards and Jeske 2002:44 |
| **DIC 3133** | 991-1224 | 1.0 | Richards and Jeske 2002:44 |
| **BETA 47JE1/6** | 1015-1220 | 0.98 | Richards and Jeske 2002:44 |
| **WIS 191** | 1022-1225 | 1.0 | Richards and Jeske 2002:44 |
| | | | |
| **DIC 3044** | 1115-1266 | 0.773 | Richards and Jeske 2002:44 |
| | | | |
| **WIS 68** | 1031-1281 | 1.0 | Richards and Jeske 2002:44 |
| **BETA 360268** | 1118-1222 | 0.727 | Richards and Jeske 2002:44 |
| **WIS 160** | 1113-1280 | 0.81 | Richards and Jeske 2002:44 |
| **WIS 63** | 1034-1299 | 0.998 | Richards and Jeske 2002:44 |
| **BETA 360270** | 1122-1227 | 0.805 | Richards and Jeske 2002:44 |
| **DIC 3136** | 1123-1275 | 0.869 | Richards and Jeske 2002:44 |
| **DIC 3134** | 1148-1274 | 0.869 | Richards and Jeske 2002:44 |
| **WIS 73** | 1123-1288 | 0.913 | Richards and Jeske 2002:44 |
| **WIS 162** | 1148-1297 | 0.92 | Richards and Jeske 2002:44 |
| ***Lawrenz Gun Club*** | | | |
| **UCIAMS-164698** | 1037-1168 | 1.0 | Krus et al. 2019:Table 1 |
| **UCIAMS-164692** | 1037-1158 | 1.0 | Krus et al. 2019:Table 1 |
| **UCIAMS-169486** | 1058-1157 | 0.872 | Krus et al. 2019:Table 1 |
| **UCIAMS-164693** | 1038-1160 | 1.0 | Krus et al. 2019:Table 1 |
| | | | |
| **UCIAMS-164696** | 1152-1219 | 0.798 | Krus et al. 2019:Table 1 |
| | | | |
| **UCIAMS-164700** | 1156-1221 | 0.977 | Krus et al. 2019:Table 1 |

Table E.1 (Cont.). Regional Site Comparison of Radiocarbon Dates.

| | | | |
|---|---|---|---|
| **UCIAMS-164694** | **1165-1232** | **0.884** | **Krus et al. 2019:Table 1** |
| **UCIAMS-145762** | 1174-1234 | 0.781 | Krus et al. 2019:Table 1 |
| **UCIAMS-164695** | 1174-1234 | 0.781 | Krus et al. 2019:Table 1 |
| **UCIAMS-164697** | 1200-1266 | 0.883 | Krus et al. 2019:Table 1 |
| **UCIAMS-164699** | 1200-1266 | 0.883 | Krus et al. 2019:Table 1 |
| **UCIAMS-145763** | 1219-1269 | 1.0 | Krus et al. 2019:Table 1 |
| **UCIAMS-145761** | 1217-1270 | 1.0 | Krus et al. 2019:Table 1 |
| ***Lundy*** | | | |
| **ISGS 4998** | 975-1226 | 0.988 | Emerson et al. 2007:Table 22 |
| **ISGS 4999** | 992-1230 | 0.987 | Emerson et al. 2007:Table 22 |
| **ISGS 1315** | 992-1230 | 0.987 | Emerson et al. 2007:Table 22 |
| **ISGS 1092** | 1022-1263 | 1 | Emerson et al. 2007:Table 22 |
| **ISGS 4997** | 1029-1265 | 1 | Emerson et al. 2007:Table 22 |
| **ISGS 1307** | 1118-1303 | 0.901 | Emerson et al. 2007:Table 22 |
| ***John Chapman*** | | | |
| **ISGS 5614** | 884-1179 | 0.987 | Emerson et al. 2007:Table 22 |
| **ISGS 5616** | 992-1230 | 0.987 | Emerson et al. 2007:Table 22 |

Table E.1 (Cont.). Regional Site Comparison of Radiocarbon Dates.