EXCAVATIONS OF MOUND B: A RIDGE-TOP MOUND AT THE CARSON SITE, A MISSISSIPPIAN MOUND CENTER IN THE NORTHERN YAZOO BASIN

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by

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ABSTRACT

Excavations of the Carson Mounds site, a Mississippian Period multi-mound center, have yielded significant data regarding the Mississippianization of the Lower Mississippi Valley. Mound B, which is one of the six remaining mounds, and was previously unexcavated and assumed to be a Woodland period double-conical mound, has shown evidence of being an intricately constructed, and intentionally shaped Mississippian ridge-top mound. Ridge-top mounds - long, narrow earthworks with a ridge running down the central axis - are not common outside of Cahokia, and Mound B may be one of the first documented cases. This research adds to the previously recognized evidence of Cahokian contact and influence at Carson Mounds.

ACKNOWLEDGEMENTS

I would like to thank my family and friends for their love and support throughout this process.

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CHAPTER 1

INTRODUCTION

Earthen mound architecture is an important marker of Mississippian culture (Blitz and Livingood 2004; Payne 1994; Phillips et al. 2003). However more work is needed regarding the differentiation of these mounds, their respective meanings and relations to each other, and their functioning in the political economy of chiefdoms (with the exception of Blitz and Livingood 2004). These issues relate to the appearance of hierarchy, characteristics of hierarchy and its connection with heterarchy, and the proliferation of the Mississippian culture throughout the Southeast.

Ridge-top mounds are one of the least studied Mississippian mound forms. Understanding these mounds can help to address the aforementioned issues. The Carson Mounds site (Figure 1) is a suitable location to study the implication of this form due to the presence of five large mounds and one possible ridge-top mound, with a site-wide occupation periods dating from the Middle Woodland to the Late Mississippian (Brown 1978; Lansdell 2009; Phillips et al. 2003).

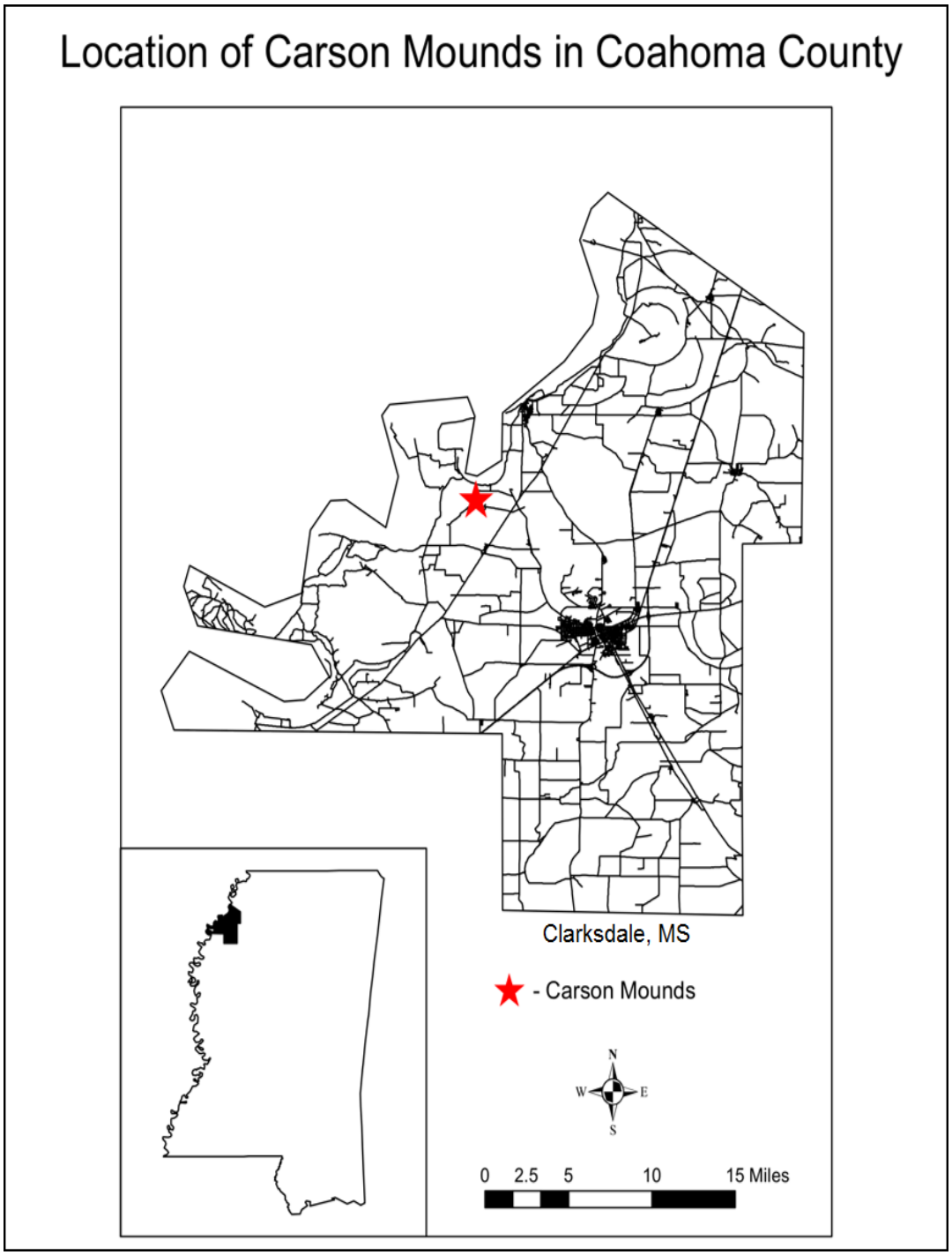


Figure 1. Location of Carson Mounds (Mississippi Geospatial Clearinghouse-www.gis.ms.gov)

The Carson Mounds site (Carson) is located in the Northern Yazoo Basin of the Lower Mississippi Valley in Coahoma County, Mississippi, only a few miles from the Mississippi River. Carson covers an area approximately one mile east to west, and a half-mile north to south. The center of the mound group, according to Ian Brown (1978) is located two and three quarters of a mile due west of the town of Stovall, and one mile south of Horseshoe Lake. The site extends linearly, consuming approximately 259 ha total. W. H. Holmes first visited the site, and his descriptions were published in the Bureau of American Ethnology's 12th Annual Report in 1894 by Cyrus Thomas (Phillips et al. 2003:371-373; Thomas 1894).

The hand drawn map (Figure 2), created by W.H. Holmes includes over 85 mounds. However, as a result of modern agricultural practices such as land leveling, repeated tilling, and erosion, 79 small mounds have been completely destroyed. Only six mounds remain of the original arrangement.

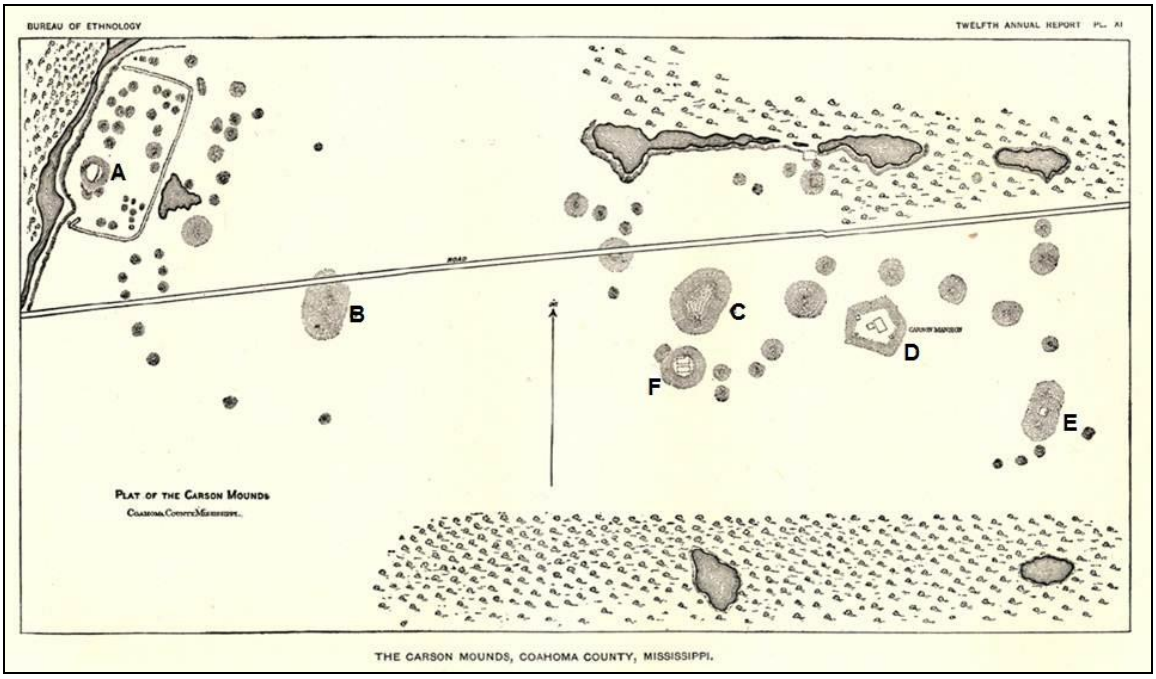


Figure 2. The Cyrus Thomas map of Carson (Thomas 1894)

The remaining mounds (Figure 3) are titled A through F, with A, C, and F being truncated platform mounds, D, a five-sided pentagonal platform mound, E a twin mound, and B, a possible ridge-top mound. Mound A has been labeled the Montgomery site, B is labeled the Stovall Site, and C through F designated the Carson Site (Phillips et al. 2003: 372). Although Holmes' (Thomas 1894) map is slightly inaccurate, mound E is placed incorrectly, it is still a great resource that has guided many excavations at the site.

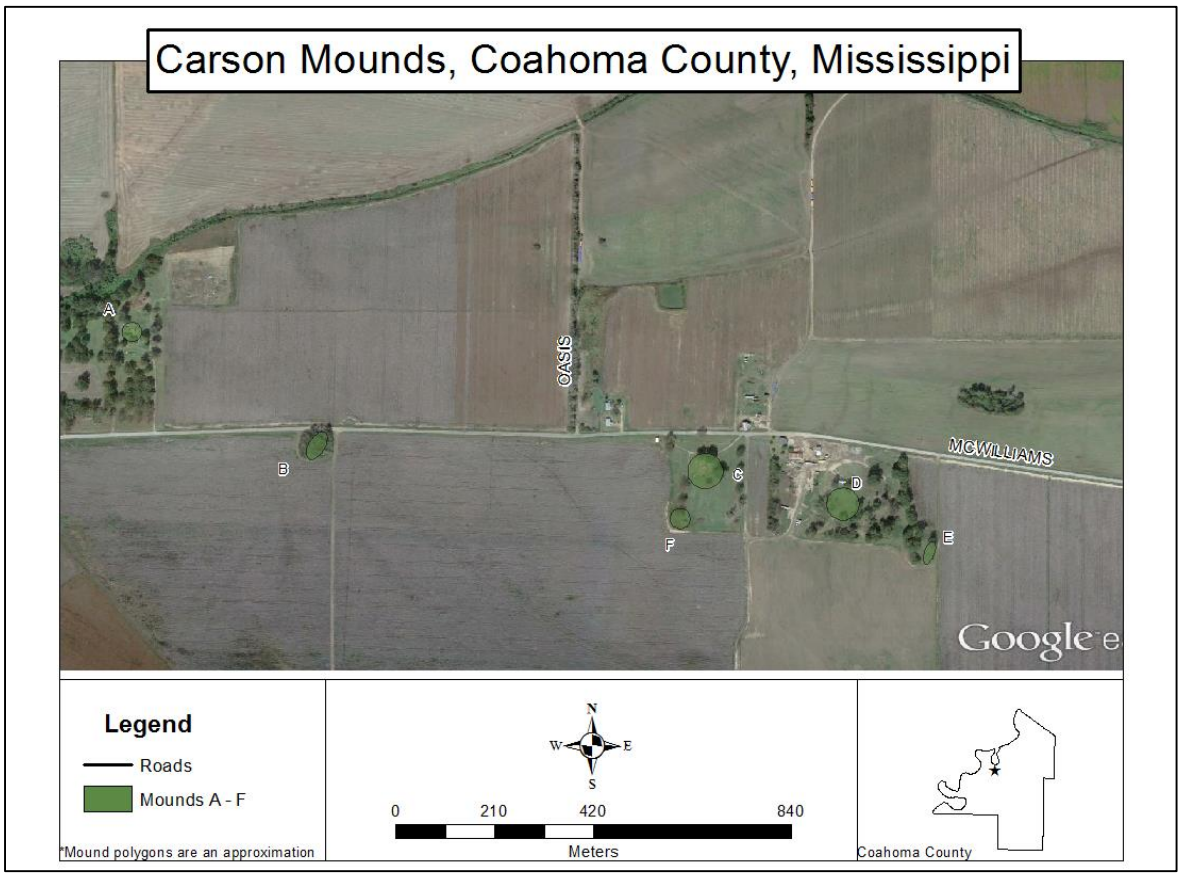


Figure 3. The remaining mounds of Carson (highlighted in green) (Google Maps, Mississippi Geospatial Clearinghouse-www.gis.ms.gov)

Mound B was originally thought to be a double conical mound (Lansdell 2009:147; Phillips et al. 2003: 372), based on its morphological similarity to Middle Woodland Period Mounds such as the Twin Mound at the Pinson Mound Site (Mainfort 1988), in addition the thick overgrowth on the mound itself, obscured its shape. As a result, Mound B has not received the same amount of attention as other mounds at Carson such as Mound C and D (Carpenter 2013; Mehta et al. 2012).

Excavations at Carson since 2007, conducted by the Mississippi Department of Archives and History and the University of Mississippi have focused almost exclusively on the "set aside", a small area of the site east of Mound A that was set aside from cultivation following land leveling that exposed a broad range of prehistoric features. This and other investigations at Carson have produced a wealth of data. Some of these data (Johnson 1987; 2003; 2005; Johnson et al. 2009) suggest direct contact with Cahokia, such as the presence of a Cahokian Microlith Industry based on Burlington chert and diagnostic Cahokian ceramic types (Lansdell 2009:28), among others. This thesis focuses on understanding the construction chronology and morphology of Mound B in order to place the mound within the context of the remaining Carson Mounds. If the mound is a Mississippian period ridge-topped mound, perhaps the mound is further evidence of Cahokian contact in the Yazoo Basin.

CHAPTER 2

REVIEW OF SELECTED LITERATURE

Introduction

This chapter is directed toward the theoretical underpinnings of my research, primarily the history of chiefdom theory, the three bases of chiefly power, origins of power in chiefdoms, Mississippian chiefdoms, the spread of Mississippian ideological culture, Mississippian hybridity, and finally ending with an overview of the Carson site.

Chiefdom Theory

Placing different people into different classes based on their sociopolitical organization is a long held practice in anthropology. Sahlins' (1958) discussion of Polynesian chiefdoms played a large part in solidifying this concept within anthropology. However before Sahlins' work, Steward (1955) layed the foundation for this by drawing notice to and differentiating between societies that did and did not contain stratified sociopolitical levels. Oberg (1955:484) then built upon Steward (1955) by defining chiefdoms as multiple village levels all of which are ruled in a hierarchical system of chiefs. Sahlins (1958) emphasized redistributive economies as being central to chiefdom. This concepts centers around the idea that within a chiefdom multiple populations exploit different resources: these resources are then conveyed to a central location where a chief redistributed them to the whole of the society. Sahlins describes this practice of

redistribution as being central to the classification of a chiefdom, which in turn allowed chiefdoms to become characterized by their economic tendencies. This view places the political and social roles of chiefdoms as secondary and not necessarily defining elements. Contrasting this, Fried (1967) places emphasis on what he defined as "rank societies." In these societies, the positions in which power and authority are vested are fewer than the possible number of people with qualifications necessary to fill them. This leads to a form of stratification, which in turn leads to an imbalanced availability of goods within the society.

Earle (1977) took another look at the role of redistributive economies in chiefdoms of Hawaii. In this there was no evidence of redistributive economies, but rather he suggests that the districts were in fact equally autonomous. Moving forward from this, Earle suggested that the role of redistribution was to support elites and reinforce political affiliations. In this Earle interprets the chief as primarily a political entity. This interpretation was later supported by Peebles and Kus (1977). Expanding on this, Wright (1984) saw chiefdoms as maintaining hereditary elite control systems which worked to create unequal access to resources. It is this work Wright (1984) discusses simple (one level of organized hierarchy) and complex (multiple levels of organized hierarchy) chiefdoms.

Three Bases of Chiefly Power

Economic

Earle (1987) outlines three bases of chiefly power: political, economic, and ideological. In this he describes the economic role as being the most important. In this role, staple goods (food) tend to be organized by a chief in order to establish control by

restricting the access. This organization allows the chief to support elites and elite agendas. This practice allows for the creation of rank and status. Another economic strategy to chiefly power is discussed by Frankenstein and Rowlands (1978). They propose that the control over access to prestige goods offers an advantage to the chief. The trade of these prestige goods solidify social dealings, and legitimize chiefly authority.

Political

Political bases to chiefly power are usually discussed through the concept of the role of the individual vs. the role of the group. Regarding this, Renfrew (1974) discusses group oriented and individualizing as two types of chiefdoms. Group oriented chiefdoms emphasize solidarity through large group projects such as mound building, whereas individualized chiefdoms places the power in a few individuals. Blanton et al. (1996) emphasize corporate vs. network strategies to account for inconsistency in chiefdom structure. The corporate form of control places power in a group, which emphasize the importance of the community over the importance of the individual within the community. The network model contrasts this by concentrating power to a small group, or usually one individual. Beck (2003) allows for a scalar view of chiefdoms, in that events at one level, ultimately affect all other levels. In this view hierarchies can be seen as constituent, in that community leaders cede authority upwards to a regional chief; and apical, where community leaders delegate authority downwards to local community leaders.

Ideological

Ideological bases to chiefly power are expressed in the form of three themes outlined by Earle (1987); those being ceremonies of place, symbols of individual position, and symbols of warrior might. Ceremonies of place are defined as sacred spaces where chiefs were viewed as gods, having a connection to a higher realm. In the Southeast, earthen mounds were used as a representation of the chief's connection with higher entities. The practice of burying chiefs in the mounds they lived on served to enforce this view of the mound acting as a sacred place. In turn when a succeeding chief lived on this mound, it would physically and visually solidify his elite status and sacred status as a religious ruler (Morrison and Lycett 1994). Regarding mounds, two positions have been offered pertaining to their size. Halley (1996) argues that mound volume will increase as long as it is in use, because its use assumed periodic development. Blitz and Livingood (2004) note that 10-40 percent of mound volume is explained by duration of construction alone. Rather than reflecting their power by building mounds, chiefs were in fact laying claims to power. These mounds are also important as ceremonies of space because they served as places for feasting events which served to integrate the community. These feasts which were hosted and paid for by chiefs reinforced the chief's power but also formed debt to the chief. In fact, Dye (2002) argues that feasts were employed to form and maintain alliances between warring chiefdoms.

Symbols of individual position are exemplified by burial goods. The exotic goods that are buried with elites symbolize the level of power attained during the life of the chief. Peebles and Kus (1977) in their work to distinguish social inequality at Moundville investigated burial practices and determined there to be two parts of social persona that are exemplified with grave goods. These social persona are identified as subordinate and

superordinate. The subordinate include such things as age, sex, or achieved status, while the superordinate include the amount of energy put in to the grave, the grave goods, or other symbolism not representing age, sex or achieved status (the subordinate).

Symbols of a warrior's might are expressed through burials, when weapons and warlike effigies and depictions are found in graves. Earle (1987) suggests that the intimidating factor of these items to non-warriors and non-elite would create an un-objected succession of chiefly power, thus maintaining the base of chiefly power. In total the ideology that presents a code of social order facilitates and reinforces domination of the non-elites by the elites. The un-equal access to information also creates a perception that the ruling elite literally have the right to their authority. Earle (1997) suggests that the non-elite need little persuasion to maintain the social order, once that social order is established. However, Pauketat and Emerson (1997) argue (using Cahokia as an example) that in order for the elites to maintain power, the role of the non-elite must be repeated to them. Interestingly (Cobb 2005) discusses that migration may have been a method for the non-elite to display their lack of support of the current social administration.

Origins of Power in Chiefdoms

Although the preceding section discusses the nature of power in chiefdoms, it does not address the discussion of how that power originates. The discussion of how power originates is important because it is in chiefdoms that hierarchy becomes an institutionalized system, where it wasn't before. It is important to investigate the factors that are necessary for a society to switch from institutionalized heterarchy to institutionalized hierarchy. Mills (2004) employs the concept of inalienable objects. As she

describes them, they are similar to prestige goods in that they require specific knowledge to create, are often ceremonial items, and only certain people are permitted to trade them. However, she makes the important distinction that prestige does not necessarily correlate with power and inalienable objects can be powerful tools that serve to validate claims of individuals or groups. Mills offers a contrary position to these inalienable objects, in that they can be used to fight against hierarchy, when they represent communal claims. This allows these inalienable objects to be employed by the community as well as an elite.

Diehl (2000) suggests that that even egalitarian societies develop hierarchies through the method of laying claim to certain areas through their exploitation, all the while creating social debts. Price and Feinman (1995) follow this line of thought, hypothesizing that all societies in one way or another have unequal social relationships. It is when these unequal relationships are institutionalized that a significant step towards a hierarchical form of socio-politics has arisen. Hayden (1995) describes how these inequalities can be institutionalized when a surplus of staple goods (food) becomes available and can be seen as a steady event. From this, economic opposition flourishes, all ending in a monopoly of the staple goods, either by the individual or a small group. The individual or small group will then attempt to secure the inequality, typically by appropriating ideologies in support of their cause and participating in the exchange of inalienable objects. Kinship can then be employed to legitimize inheritance, and, in the case of ceremonies of space, create monumental architecture linking the kin and displaying power either developing or established (as Blitz and Livingood 2004 discuss). These economic inequalities can also become institutionalized through such practices as bridewealth or funeral payments, which most of the time can only be repaid through forms of manual labor, thus reinforcing the

practice and widening the economic gap between the groups. The institutionalization of hierarchy through surplus staple goods is discussed by King (2006). He reports that after just 50 years of agriculture in the Southeast, inequalities emerged between these groups. Thus the previously mentioned social practices serve to combine economic with social inequalities.

Mississippian Chiefdoms

The Mississippian chiefdoms of the southeastern United States prospered from A.D. 900-1600. Three major chiefdoms have been the focus of a great deal of research, those being Cahokia (St. Louis), Moundville (central Alabama), and Etowah (northwest Georgia). However many more chiefdoms, were present, spread throughout the Southeast at this time. Mississippian chiefdoms are usually defined by large village settlements along floodplains, large earthen mounds centered on a plaza, shell-tempered pottery, long distance trade and exotic goods with specific motifs, and increased territoriality and warfare (Anderson and Sassaman 2012). Hally (1993; 1996) discusses the territorial size of southeastern chiefdoms in reference to archaeological data from Mississippian sites in northwestern Georgia. His model postulates that the territories of Mississippian chiefdoms encompassed around 40km in diameter, and were typically much smaller. Anderson (1994) discusses the cycling of chiefdoms, suggesting that complex chiefdoms would emerge and collapse in a landscape of simple chiefdoms, arguing that the life of the typical chiefdom was brief, around 30-50 years. However it is important to note that these assumptions are drawn from work in the Savannah River Valley region of eastern Georgia and western South Carolina.

Smith (1978) discusses the settlement patterns of Mississippian chiefdoms as mostly being located in floodplain environments. These naturally exploitable river valley settings offer easily tilled soils, and a close proximity to rich habitat zones. These zones not only provide circumscribed agricultural land, but also access to concentrated faunal resources. The subsistence of Mississippian peoples centered around three main procurement strategies, those being (1), the cultivation of starchy crops such as maize, squash, beans, and cucurbits, (2), the collection of native plants, including wild nuts and fruits, and (3) the exploitation of terrestrial populations such as squirrel, rabbits, deer, beaver, migratory waterfowl, and turkey, along with the exploitation of riverine resources such as freshwater fish, and mussels (Walthall 1980:190).

Mississippian Mounds

The Mississippian culture represents a new group of ideas and practices, as compared to previous Woodland peoples. This impact and the shifting of ideas and practices it comprises is made most evident through the widespread adoption of platform mounds and the subsequent reduction in the construction of conical mounds; new methods and practices associated with burials; new innovations regarding the production of ceramics (Jennings 1952); the increase in intertribal warfare; and the widespread adoption of similar sacra.

The new mound forms commonly being produced in the Mississippian era can be described as squared truncated earthen mounds with mound-top structures, either temples or elite residences or perhaps both. The rebuilding and enlarging of the platform mounds served a specific social function. The mound itself, and each addition, served as the

foundation for a series of successive temples, structures of other religious functions (Jennings 1952), and/or high social or political status dwellings. Thus, as the conical mound did in the Woodland Period, the mound no longer signified a grave marker, nor was it specifically a monument to the dead, but rather, a foundation for a specific structure of importance, usually structures made of timber, mud, and thatch. Although it is true that high status burials and human offerings were still being interred in these mounds, it is most important to note that the primary reason for the construction of a mound had shifted from that of burial to structure (Walthall 1980).

Although these mounds were mostly not the result of a single building event, the monumental size and the amount of work hours put into them are hard to grasp (although recent research suggest the contrary). They were built with basket loads of dirt, carried back and forth on human backs. The largest known Mississippian mound, Monks Mound at Cahokia, is 30.4 meters high, and 213.3 meters long, and 329 meters wide, while covering 16 acres. This mound contains around 22 million cubic feet of earth (Walthall 1980).

Sherwood and Kidder (2010) offer a geoarchaeological approach to the study of the construction of mounds; specifically they argue that with the advancements in geoarchaeology, researchers are now able to treat the mounds themselves as artifacts. They argue that the traditional view of mound construction – that of heaping piles of dirt until the desired shape is formed – is outdated and no longer applies. To replace this view, they discuss how new field studies show mound building was a significant effort, and required "a planned effort that incorporated site preparation, sophisticated understanding of soil properties, and considerable engineering skills" (Sherwood and Kidder 2010:69).

Sherwood and Kidder (2010:1) go on to discuss the intricate planning that has to be done in order to construct a mound, saying that each step of the process from beginning to end, such as land preparation, the acquisition of necessary materials, the allotting of labor and direction, and the actual construction period/s all require a significant number of decisions, which reflect the societies' organization and thus imbues the mound with the social, economic, political, and cultural characteristics of the builders.

The geoarchaeological approach offered by Sherwood and Kidder (2010:73-82) emphasizes engineering topics as the preparation of the building site, the selection and transportation of construction materials, types of construction deposits, such as sod blocks, soil blocks, fills, and prepared veneers, followed by a discussion of different methods of building.

These different types of construction – sod blocks, soil blocks, fills, and veneers – suggest that the methods of overall mound construction varied greatly. Some mounds were built for an immediate and only temporary use, and others were built for permanent platforms for the foundations of structures. Another possibility is the construction of a mound specifically for its monumental quality, or when mounds built for other purposes are converted into monumental mounds. The various construction methods also reflect various time and labor requirements.

Recent approaches to the archaeological aspects of labor investment regarding mound construction are characterized by two main theoretical views, as outlined in Sherwood and Kidder (2010:82). One view is that mounds are evidence of elite authority in a hierarchically organized society and that the labor mobilization is proof that the elite not only have power but also wield it (Trigger 1990). According to this view, mounds are

testaments to a powerful elite which signify that elite after their passing. Thus mounds, according to this viewpoint, are evidence of the coercive power used to control food surplus, organize other material resources, and assemble the large number of individuals for the construction of a mound (Sherwood and Kidder 2010:82).

The second view on mound construction is the idea that the typically assumed distinctions of social rank between elite and commoners is not the only way of viewing labor mobilization (Butler and Welch 2006). It is also possible that the inter- and intra-polity, economic, social, and political distinctions can also exist in the realm of heterarchical, ritual, or kin-based relationships (Sherwood and Kidder 2010:82). Blitz (2010:15) argues that these are more appropriate ways of approaching the labor mobilization for the construction of mounds.

Regarding the labor investment of mound construction, some researchers have argued for a conscription of forced labor (Blitz and Livingood 2004; Cobb 2003; Hammerstedt 2005; Pauketat 2004). This conscription would lead to the assumption that a large part of the labor force, if not all of it, were individuals who were unskilled and lacked the required knowledge of the complicated decisions needing to be made for mound construction (Blitz and Livingood 2004). The creation of various types of mound deposits presupposes intimate geotechnical knowledge of mound building and the materials needed, where to get them, and how to manipulate them into the desired form. To this end, the unskilled laborers would not have the necessary knowledge, but rather the ones who directed them held the knowledge, and, importantly, had the ability to enforce the knowledge. However, Kidder (2011) suggests an alternative idea saying that the mobilization of resources could have come through socially powerful agents within a

society, such as age-set leaders and or other charismatic persons able to mobilize the necessary resources. The ability of acephalous societies to mobilize labor is not uncommon, and the ranked political system explanation should not always be the first approach used to explain labor efforts on a large scale (Sherwood and Kidder 2010).

Thus, to conclude this discussion on the labor requirements of mound construction, Sherwood and Kidder (2010:83) argue that it is beneficial to place the competing explanations into two separate camps: 1), those who view mound construction in a minimalist fashion, and maintain that the labor is minimal, and there is no need for any skill, nor preplanning or organizational preparation. This camp espouses three main arguments, firstly, the idea that mound building is a simple process that only entails the digging of dirt, and subsequent stacking of this dirt into a mound shape. Secondly, the concept of the possibility that most mounds could have been built in the span of many generations, in small increments. The third position centers on the idea that mounds were only built to be platforms for structures, thus it is these structures that have significance, whereas the mounds themselves are simply a means to an end (Sherwood and Kidder 2010:83). The second camp suggests that the labor efforts of mound construction are actually much more than what is usually claimed. They argue that mound building was not an unsystematic event, but rather – as has been discussed above – required an intricate amount of planning, social organization, and a substantial social venture.

Sherwood and Kidder (2010) argue that mounds represent an intricate conglomeration of decisions and thus need to be understood as more than a simple foundation for a structure. Most important is the idea that all architecture has symbolic value which is exemplified by more than just the physical materials and labor used to

create it. Mythology and historic documents show that mounds are in themselves important if not vital features of the community. Their relation to the plaza and the overall organization of mound centers makes this evident. The plazas offer a theatre for where the enactment of social and cultural actions are carried out (Sherwood and Kidder 2010:83). The plazas offer a view of the mounds while the mounds offer a view of the plaza. Thus these two cannot be separated, as one cannot be fully understood without the other. Hence, the mounds were shaped by a society in specific ways, and in turn the mounds shape that society.

Mississippian Town Plan

Along with this shift in mound construction from conical to platform mounds, came a distinct arrangement and use of space regarding the overall set up of large mound centers. This broad categorizing of patterns is termed architectural grammar, and is most useful when addressing the basic design elements of Mississippian towns (Lewis and Stout 1998). The basics of Mississippian architectural grammar include the plaza, mounds, and boundaries and gates. Regarding the plaza, it is important to note that architecture can be broken down into two main components, those being mass and space. The majority of architectural related archaeological research has been conducted pertaining to mass, with little or no thought given to space (Lewis and Stout 1998). These plazas represent public places, juxtaposed against the private elite social or political mass of the mounds (Lewis and Stout 1998). The importance of the plaza can be suggested by its lack of structures built upon it. Importantly, Lewis and Stout (1998:15-16) discuss that mounds were typically built after the plaza space was delineated, and because of this the size and shape

of the plaza can be indicative of "early site planning, intended use, and perhaps the size and centralization of the population that made and used it."

Lewis and Stout (1998:17) argue that a mound's height offers very little value with regard to meaning; rather, what is important is the concept that it differentiated mounds from other architectural structures, and also the individuals linked to them, by creating a "visible differential" between them and the remaining constituent parts of the community (Lewis and Stout 1998). It can be postulated that this differential created an elevated status of the individual, family, lineage, god or combination of these, that was linked to the mound.

Lewis and Stout (1998) describe boundaries as barriers that distinguish private and public space which typically include large areas, while gates limit access to private spaces which are often smaller. Boundaries are typically identified as palisades, ditches or any natural terrain feature. While gates can be seen as stairways to mounds, or possibly smaller mounds that could serve as gates by limiting access areas beyond them. There is no evidence of gateways on the boundaries of Mississippian plazas (Lewis and Stout 1998:19).

Two basic designs comprise the structures of Mississippian settlements; small-set pole designs and widely-spaced post designs. Lacquement (2007) offers an in depth analysis of the architectural variability of Mississippian structures. Structures created with the small-set poles placed in a wall trench are earlier than the widely-spaced pole (wall-trench) design. The small set-poles most likely had a curved roof structure, while the widely-spaced design had a hipped or gabled roof. This change in architectural style was most likely brought about due to new sociopolitical organization, limited resource availability, and possibly climate change.

Spread of Mississippian Ideological Culture

This discussion will focus on Kopytoff's (1987) Internal African Frontier Model. However before this is discussed, it is first necessary to explain the concept of the frontier. King and Meyers (2002:114) define the frontier as "geographic areas along the edge of advancing or retreating wave fronts of Mississippian forms of organization." Parker (2006) explains the frontier as a place and a process. As a place, a frontier is "the line or zone where culture takes place, on outer fringes of the reaches of civilization into open, undeveloped territory" (Rice 1998:49-50), and as a process "focuses on interactions taking place within a geographical region" (Rice 1998:50).

Kopytoff (1987:1) discusses the frontier as a tool for cultural and historical continuity and conservation. This model places emphasis on the reproduction of the core by the periphery. The kin groups are the primary ones responsible for the reproduction, fissioning from the older members, the younger members expand into the frontier to seek new advantages. This frontier is in between the core areas from where the settlers originated. According to Blitz and Lorenz (2006:141) these settlers carry with them into the frontier a pre-existing ideologies of the core. Once a settler reaches the frontier these ideologies are expressed and carried out as they know how. These settlers maintain ties with their core in order to enlist more kin members to the frontier. The incorporation of pre-existing ideologies of the settling groups into the new members of the frontier allow for these newer groups to attain power.

Kopytoff (1987) goes on to discuss that "the frontier could become a stage for the emergence of numerous new, small scale, and independent political formations." Blitz and Lorenz (2006) argue that the a frontier model, when applied to the Southeast "can explain the geographical spread of the Mississippian phenomenon, the development of regional

Mississippian variants, and why political and social integration often exhibit different temporal and spatial scales."

Mississippian Hybridity

Alt (2006:290), using archaeological data from the Richland Complex, discusses that "it is time to rethink the in situ development models and to re-explore the roles of immigrant populations and cultural diversity in the development of Mississippian culture." Specifically, the idea that the Mississippian culture was brought to the American Bottoms from newly arriving people, or that the Mississippian changes evolved in place. This theory leaves no room for the idea that Mississippian culture could have developed from the combination and negotiation of ideologies from locals and inhabitants. Regarding this Alt employs hybridity theory as a way to explain this. Culture is always in a process of hybridity (Bhabha 1990:211), and this hybridity is the method by which novelties occur.

Hybridity arises from coexisting groups in which there is at least some level of difference. It is important to note that for hybridity to happen, there must be differences. It is at this intersection of competing cultures that the "thirdspace" (Bhabha 1990, 1994) occurs and novel cultural practices are created. However, groups cannot negotiate these difference without passing through the thirdspace. Alt (2006:302) argues that the new political order at Cahokia was not the cause for the new Mississippian technologies nor material culture. Rather, they were developed within the thirdspace during "encounters of difference."

Alt (2006) suggests that Cahokia was a thirdspace, and that the vehicle for change there arose from the interactions of people from different cultures. Taking this a step

further, this process of hybridization through the act of negotiating and passing through a liminal thirdspace could be applied to multiple large mound centers, such as the Carson Mounds in the Lower Mississippi River Valley. It is possible that Carson was at one time a thirdspace, and the locals yielded and negotiated their traditions with others from different cultures. If these interactions were taking place with immigrants from Cahokia (which much evidence suggests, and will be discussed below), and the locals of Carson, the question arises of; what would the final result of this look like.

The Upper Yazoo River Basin

The Yazoo basin, or the Delta (Figure 4) as it is referred to by its present natives, "extends for 200 miles from Memphis to Vicksburg; it is 60 miles wide opposite Arkansas City, Arkansas, from which point it narrows to north and south" (Philips et al. 1951:16) (Figure 4). It consists of an intricate series of ridges-of which most are suitable for habitation-and basins, these having been further cut through and modified by the small streams that traverse them, all of which drain into the Yazoo River which joins the Mississippi River at Vicksburg.

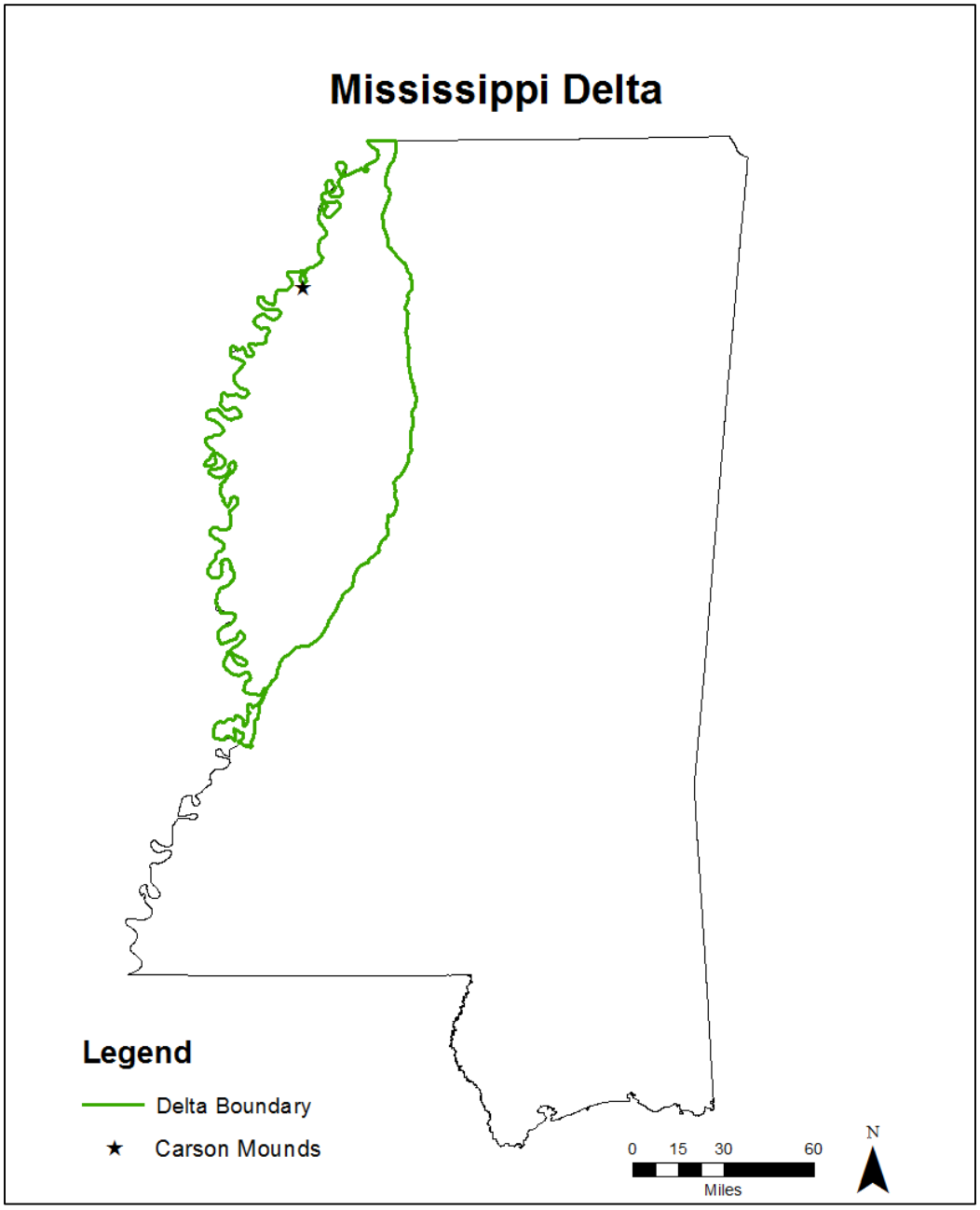


Figure 4. Extent and location of the Mississippi Delta (Mississippi Geospatial Clearinghouse-www.gis.ms.gov)

The overarching geophysical feature of the Yazoo Basin is that the landscape is dominated by the muddy water of the local drainages, due to the constant degeneration of oxbow lakes into swamps. This lack of proper drainage creates an impressively torturous

network of navigable waterways "across the almost level plain" (Philips et al. 1951:10). The soils of this area are what the National Resources Conservation Service term the Bosket and Dubbs soil series. This series consists of well-drained to moderately well-drained, fine loamy to fine silty textured soils that occur on old natural levees and ridges. (Mehta 2012:12). It is in this unique area that the Carson site is located.

The Carson Mounds Site

Following the publication of Holmes' map and description of the site (Thomas 194), Calvin Brown discussed the Carson site in his "Archaeology of Mississippi" (1926:108) describing it as the "plantation of the Carson Brothers… [containing] an interesting group of mounds and earthworks… [including an] enclosure surrounded by an earthen wall and a ditch…" The Lower Mississippi Survey expedition originally split the mound group into three separate sites: the Montgomery Site (15-N-6), Mound A and the enclosure; the Stovall Site (15-N-7), Mound B; and the Carson Site (15-N-8), Mounds C-F. Phillips et al. (2003:372) justify this division by saying "the three portions of the group do not appear to date from the same period." The three were later given trinomial identifiers by the Mississippi Department of Archives and History. These are now the Montgomery Site (22-CO-518), the Stovall Site (22-CO-507), and the Carson Site (22-CO-505). However, current work by Johnson et al. (n.d.:2) regards the site as one large complex, stating that the "consistency of orientation across the site, along with a general agreement in the ceramics, the mounds were built and used by a single, albeit complex, social unit."

The mounds that remain are situated on a crevasse splay event - when a river breaks its levee and deposits sediments onto the floodplain - likely originating from a currently abandoned channel of the Mississippi River when it meandered further east than

it is now, preceding the Horseshoe Lake oxbow. The presence of flood sands interrupting the construction of Mound C indicates that before and during the construction of the Carson Mound Group, there was an active river channel nearby. As Mehta states "if that were the case, the Carson Mound Group may be contrary to the observed patterning of sites around levee ridges and oxbows in the northern Mississippi Delta" (Mehta 2012:8).

The crevasse event can be clearly seen on a USGS topographic quadrangle along with orthographic imagery. The area surrounding Carson consists of ridge and swale topography, with the alignment of the mounds following a "linear east-west ridge of soils that are at higher elevation than the soils to the north and south" (Mehta et al. 2012:8) (Figure 5).

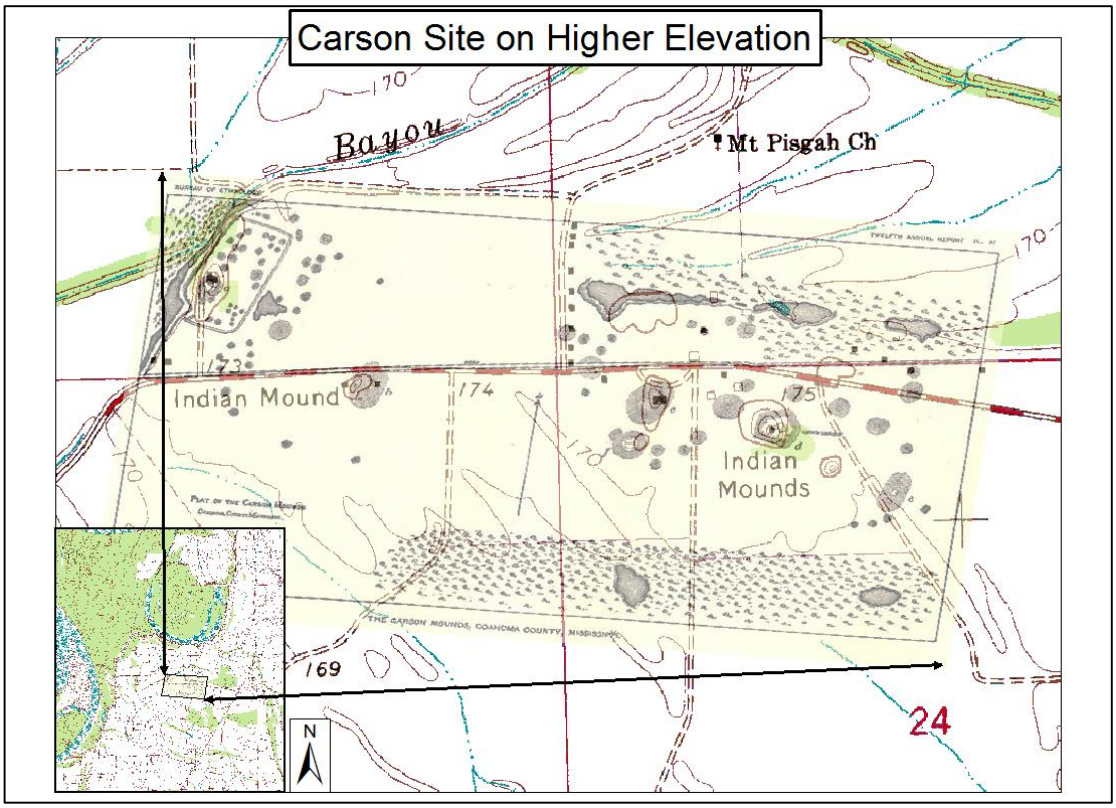


Figure 5. Map showing the ridge that Carson was built upon (Thomas 1894, USGS)

This alignment of mounds on the crevasse event has been termed the Carson Grid. Not only are the mounds aligned on this grid, which is roughly 18° east of North, but also all wall trench structures both on and off the mound, along with palisades and berms, are aligned to the Carson Grid (Carpenter 2013).

The Montgomery Site

The Montgomery Site is located on the western edge of the Carson Mound Group, adjacent to a remnant river levee (Lansdell 2009:8). The Montgomery site contains only one mound, Mound A. Mound A is 58.5 meters in diameter at the base and was built upon a 5 – 6 meter platform. The mound is 4.5 meters high, and 20 meters across the top, and nearly flat. Excavations conducted by Holmes (Thomas 1894) record the mound as containing a number of fire beds and burnt clay at the summit. Artifacts recovered include charcoal, ashes, and fragments of pottery and stone. No human remains were found in Mound A (Thomas 1894).

Mound A has fallen victim to the all-too-common practice in the Delta of erecting modern houses on the summit of mounds. The Barr residence, built in the mid-twentieth century, was placed on the summit of Mound A. The basement cut into the mound an in-ground pool also was built on its lower platform (Lansdell 2009:8-9). The house later burned and remains of it and the drained pool are still present. The orientation of Mound A is obscured by the 20th century construction but it is not clear whether its sides align with the Carson grid. If this is so, it is the only one of the lettered mounds at Carson that does not.

On the 1894 map the mound is surrounded by an enclosure in the shape of a rectangle which is no longer visible, along with a few smaller mounds, which are also no longer visible (Carpenter 2013:35). Three sides of the enclosure total of 357.5 meters, with the fourth totaling 225 meters, demarcated by a currently abandoned channel of the Mississippi River. The vast majority of work at the Carson Mound Group has been done just east of Mound A, where there has been evidence for an enclosure, many house structures, thousands of postholes, and the presence of burials many of which have been excavated (Connaway in press; James 2010). The previously mentioned house structures are four-sided wall trench structures, usually with open corners. This represents an architectural style common to Mississippian sites within the Upper Yazoo Basin (Carpenter 2013:35). It has been suggested that due to the Montgomery site's late occupation, it may have been the principal town of Quizquiz, visited by De Soto in 1541 (Brain et al. 1974:260-261; Phillips et al. 2003:373).

The Stovall Site

The Stovall site also contains only one mound, Mound B (Figure 6). This site is located in the west-central portion of the Carson Mound Group. Mound B has been termed a 'Double Mound' that consists of an oval platform three meters high with a length of 73 meters at the base. On top of this are two cones, which rise together as one form for 5.4 meters before splitting and rising separately for another 2.4 meters. Although when it was first recorded by Thomas (1894) it totaled 11 meters, modern measurements (Lansdell 2009:9) place it at only 6.45 meters. Thomas (1894:254) writes that "little excavating was done on this mound and nothing of interest was found, except the ever present fire-beds of

burnt clay, stone chips, and fragments of pottery." Ian Brown (1978) conducted a survey of Mississippian period sites in Coahoma County which included surface collections along the base of the mound, and its southwestern face, yet nothing was found. The surveys of Thomas (1894) and Brown (1978) are the only recorded research done on Mound B prior to 2014.

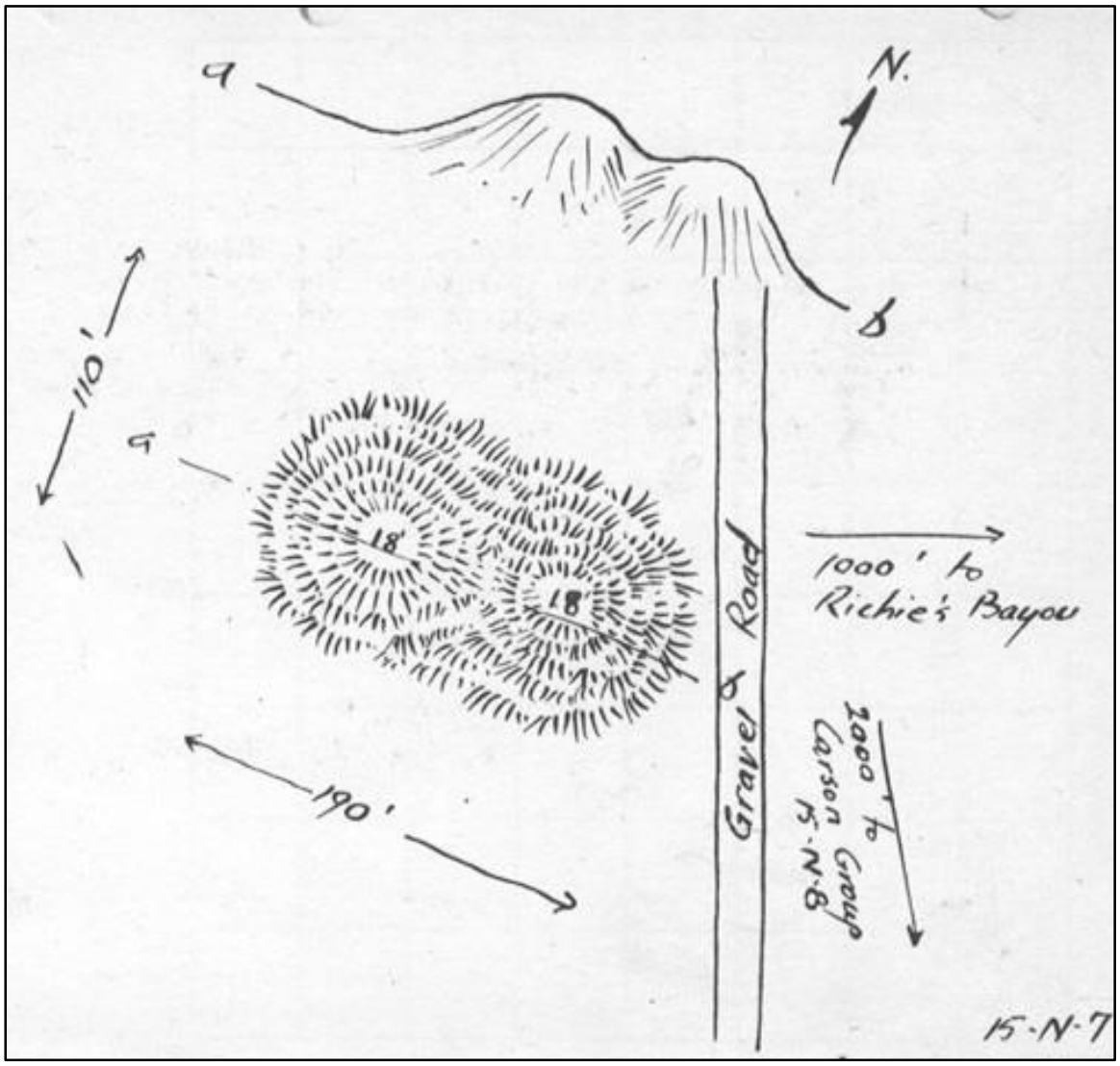


Figure 6. Sketch of Mound B (http://rla.unc.edu/Archives/LMS1/index)

The Carson Site

The Carson site contains the rest of the principle mounds, those being C, D, E, and F. Mound C was described as 64 meters long, 45.7 meters wide, and 4.8 meters high. This mound was described as oval with a round shaped flat top, and contained fire beds, burnt clay, charcoal, and fragments of pottery and stone (Thomas 1894). Brown (1926) regarded these artifacts as showing evidence for a long occupation of the mound. There was a historic structure built on top of the mound, however it is no longer there, having been completely razed. Carpenter (2013) recently excavated the freshly exposed summit of Mound C, in an attempt to answer questions regarding prehistoric structures built on the summit. She found it to have been built in two stages with a series of palisades around the edge of the top enclosing one or more large structures which had been rebuilt more than once.

Mound D, termed as the "finest of the group" (Thomas 1894:254), is a platform mound of five sides. It measures 94.5 meters at its base, 64 meters across the top, and rises 7.6 meters above the flat Delta landscape, offering line of sight views for miles. The mound is roughly pentagonal in shape, and is resting on a 1.5 meter platform. A smaller mound is nearby, and is nearly attached to mound D, almost as if it were an "appendage" (Thomas 1894:254). This mound also once held a nineteenth century historic home, with wells and cisterns dug into the mound from the summit, as well as cellars and foundations. These intrusions into the mound revealed burnt clay, which is evident of one, or possibly multiple types of structures having been built on Mound D in prehistoric times.

Mound E, is an interesting mound, as it is said to be almost identical to Mound B (Thomas 1894), similar in every respect (Brown 1924). The platform is 1.5 meters high, and 36.5 meters by 24.4 meters wide. This mound also had two peaks, like Mound B,

however between these two peaks is a historic cemetery; native remains were found during historic grave digging. Thomas (1894) only collected some ceramic sherds, daub, and lithics from this mound, and no excavations were done. Lansdell (2009) dug a slope trench on the southern edge of this mound, recovering Mississippian period artifacts.

Mound F was described by Thomas (1984) as being 45.7 meters long and 22.86 meters wide, and was oval with a rounded top. However due to erosion, it is now no more than a small hump, less than half a meter high. It is similar to Mound C, in that Thomas (1894) notes a large amount of daub with cane impressions, indicative of a structure having been built on top of it. The mound itself consists of "from base to summit […], burnt clay, mud, and alluvial earth in irregular layers" (Thomas 1894:254).

Full ranges of occupations for the remaining mounds have yet to be determined, however Mounds A, C, D, E, and F have produced early Mississippian artifacts (Lansdell 2009:147-150). Mound B, the apparent ridge-top mound, has produced very few to no artifacts as a result of surface collections (Phillips, Brown, etc.) The mound had not been excavated prior to the summer of 2014.

CHAPTER 3

RIDGE-TOP MOUNDS

Description of Ridge-top Mounds

There is not much available literature on ridge-top mounds (relative to platform and conical mounds), however this is because of the limited number of ridge-top mounds built and subsequently researched. The only previously recorded ridge-top mounds are located within the greater Cahokia region. They are also limited chronologically, dating to between A.D. 1050 and 1275, the first part of the Mississippian Period (Pauketat 2007:234). Ridge-top mounds all have a similar shape: they are ovoid or rectangular at their base and rise to a ridge rather than a flat top. Warren Moorehead (2000:104) describes these mounds as being "too narrow on top for large wigwams or temples." The basic form is an elongated basal outline with a ridged top (Fowler 1997:188). Fowler (1997:Appendix 3) lists eight possible examples of this mound shape in Cahokia, while Pauketat (2007, 2004:74) adds the Wilson Mound also in Cahokia, and three more located at the St. Louis, East St. Louis, and Mitchell sites. Baires (2014) lists a total of 16 ridge-top mounds (including one unnamed mound, with no information) in the Cahokia region. Some of the ridge-tops are clearly defined because of their large size, which means that they did not suffer the effects of cultivation as much as others did. The largest and best examples of ridge-top mounds shape are Mounds 66/Rattlesnake/Harding and 86/Powell/Hayrick in Cahokia (the latter

mound being almost completely destroyed now only survives in photographs). Table 1 summarizes general information on the known ridge-top mounds.

Table 1. General information on known ridge-top mounds (Baires 2014; Fowler 1997; Pauketat 2010)

Known ridge-top Mounds			
Mound Name	**Location**	**Mound Name**	**Phase**
Mound 2	Cahokia	-	-
Mound 49	Cahokia	Red Mound	Lohmann-Stirling
Mound 64	Cahokia	True Rattlesnake Mound	-
Mound 65	Cahokia	-	-
Mound 66	Cahokia	Rattlesnake/Harding Mound	Lohmann-Stirling
Mound 72	Cahokia	Red Pottery Mound	Lohmann-Stirling
Mound 79	Cahokia	Jondro Mound	-
Mound 81	Cahokia	-	-
Mound 85	Cahokia	-	-
Mound 86	Cahokia	Powell/Hayrick Mound	Stirling
Mound 88	Cahokia	-	-
Mound 95	Cahokia	-	-
Wilson Mound	Cahokia	Junkyard Mound	Lohmann-Stirling
Cemetery Mound	East St. Louis	-	Stirling
Big Mound	St. Louis	Le Grange de Terre	Stirling
Mitchell Mound	Mitchell	Great Mound	Late Stirling

The following descriptions of known ridge-top mounds have been collected from published literature describing either the excavations or destruction of the mounds in question. These mounds include Mound 49/Red Mound, Mound 72/Red Pottery Mound, Cemetery Mound, Mitchell Mound, Mound 86/Powell Mound, Mound 66/Rattlesnake Mound, Wilson Mound, and Big Mound. The descriptions of the latter mentioned mounds will be general, with a focus on the mounds' internal structures, burials, and artifacts.

Baires (2014) offers a detailed summary of those ridge-top mounds for which structural information is available. The mounds that have not had any excavation or archaeological accounts of their destruction are also listed with a brief description.

A general resource on ridge-top mounds is Fowler's (1997) "The Cahokia Atlas: A Historical Atlas of Cahokia Archaeology." This publication lists all the mounds of Cahokia, and describes the major excavations of them. Although outdated with reference to some mounds, it provides a good starting point for the investigation of ridge-top mounds. Fowler lists (using John Patrick's 1876 map and numbering system) Mounds 2, 49/Red Mound, 64/True rattlesnake Mound, 66/Rattlesnake/Harding Mound, 72/Red Pottery Mound, 85, 86/Powell/ Hayrick Mound and 95 as being ridge-tops (Fowler 1997: Appendix III). The following descriptions of the unexcavated mounds are mostly taken from the latter mentioned work along with Baires (2014).

Mound 49/Red Mound (Cahokia)

This mound is also known as Red Mound, supposedly due to the large amount of red slipped pottery that was discovered on the surface of it during agricultural use (Fowler 1997:114). Fowler states, "it is my opinion that this mound was a ridge-topped mound similar to Mound 72 and some of the larger mounds, specifically Mounds 66 and 86" (Fowler 1997:114). The mound is located 150 meters south of Monks Mound, and 150 meters east of Mound 48 (Baires 2014:118). The Patrick map shows this mound as somewhat conical; however the University of Wisconsin map shows a more elongated or oval form typical of ridge-tops. The mound is oriented east-to-west, with the east-to-west axis being 50 meters long the north-to-south axis 35 meters long, and a height of

approximately 1.5 meters (Fowler 1997:114). In 1989 Dalan and Holley (Dalan 1993; Holley et al. 1993) undertook a non-invasive project focused on understanding "the relationship between the Grand Plaza and Mound 49" (Baires 2014:118). The presence of shell and limestone tempered ceramics recovered from a core into the mound indicate an early Mississippian association.

Timothy Pauketat excavated Red Mound in 1994 in association with the University of Oklahoma's Early Cahokia Project. The goal of this was to "better delineate the scale and configuration of those political and economic changes connected to the mid-eleventh century redesign of Cahokia" (Pauketat et al. 2010:397). Two, two meter by five meter units were placed into the north and south slopes of the mound. A total of 2,390 ceramic sherds, 1,248 lithics, and 148 faunal fragments were recovered (for more specific artifact descriptions see Pauketat et al. 2010). Pauketat states that the construction of Red Mound began in the Lohmann phase (A.D. 1050) and carried on into the late Stirling (A.D. 1200) and Moorehead phases (A.D. 1200-1275). Although construction style of Red Mound was not the main concern of his research, Pauketat (2010:418) still suggests that it is a ridge-top stating "[t]he shape would certainly suggest a final ridge-top configuration…one massive ridge-top cap." Ultimately, this research shows that the construction of Red Mound occurred at the same time as the leveling of the Grand Plaza, which supports the idea suggested by Baires that Cahokia was restructured around the mid-eleventh century, and most importantly this restructuring involved the construction of the ridge-top mounds (Baires 2014:119).

Mound 66/Rattlesnake Mound/Harding Mound (Cahokia)

Mound 66 is one of the largest mounds at the Cahokia site; it is also referred to as the Harding Mound by Moorehead, and the Rattlesnake Mound by the US Geological Survey. The mound is aligned with its long axis east–west. It measures 51 meters wide, 132 meters long, and 7.4 meters tall (Fowler 1997:133). In 1922 due to the possibility of the construction of a railroad track near the mound and the possible destruction of the mound, Moorehead planned an intense excavation of the mound.

Moorehead conducted a series of preliminary cores and test pits into the mound. These investigations concluded that the mound was stratified and contained very few domestic artifacts (Baires 2014:180). It wasn't until 1927 that further large-scale investigations would be conducted. J.L.B. Taylor, who Moorehead placed in charge of mound excavations, first conducted a series of 231 auger tests to create an east-to-west profile of the mound. Following this, Taylor placed a trench 60m long and 40m wide, running north-south along the minor axis of the mound. This excavation trench recovered very few artifacts, only non-specialized refuse that was most likely brought in with the fill. Taylor (Moorehead 2000:78) did find some "camp refuse" which was deep enough to be below the mound, indicating the mound was built over a previously inhabited area. However similar to other ridge-tops, Moorehead (2000:77) discusses alternating bands of black and yellow colored soil in the augers and the trench profile, these bands (horizontal zoned fill) are also present in other ridge-top mounds described below.

At almost a meter down Taylor found a mass burial containing bundled remains; however, the remains were so poorly preserved and stuck in the clay matrix that none could be conserved for analysis (Baires 2014:181). Directly below this Taylor discovered three human skulls bundled with the long bones, along with a "red sienitic granite

discoidal, three inches [7cm] in diameter and one inch [2.5cm] thick" placed on the mandible of one of the latter-mentioned skulls (Moorehead 2000:72). Below this burial event (measurements were not recorded) Taylor uncovered around 150 burials, layed out in bundles of six individuals (marked by their skulls). Taylor (Moorehead 2000:72) described the burial series as an "almost continuous bed of human skulls, humeri, ulnae, radii, femora, tibiae, and fibulae." A circular orange formation of more dense soil was found in this feature, "one foot [.3 meters] thick and five feet [1.5 meters] in diameter" (Moorehead 2000:72). Pauketat and Barker (2000:139), in their excavations of Rattlesnake Mound, identify this feature as a hearth in the center of an un-identified (by Taylor) wall trench structure built before the burial event.

In 2011, excavations of Rattlesnake Mound were conducted by Baires (2014). The goals were to assess the construction method, and chronological affiliation of the mound and to identify the aforementioned wall-trench structure. Baires (2014:186) notes that the main methods of mound construction "consisted of alternating layers of light and dark sediments." This construction technique is the same as the layered zoned fills discussed by Sherwood and Kidder (2011:78). In the case of Rattlesnake Mound, the alternating layers consisted of a yellow silty clay and black clay. Baires (2014:187) concludes that the mound was constructed in five sequential events: "1) initial construction episode composed of alternating colored layers of zoned fills between 4-10cm in thickness, 2) packed basket loaded fills between 5-10cm in thickness, 3) an additional construction event of zoned fills between 3-15cm in thickness, 4) packed basket loaded fills 4-10cm in thickness, and 5) a final stage of alternating colored zoned fills (3-10cm in thickness)." The wall trench

structure was also exposed, along with the central hearth that Taylor had misidentified. No other artifacts were recovered in context with the structure.

Baires (2014:192) concludes that the structure was aligned with the summer solstice sunset (112° east of north) and the winter solstice sunrise (just 8° short of 120° east of north). In this it is similar to Mound 72 and the Mitchell Site (discussed below). The orientation of this structure, along with its size, when compared to the average building sizes from the nearby ICT II Tract excavations (Baires 2014:192 citing Collins 1990: Table 5.86) suggests a Late Stirling (A.D. 1150-1200) affiliation. Baires (2014:193) argues that due to the mound orientation, along the main Cahokia grid of 5° east of north, this mound most likely dates to the Lohmann phase (A.D. 1050), and was re-oriented in the Stirling phase with the construction of the wall-trench structure oriented 112° east of north. However, since no diagnostic artifacts were recovered in her excavations, her chronological assignment is speculative. Ultimately it is important to note that this mound shows no break in construction, as no humus development or evidence of pedogenesis was found. According to Baires (2014:194) this hypothesis supports the evidence from other ridge-top mounds which were built with the same construction techniques (alternating zoned fill, basket loading) in two quick episodes.

Mound 72 (Cahokia)

Mound 72 is the most well-known and excavated ridge-top mound at Cahokia (Brown 2003, 2010; Fowler et al. 1999; Goldstein 2000; Pauketat 2010; Porubcan 2000). The most important aspect of Mound 72 is that it offers a great archetype of the public and communal nature of ridge-top burial practices within Cahokia, as exemplified by its large

number of intricate human burials, local and non-local artifacts, and unique construction features. The excavation of this mound was carried out by Melvin Fowler over the course of multiple field seasons with the University of Wisconsin-Milwaukee, starting in the late 1960s going into the 1970s. These excavations were also funded by the Natural Science Foundation and the Illinois Department of Conservation (Fowler et al. 1999). Although there is a plethora of literature on Mound 72, this overview will briefly discuss the excavations and construction of the mound (for a more in-depth presentation see Fowler et al. 1999).

Mound 72 measures 42.6 meters long, 21.9 meters wide, with a height of 1.8 meters (Fowler 1997:145). The final ridge-top capping layer is oriented on a northwest – southeast axis, at an azimuth of 120 degrees. Fowler (1999:3) states, when "viewed from the northwest to the southeast… [the mound is] at about an angle of the winter solstice sunrise." Conversely the opposite is true with the summer solstice sunset when viewed from the southeast to the northwest. According to Fowler (1997:145) the mound was excavated due to its odd orientation, and in order to obtain some "ideas about the nature of ridge-topped mounds."

Mound 72 is comprised of five main construction episodes, beginning with three small sub-mounds, a capping episode which covered the three small sub-mounds turning them into one flat mound, followed by the final shaping ridge-top cap. The construction started in the Lohmann phase (A.D. 1050) and terminated in the early Stirling phase (A.D. 1100) (Fowler et al. 1999: 60). Prior to the construction of the sub-mounds (72sub1, 72sub2, and 72sub3) Fowler found evidence for a small wall trench building, a large upright post, and refuse pits. The large upright post (below 72sub1) was placed in the

ground using a ramp, and is the basis for Fowler's woodhenge hypothesis that it marked the summer solstice, and therefore signified Mound 72's construction as being oriented to follow celestial movements and the cosmos (although no other posts have been found). It is important to note that many scholars (Dalan et al. 2003; Pauketat 2013) disagree with Fowler's assumption that the woodhenges of Cahokia are the so called datum of the Cahokia grid. Rather they (Baires 2014; Dalan et al. 2003; Pauketat 2013) believe that the Cahokia grid is based on a 5° offset which is marked and oriented by the Rattlesnake Causeway.

Mound 72sub1 contains three burial series, representing 17 individuals with two being primary burials. Fowler (1999:167) interprets this as a dedication to the summer solstice sunrise based on its nearby location (four and a half meters west) to the latter-mentioned single upright post. The primary burials were interred (one under, one on top) of a shell beaded blanket, and a series of cached items was recovered in association with seven more burials. The artifact cache consisted of local and non-local projectile points, copper rolls, shell beads, discoidals, and mica. The last burial event that took place before the construction of 72sub1 is that of one adult, isolated from all of the other burial events. These events were then covered over to form 72sub1, and a low platform was added to the western slope. 72sub1 dates to the Lohmann phase (A.D. 1050) from radiocarbon dating of wood recovered from the base of the single upright post (Baires 2014:126).

72sub2 is characterized by the construction and later decommissioning of a charnel house which at one time displayed the remains of 13 people in three bundle burials (Baires 2014:127). Later, three rectangular pits were placed near the wall trench structure. According to Fowler (1999:175) these pits contained mass female burials. The last phase of

72sub2 was a final mound covering, creating a two-tiered platform mound which was oriented to the cardinal directions (Fowler et al. 1999:176). It is important to note also that these events were contemporaneous with those of 72sub1 construction.

72sub3 contains one large white sand-lined burial pit that contained the remains of 39 sacrificed individuals. Fowler et al. (1999) claim that this pit was sacrificial, based on the presence of an individual's fingers poking through the white sand lining (in an attempt to escape), along with the chaotic nature of the burials themselves which seemed as if they were just tossed in. This chaotic nature is further exemplified by the presence of one individual's decapitated head which was on one side of the pit while the body was on the other. However before 72sub3 could be finished two pits were dug, one in the southwest slope of 72sub2, and the other in the south east slope of 72sub1. These pits contained multiple burials with grass mat lining separating layers of burials, followed by a final fabric covering (Baires 2014:127).

Before the three sub-mounds were conjoined into one platform mound a series of burials were placed in between 72sub1 and 72sub2. These burials are some of the most well-known with regards to Mound 72. They include four adult burials which are missing their hands and heads. These burials were then covered by a small conical mound "of banded light and dark sediments" (Baires 2014:127). Just two meters away was a rectangular-shaped pit that was lined with grass matting, containing approximately 50 young females, which were covered with grass matting. Finally, 15 cedar-pole-litter burials were added to the white sand-lined pit in 72sub3. Fowler et al. (1999:181) considers this event, along with the pulling of the large upright post in 72sub1, as "the closure of Mound 72 mortuary activities", placing the termination of Mound 72 mortuary events to A.D. 1000-

1150. Hence the mortuary activities lasted only 50-100 years. Lastly 72sub1, 72sub2, and 72sub3 were covered, and conjoined by a capping event measuring 20 meters long and 10 meters wide. The only addition after this was the final ridge-top shaping event. The importance of Mound 72 as a sacred location is recognized by the continual addition of primary and secondary burials intrusive into the mound throughout the Late Stirling phase (A.D. 1150-1200) (Baires 2014:128).

A large amount of artifacts were recovered from the previous excavations, however this synopsis will only offer a broad overview rather than a specific analysis. The artifacts recovered represent all ranges of events occurring throughout the life of Mound 72. The majority of artifacts recovered represent specialized burial and ritual events, however there were also utilitarian pottery and lithics present. It is important and interesting to note that the non-specialized artifacts were recovered in off-mound refuse pits and middens and were not associated with mound-construction events or burials, while the specialized artifacts (cached vessels, shell beads, discoidals, projectile points, copper ear spools, etc.) were found either as caches within the construction events or as burial goods deposited with the dead (Baires 2014:134). This pattern shows that the events that occurred at mound 72 were publicly planned and organized, that "people/participants did not come to the mound to make materials but rather to deposit materials along with their dead" (Baires 2014:134). Both the burial events of Mound 72, and its ridge-top shape are formed early in the Cahokian occupation contemporaneous with Wilson Mound. Rattlesnake Mound, Powell Mound, and Red Mound would all shortly follow (Baires 2014:134).

Mound 86/Powell Mound (Cahokia)

Mound 86, also known as Powell Mound is located near Mound 85 also at the western edge of the Cahokia site. Today a large store front and parking lot resides in the original location of the mound. Powell Mound was the second largest mound at the Cahokia site, exceeded only by Monks Mound. It was first recorded on J.R.R. Patrick's 1827 Cahokia map, and later described by Moorehead (2000:84), who stated "[it] stands out so clearly as an artificial structure that it should by all means be preserved." Titterington (1938:15) describes this mound as being "310 feet [94 meters] long, 180 feet [54 meters] wide, and 40 [12 meters] feet high… [and was] the most symmetrical mound in the group." Both Moorehead (2000) and Patrick (1876) give similar measurements for the mound. Because of the general agreement in size it can be assumed that agricultural practices did not heavily impact Powell Mound. In 1922 Lieutenant Goddard of the U.S. Army Air Service took aerial photos of Cahokia. One oblique shot is of Mound 86, and is shows the ridge-top shape of the mound very well (Fowler 1997) (Figure 7).

Figure 7. Goddard photo of Powell Mound in 1922 (Fowler 1997)

The Powell Mound was completely destroyed following a series of unfortunate events. The Powell family, who owned the mound offered any archaeologist $3,000 to excavate the mound as long as they moved the fill to the low areas of their agricultural land, however no archaeologist or institution accepted. The Powell family then decided the mound should be razed. The state of Illinois attempted to purchase the mound along with an easement leading to it from the main highway. However, no agreements were made with the Powell family. In 1930 the destruction of the mound by way of steam shovel commenced. However it took the public eight days into the demolition of the mound to notice because the location of the steam shovel behind the mound hid it from the nearby road. It wasn't until 16 days into the razing of the mound that A. R. Kelly of the University of Illinois was allowed to monitor the demolition, along with P.F. Titterington, and amateur archaeologists from nearby St. Louis. During this monitoring it was noted that the mound was constructed in two stages, a final ridge-topped shaped cap covering an original sub-mound platform. This became apparent after the steam shovel cut the mound into four sections, displaying the profiles of the major and minor axes (Ahler and DePuydt 1987: Figure 5). The two construction stages are separated by a dark humic layer approximately 10cm thick (Ahler and DePuydt 1987:3). This (as will be discussed later) is a common event in ridge-top mounds. It designates a time when the sub-mound platform surface was exposed to natural or cultural organic deposition long enough to accumulate and create a thick layer.

The following section will briefly discuss the burial events that were discovered by Titterington and Kelly (for a more in depth description see Ahler and DePuydt 1987; Baires 2014; Titterington 1938). Two rectangular burial pits were found between the

aforementioned dark humic layer and the final shaping event. These pits were both reported (Ahler and DePuydt 1987:4) to be about a third of the way into the mound, from the east and west face respectively. The pit on the western edge contained fragments of burned bone and small shell beads (Baires 2014:113). The eastern pit contained a layer of cedar sticks laid across the bottom, with strips of bark on top, followed by bundle burials and covered with shell beads. The beads were found in rows which indicate they were most likely parts of a woven mat or blanket, similar to Mound 72 and Wilson Mound (Baires 2014:113).

In 1931 Thorne Deuel of the University of Chicago, representing the University of Illinois, conducted testing into the remaining 1.5 meter base of the original mound (Fowler 1997:158). He recovered "extensive village site remains, pot sherds, stone and bone artifacts, and kitchen refuse… of which was the same or related type as that accidentally included in the earth used in the mound construction" (Kelly 1933:101). Ceramic artifacts recovered date the mound to the Lohman and early Stirling phases (A.D. 1050-1150) (Baires 2014:114). In the late 1960s the final blow was struck against Powell Mound, in the form of a commercial storefront. However before this could happen, Charles Bareis and a University of Illinois field school excavated into the remaining base of the mound. Although the artifacts recovered from this have not been published, according to personal communication between Charles Bareis and Melvin Fowler (1989), "the area of the Powell Mound is not totally destroyed [,] [t]wo or three feet [.6-.9 meters] of the mound base remains north of the Venture Store and the parking lot behind the store."

Wilson Mound/Junkyard Mound (Cahokia)

Wilson Mound was first recorded when Preston Holder received word of its partial destruction in 1954 to make way for a new motel. When he arrived the mound was already partially destroyed and all that remained were some exposed human remains, and features that were associated with the sub-mound platform. Over a series of a few weeks Holder excavated many human remains, and features. The excavation details were never published but have been summarized by many (Baires 2014; Milner 1982, 1984; Alt and Pauketat 2007). Holder describes the Wilson Mound as being two meters high with a width and length of 45 meters. However Baires (2014:236) believes that this is inaccurate and is only the measurement for the "basilar platform mound constructed prior to the addition of the ridge-top cap".

Holder (Baires 2014:237) lists four phases of the Wilson Mound occupation that were delineated by his excavation; those being: "1) the lower pre-mound occupation level, 2) the mortuary feature, 3) a series of pits and features associated with intermediary construction levels, and 4) two final phases of mound construction." The first phase investigated by Holder, and described by Baires (2014:238), using Holder's original field notes, is that of a Woodland Village Site (Woodland period pottery was found), with an intrusive feature. Holder describes this feature as a sub-mound pit, however Baires (2014) interprets it as an L shaped building, which can be dated to the Lohmann phase, because of their ubiquity at that time rather than the Woodland period.

The following phase identified by Holder is a Mississippian occupation composed of a trench-like deposit, a hearth, wall trench, and post-hole structures. A broken piece of "Powell Polished Plain" dates this surface to the Mississippian period, possibly the Edelhardt phase (Baires 2014:238).

Phase three is characterized by the first mound construction episode, a one meter tall mound of brown sand constructed with basket loads which covered the earlier Mississippian occupational area. A large pit (Pit 2) which was dig into this brown layer was approximately two meters by one meter and was dug and refilled multiple times, and contained large amounts of charcoal and red ochre (Baires 2014:238). The end of this mound construction phase is marked by the capping of a black clay followed by an intrusive burial series termed Burial Complex #3 (BC3).

BC3 was located on the northeastern flank of the primary sub-mound, and it contained around 190 individuals interred as a series of 43 bundle burials, along with five primary burials (Baires 2014:239; Alt and Pauketat 2007; Milner 1984). All of these burials were found together in an area of 4.25m x 5.5 m. Baires (2014:239), who reanalyzed the human skeletal remains from Holders excavations, concludes that there "is no discernable pattern regarding age and sex, and most of the remains are included as bundles of skulls and long bones, with the exception of the three primary internments that include women and infants." Holder (Baires 2014:239 citing Holder's field notes) describes the burial complex:

> [W]e found more than 40 burials all neatly arranged…In addition to the 5 primary burials there were 40 some "secondary" burials from three to six individuals each with the long bones neatly bundled and the skulls carefully piled at one end…in a context that made it look as though the bones had been wrapped in a beaded sheet of some sort…There was a somewhat gruesome detail of two women laid out side by side either as primary or ligatured burials; I suspect the former since one of them had a nearly full term fetus in situ in the abdominal region and the other had the articulated skeleton of a very young child laid between her legs with the head near her pubic regions. [The latter mentioned women was also found with her head removed and tucked into her left arm like she was carrying it].

Found in context with this complex were "marine whelk shells, hundreds of shell disc beads [similar to Powell Mound, Mound 72, Big Mound and Cemetery Mound], a Cahokia style chunkey stone, a bear-tooth pendant, and four or five copper-covered bone earspools" (Pauketat 2007: 235). The final addition to Holder's third phase of this mound is the capping of Burial Complex #3 with an approximate one-meter layer of basket loaded grey, white, and yellow sands followed by a thin lens of black clay (Baires 2014:240).

The last and final stage of mound construction for Wilson Mound is the final ridge-top shaping cap. This was a 1-2m layer of basket-loaded clay matrix, the local soil at the Cahokia site, found underneath the plow zone. This layer was "a fast job [because it contained] no water laid lenses" (Baires 2014:240).

Cemetery Mound (East St. Louis)

The Cemetery Mound was one of many mounds at the East St. Louis site that were destroyed during the expansion and grading of the floodplain where it was located. The mound was completely destroyed in 1870. It was reported to stand 12 meters high (Pauketat 2004:17), and contained a sub-mound platform (Pauketat 2007:235). The mound was oriented northwest to southeast, and was comparable in size to the Big Mound at St Louis, Powell Mound, and Rattlesnake Mound (Baires 2014:134). During its destruction a series of burials and features were uncovered; unfortunately, the details of the destruction of the mound can only be found in the articles of two newspaper reporters who documented the destruction (Kelly 1994). The following article was written by a reporter for the *Daily Democrat* (Kelly 1994:20):

> …bone was found in two vaults- one a square structure, the other a crescent form, and both about fifty feet [15.24 meters] across. One of these vaults was near the southern side of the mound, the other about the center, and they were more than thirty feet [9 meters] below the original apex of the mound. The crescent vault was covered over with a roof formed of thin slabs of limestone rock, of different sizes, and showing no marks of tools. The roof had been supported on wooden columns, and the sides lined with wood; but all the woodwork had decayed, and the roof had fallen in, disarranging the bones, so they appeared in confused heaps. In the vaults where the bones were found were many relics of the race who first occupied the ground- entire jug-shaped vessels of unglazed earthenware, stone hammers, hatchets and chisels; oblong beads perforated in the center lengthwise, marine shells, arrowheads, vases, pieces of flint, etc. Many of these relics had been carried off by the workmen and by visitors… men are digging on every side. And what should have been purchased by the city and preserved inviolate will soon be known only in location tradition.

Another reporter, working for the St. Louis Republican describes the same two "vaults":

> The remains of about one dozen beings, a hard piece of stone formed the shape of a chisel, also, a peculiar little stone, which when held between the eye and the rays of the sun, has the appearance of being interspersed with small particles of gold… The second vault …was also filled with bones and some few pieces of peculiarly shaped pottery.

Kelly (1994:24) lists, along with two shell-tempered pieces of pottery, marine shell beads, marine shell cup fragments, woodworking tools, a chert spud, and a copper-covered ear spool. He (Kelly 1994) links the two shell tempered pottery pieces to at least the Stirling phase (A.D. 1100).

The construction of Cemetery Mound seems to have happened in two phases similar to Powell Mound and other ridge-top mounds. The Mound contains at least one sub-mound platform, on top of which two mortuary buildings were constructed, followed by the addition of the final ridge-top capping episode, elongating and orienting the mound in a northwest to southeast direction (Baires 2014:136). It is important to note the presence of the aforementioned specialized artifacts, included with the mortuary events, along with

similar construction styles links this mound to other ridge-top mounds such as the Wilson Mound, the Powell Mound, and the Rattlesnake Mound. Kelly (1994), on the basis of a relatively small artifact assemblage, places the Cemetery Mound construction within the Stirling phase (A.D. 1100-1200), contemporaneous with Powell Mound, the Big Mound, and Mitchell Mound.

Big Mound/Le Grange de Terre (St. Louis)

The Big Mound or Le Grange de Terre (The Earthen Barn), was completely destroyed in 1869 due to railroad development by the North Missouri Railroad Company. (Pauketat 2004:17). It was one of the 27 mounds within the St. Louis precinct, located in what is currently downtown St. Louis. Before it was destroyed, Big Mound was described as 97.2 meters long, with a width of 58.2 meters, having a slightly rounded top, and a terrace on the east side (Williams and Goggin 1956:12). Baires (2014:136) believes that the Big Mound's orientation is not cardinal as was reported, but rather it is "more in line with the Cahokia precinct 5° offset alignment."

The destruction of the mound, which is described by Marshall (1992), and Williams and Goggin (1956) is said to have exposed two primary construction events, a primary sub-mound and a final ridge-top shaping episode. Contained within the primary sub-mound was one burial event which had two bodies in it. A set of copper-covered Long Nosed God masks were found near the skull of one of the burials. These masks have been found at only seven sites in the Midwest and Southeast (Baires 2014:137). Another burial pit originating from the original ground surface also was uncovered. This pit contained 20-30 individuals

buried with marine shell disk beads, in a north-to-south alignment (Williams and Goggin 1956:21).

Although there is very little information available on this mound, it follows the schema laid out at other ridge-tops, it was built with a primary sub-mound followed by a ridge-top shaping episode. It contained burials with specialized burial goods. This mound is most likely attributed to the Late Stirling phase (A.D. 1150) based on the presence of marine shell beads, along with the similarities common to other know ridge-tops (Baires 2014:138).

Mitchell Mound/Great Mound (Mitchell)

The Mitchell Mound is located in the northern precinct of Cahokia, just 11km kilometers from downtown Cahokia. At one time the mound group consisted of eleven mounds, however they were all mostly destroyed in 1876, as their fill was used to level low spots in the land for the construction of railroads (Pauketat 2005; Kelly 2004). The destruction of the mounds was recorded by Henry Howland in 1877. It is this text (Howland 1877) that gives an estimated size for the mound, measuring 36.5 meters in diameter, and 8.2 meters high.

McAdams (1882) who, according to Kelly (2004), was an amateur archaeologist described an interior platform mound (similar to Mound 66/ Rattlesnake Mound, Mound 72, Mound 85, Mound 86/Powell, Cemetery, Big Mound and Wilson) constructed of black dirt. McAdams also describes a large trench containing 20cm of bone (probably bundles) that were 1.8-2.4 meters wide. This burial was covered by a thin layer of clay, of which was then followed by the final ridge-top capping episode (Kelly 2004:279). Most importantly,

Kelly (2004:279, citing Howland 1877) describes another pit which was filled with highly specialized goods, such as a copper-covered tortoise shell, copper-covered deer teeth, copper-covered bone earspools, a copper-covered wooden staff, copper-covered wood pendants, a Ramey knife, eight copper rods wrapped in matting, bone awls and needles, marine shell beads, pear-shaped shell beads, and 20 crescent shell ornaments pierced on one end, all placed on a small alter platform. Kelly (2004 hypothesizes that these items were most likely associated with one or more burials.

Another trench-like burial was discussed by Howland (1877) and excavated by McAdams (1882) (Kelly 2004). It was described as containing four or five burials, in an east-to-west position along with whelk shell whorls. One of these burials was wrapped in a woven grass mat with a bison skull and copper implements and ornaments (Kelly 2004:280). Lastly, a burial pit was also identified on the lower mound level (which represents the beginning of mound construction), which contained multiple individuals on top of lightly colored sand, along with a Cahokia Cord Marked sherd which dates to the Moorehead phase (A.D. 1200-1275) (Baires 2014:140).

Mound 2 (Cahokia)

Mound 2 is a uniquely shaped ridge-top mound. It is positioned on a northwest to southeast axis. The drawing (on the Patrick Map 1876) suggests a slight tear drop shape, pointed at the northwest end, and rounded at the southeast end. At its highest point the mound is just 0.7 meters tall (Fowler 1997:59), however at one time there was a house on the northern edge of the mound, which with its construction and subsequent destruction,

could explain the unique size and shape of Mound 2. There have been no reported excavations of this mound.

Mound 64/True Rattlesnake Mound (Cahokia)

Mound 64 is a rectangular ridge-top mound with its long axis directly east – west. It is approximately 73 meters long, 27 meters wide, and 4.6 meters tall (Fowler 1997:130). This mound was locally referred to as the Rattlesnake Mound, however that name was later given to Mound 66. Mound 64 is a mile south of Monks Mound, and was considerably damaged during the construction of the Baltimore and Ohio, and Pennsylvania Railroads. Moorehead (2000:83-84) placed some test pits into the mound, however no artifacts were uncovered.

Mound 78/Jondro Mound (Cahokia)

Not much is known of Jondro Mound; because of mapping and labeling problems, it has been under-researched over the years. Moorehead (2000:51) describes this mound as being 1.2-1.8 meters high. He cut a trench through the mound in a north-south direction, along with another trench at the southern end of the mound. Twenty four burials were recovered from these two trenches, along with one piece of pottery (Moorehead 2000:51). The northern end of the mound contained a smaller sub-mound within it (Fowler 1997:150). However nothing was found in this mound; the aforementioned burials were in the fill above it similar to the previous mentioned ridge-top mounds. In the south end a pit containing one human skull was found (Moorehead 2000:51). Although this is all that is known of Jondro mound, what is known conforms to ridge-top schema.

Mound 81 (Cahokia)

Mound 81 is not listed in Moorehead's (2000) descriptions of Cahokia; however, it is shown on his map. The McAdams map of 1882 shows a possible mound in the location of Moorehead's Mound 81, with a probable height of three meters. The McAdams map shows it as "roughly oval and about half the size of Mound 64" (Fowler 1997:152).

Mound 85 (Cahokia)

Mound 85 is an oval ridge-top mound, with its long axis in an east-northeast to west-southwest direction. Its long axis measures 68 meters, its width is 30.5 meters, and its height is three meters. This mound is located on the western limits of the site along the banks of Cahokia Creek. Unfortunately this mound was completely destroyed in 1960 during the construction of Interstate 70 (Fowler 1997:156).

Mound 88 (Cahokia)

Mound 88 was located just to the southwest of Powell Mound. The Patrick map shows it as a small oval with a northwest orientation (Fowler 1997:160). The McAdams map of 1882 shows a similar mound in the same location with a height of 6.1 meters, similarly, a mound in the same location on the Cyrus Thomas map of 1984 shows it was 3.05 meters tall. This mound does not show up on the 1966 UWM map because it was destroyed and flattened for a parking lot (Fowler 1997:160).

Mound 95 (Cahokia)

Mound 95 is a small, possible ridge-top mound near the center of the site. Its measurements are not known; however, it is less than a meter tall. Early aerial photos from the 1920s show a structure on the mound (Fowler 1997:163). This mound is characterized by its association with a nearby borrow pit, and Mounds 61 and 62. This organization mirrors that of Mound 93 with a borrow pit and surrounding Mounds 67 and 68. No known excavations have taken place in this mound.

Fowler's Interpretation of Ridge-top Mounds

Fowler (1997:188) interprets the function of the ridge-top mounds of Cahokia as "marker mounds at the peripheries of the site and at other critical points within the community." His reasoning is based on four main aspects of the ridge-tops in Cahokia: location, alignment, orientation, and internal structure/artifacts.

Five of the eight ridge-top mounds are located at the extreme limits of the distribution of mounds in Cahokia. They are mostly located "over 1000 – 2000 meters away from Monks Mound… [with the exception of one (Mound 49) which is] less than 150 meters from Monks Mound" (Fowler 1997:188).

The alignment of the ridge-top mounds which correspond with their locations is another contributing factor to Fowler's interpretation. It is not just the alignment of ridge-top mounds with other ridge-top mounds, but also with Monks Mound. Mound 66, Mound 72, and Mound 49 form a north – south alignment that intersects at Monks Mound with an east-west alignment formed by Mound 86 and Mound 2. He supports this hypothesis of alignment with the above mentioned post that was found in Mound 72, which he says lies on the north – south centerline of the site (Fowler 1997:188).

However it is not just the location and alignment of the mounds that is important in his theory, but also the orientation of the ridge-top mounds. The majority of all mound types at Cahokia are oriented to the four cardinal directions, while four of the eight mounds that are labeled as ridge-tops are oriented in diagonal directions such as northwest – southeast, and southwest – northeast. Mounds 72 and 95 are oriented approximately 30° east of north, however due to cultivation and land leveling, their exact degree orientations cannot be known. Mounds 2 and 85 have an interesting relationship regarding their location, alignment, and orientation. Mound 2, which is at the eastern edge of the site, (and connected by the centerline drawn between itself and Mound 85, is oriented northwest-southeast, while Mound 85 lying at the western extreme of the site is oriented southwest – northeast. (Fowler 1997:188-189). Both of these mounds are located on the banks of Cahokia Creek. This, according to Fowler (1997:189), "is further argument in favor of their [the ridge-top mounds] being marker mounds."

Regarding the internal structure and artifacts found within ridge-top mounds, Fowler (1997:189) points that of the eight ridge-top mounds, three had been excavated at that time. Of these, all contained interior primary sub-mound platforms that were added upon, with the last layer comprising the ridge-top shape. The best example of this is Mound 72, which was comprised of multiple sub-mounds. Within these sub-mounds were many of the burials, of which some were of extreme importance, and others being sacrifices. Fowler (1997:189) proposes that "it is probable that the burials included were also dedicated to the significant point in the community being marked." Fowler goes on to say that,

> The presence of the burials and dedicatory artifacts only stresses the importance and significance of the locale within the community. The *primary* function of ridge-

> top mounds was as markers, just as the *primary* function of conical mounds was mortuary (Fowler 1997:189).

If the location, alignment, orientation, and internal structure and artifacts associated with ridge-top mounds along with their unique presence (only in Cahokia) in the Mississippian world speaks towards the importance of the people buried in them, these mounds could help to understand the political administration of the sites where they are located. Thus, Fowler proposes that they are marker mounds of the Cahokian community, not only marking significant locations within the site, but also significant people, and possibly events.

Pauketat's Interpretation of Ridge-top Mounds

Pauketat (2007:234) builds on the interpretation of Fowler saying "ridgetop mounds seem to have been the special mortuary tombs of the region's most important dead." He describes ridge-tops as all having the same distinct appearance, which is an elongated ridge line summit rather than a flat top. The effect of this ridge may be purposeful in order to show similarities between the mound and a typical Mississippian pole and thatch structure (Pauketat 2007:234-35). Similarly Pauketat (2007:235) notes that all of the ridge-tops that have been excavated have an internal sub-mound platform as their initial construction phase. In this sense Pauketat agrees with Fowler that ridge-tops are elite mortuary earthworks. However, Pauketat takes the "marker mound" idea further, linking ridge-top mounds and their location, alignment, orientation, and internal structure/artifacts as marking nodes of a heterarchichal governance in a "short lived episode of corporate state making" (Pauketat 2004:74) in early Cahokia. Crumley (1995:1)

states this type of governance would constantly exist in flux as elite status is ranked and re-ranked, all while leaving physical evidence of the power relations.

Cahokia, though, was not alone. To expand this concept to the macrocosm of the Central Mississippi River Valley, the term "central political administrative complex" is employed by Pauketat to describe the conglomeration of not just Cahokia but three other nearby mound sites. South of Cahokia is the East St. Louis Site, with 50 mounds, and directly across the Mississippi River is the St. Louis (or Mound City) site with twenty-six mounds (Pauketat 2004:71). It is important to note that the two aforementioned sites are numbers two and four respectively in a list of the top-ten largest Mississippian sites. Also included in this schema is the almost completely destroyed Mitchell site, 10km north of Monks Mound. Because of the locational nature of ridge-top mounds (within the central political administrative complex) along with their internments of individuals with elite status, ridge-top mounds could mark nodes of heterarchical organization, with Monks Mound and its social elites in the center serving as a binding entity (Pauketat 2004).

Pauketat (2004:75) suggests that if this were the case, then some of the ridge-top mounds at Cahokia could be contemporaneous, and indicative of an uncommonly complex heterarchy. This placement may suggest a horizontally complex and possibly faction-oriented structure of governance. Thus several communal entities symbolized by ridge-top mounds within the Cahokia, East St. Louis, St Louis, and Mitchell sites may have taken part in heterarchical experimentations during the Lohman and Stirling phases. The contemporaneity and close proximity of Cahokia, East St. Louis, St. Louis, and Mitchell does not suggest that the four sites represent autonomous polities. Rather, according to

Pauketat, they suggest "heterarchichal segmentation at the top that, ultimately, may have laid the foundations for the factionalism of the twelfth century" (Pauketat 2004:166).

Furthermore, Pauketat links ridge-top mounds to the idea that much of the Cahokian experience was in fact public, and theatrical, which is an idea discussed in depth by Kehoe (2002), and Emerson and Pauketat (2002). Surely, the magnitude of the central mound groups around Monks Mound, along with the 19-hectare Grand Plaza, allowed for large scale events, and public congregations of many forms. These events could have been attended not only by living peoples, but also the dead (sacrifices, warriors killed in battle, executed prisoners etc.). Pauketat (2004:166) believes the ridge-top mounds, which may represent heterarchical nodes, were home to "scene[s] of ritual performances or social functions not found or conducted at the others."

The burials and associated artifacts found in the Burial Complex #3, in the sub-mound of Wilson Mound are one example Pauketat uses to express his idea: that ridge-tops were linked to Cahokia's public theatre. Three reasons are listed to support this idea; "the prominence of the location (on the bank of an oxbow lake between the Cahokia and East St. Louis mound groups), the energy invested in the event, and the likely numbers of living relatives who presumably survived those interred in Burial Complex #3." The mortuary events of Mound 72 (Porubcan 2000) also exude a theatrical character when viewed through this lens.

Thus Fowler believes that the primary function of ridge-top mounds are as marker mounds within the community, marking not only important places, but also important events. His support for this hypothesis included the mound's location, alignment, orientation, internal structure and associated artifacts. Pauketat builds on this idea by

proposing that ridge-top mounds are not just marker mounds, but they also represent heterarchical nodes of power during the early rise of Cahokia and the surrounding area, allowing these individuals to legitimize or de-legitimize their hierarchical node, or that of others. These nodes are representative of not only the power of the individual (or individuals) that built them, but also horizontally aligned governance that allowed Cahokia and Monks Mound to be the "center of the four quarters of the universe in its time" (Fowler (1999:189).

Baires (2014) writes about the ridge-top mounds within Cahokia as being intricately woven into the creation and practice of a new religion during the emergence of Cahokia. This idea is fleshed out through the theoretical perspectives of relational ontology and New Animism. The shift in organization that takes place during the Terminal Late Woodland at Cahokia, along with new religious practices, can be seen with the implementation of a 5° offset which mounds (including ridge-tops), houses and plazas (contrary to Fowler's cardinal direction orientation). Baires (2014:21) argues that this alignment was "intentionally set up and marked by the Rattlesnake Causeway, [a long earthen bridge extending north to south meeting Rattlesnake Mound in the south and the Monks Mound plaza in the North] the construction of paired earthen monuments, the construction of ridge-top mounds, and new ways of relating to and burying the dead." Ridge-top mounds were not isolated features in the Cahokian landscape, but rather they were pivotal to the practice and events of the inhabitants.

To further investigate the role ridge-top mounds played in the orientation of Cahokia, Baires (2014:100, citing William Romain) discusses the possibility that the overall order and alignment of Cahokia was in association with a lunar standstill (the southern

maximum moonrise) which informed the construction of the Rattlesnake Causeway and Downtown Cahokia (A.D. 1050). Baires (2014:99) states;

> At Cahokia ca AD 1050, when viewed from Rattlesnake Mound, the azimuth of this moonrise was 130° and visible over the bluffs to the southeast. Romain (in press) suggests that by drawing a square, which uses the sight line from Rattlesnake Mound to the moonrise azimuth as the diagonal of that square, the resulting vertical axis will have an azimuth of 355°, five degrees west of north…[the amount of degrees from north in the opposite direction of Cahokia's 5° offset]

This mirroring of the layout of Cahokia with celestial happenings may be a purposeful tying together of the physical world with the cosmos. To this end Baires (2014:101) argues that the origins of Cahokia are inextricably linked with complex relationships comprising the cosmos, and ridge-top mortuary practices, all culminating to form 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."

Mound B at Carson may display some sort of alignment with the other mounds at Carson, or even a cosmological alignment, however these issues are not explored in depth because it is first necessary to gather basic information about Mound B, and confirm that it is in fact a ridge-top mound. However as will be discussed below, I hypothesize that Mound B is a ridge-top mound, of which could possibly represent a heterarchical form of Cahokian governance existing at Carson during the Mississippian Period.

CHAPTER 4

METHODS

The fieldwork was completed during the months of June and July, as part of the University of Mississippi's 2014 Archaeological Field School.

Field Methods

The first job to be done was to clear the mound of all overgrowth and brush in order to be able to access it. Mound B is surrounded on three sides by agricultural fields, and on the north side by a road. The overgrowth on the mound, having no reason to be cut (until now), created an oasis of poison ivy, mulberry and oak saplings, along with medium-sized pine trees, and a few old growth oak trees. Therefore the first step was to clear a path to the top of the mound, and along the long axis of the mound.

Once a path was cleared from the base of the mound to the saddle, and to the two (NE and SW) ends, the clearing process was expanded outwards, towards the base of the mound where it began to level out with the ground surface. It was important during this process to fell only the shorter trees in order to create a clear line of sight for visual access with the total station, while retaining enough of a canopy to block the delta sun (Figures 8 and 9).

Figure 8. Mound B in the 1940's (facing east) (http://rla.unc.edu/Archives/LMS1/index)

Figure 9. Mound B, summer of 2014 (facing east)

This process took two days to complete. Most importantly, one could now more accurately survey the mound, and appreciate the true shape of it (Figure 10). It quickly

became apparent that the mound was more intricately shaped than previously thought. Most notably it became evident that the northeastern edge had been truncated by the construction of the nearby road, which had been suggested but never clearly demonstrated. The outside canopy enclosing the mound in a dome of foliage was untouched in the clearing process. From the outside, one would not be able to tell that it was but a shell, hiding a considerably large mound.

After clearing, a grid was setup using a Leica TCR307 total station, with a rod and prism. Due to the unique shape of Mound B the datum was placed in the center of the saddle of the mound, and the ends were used as fixed points. The fixed point, placed on the highest point of the southwestern end was given the coordinates of 100 meters east, 100 meters north so as to cover all ground surface in and directly around the mound. The fixed point on the highest point of the Northeastern end was given the coordinates of 100 meters east and 119 meters north. This allowed for measurements to be taken from the saddle of the mound to the two ends, along with most of the central portion of the mound from the top to the ground surface. This grid is separate from the grid used in excavating the Mound A set aside, Mound C, or Mound D.

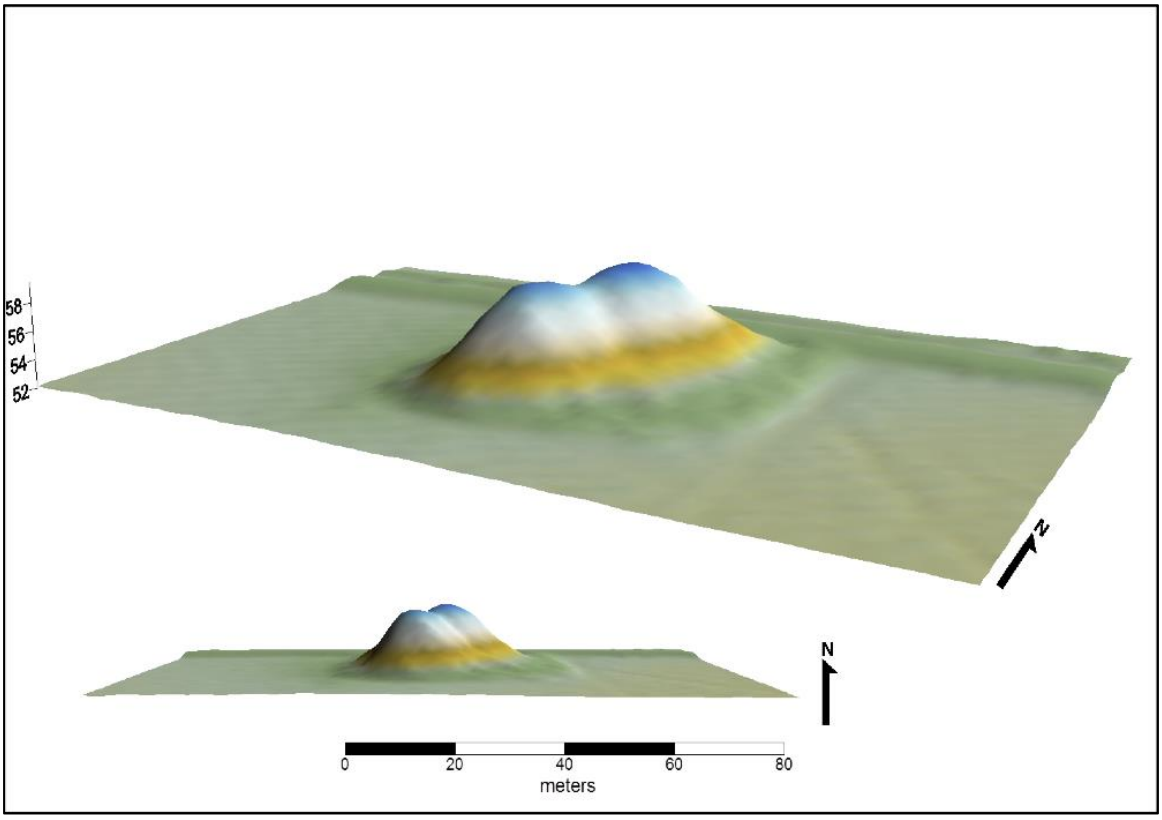


Figure 10. 3D rendering of Mound B (xy:z = 1:2), (LIDAR data from Mississippi Geospatial Clearinghouse-www.gis.ms.gov)

The fixed points on the peaks served two purposes, 1) to allow for the free station program to be executed, and triangulate the total station so it could calculate where it was in relation to the grid, and 2) the creation of fixed points allowed the total station to be moved from the saddle to either end, in order to be able to measure the distances that could not be obtained from the other fixed point or the datum (due to some parts of the mound having an extreme slope). This setup, rather than creating a datum on the ground surface, and fixed points along the x and y axes of the mound, allowed for more accurate and efficient measurements.

Once the grid was established, transects that traversed the mound in multiple directions were placed. These transects served as guides for the placement of test units.

Flags were placed in one-meter intervals. Three transects were created that crossed the mound in an east to west directions, perpendicular to the line that connected fixed point one with fixed point two (the two points on the peaks). Transect one started at ground surface and followed the rise of the mound up and over, crossing directly over fixed point one, and following the slope down back to flat ground. This pattern was repeated for the saddle (the flat area connecting the two peaks), and for fixed point two. Along with these three transects another one was established which ran from the southwestern base of the mound, up the slope, crossed fixed point one, and fixed point two, heading in a Northeastern direction, and following the slope down, back to ground level.

Excavation

In order to identify the occupational chronology of Mound B, two one by one meter and a one by two meter test units were placed on the summit of Mound B and a mound slope trench was placed on the eastern face of the mound. If Mound B is a double conical mound, it was hypothesized that it could be identified by the presence of original mound slope stratigraphy where the conical mound slopes joined in the saddle, the flat area between the two conical peaks of the mound, which connects them like a bridge. Excavation goals were to first, identify sloping stratigraphy and second, use any recovered diagnostic artifacts to identify the chronological placement of the mound.

All excavation units were placed along the central transect running along the ridge of the mound (Figure 11). Three units were excavated, along with a backhoe trench and two soil cores. Each unit, except for one, was excavated in 10-centimeter levels, with all artifacts bagged together and catalogued in the field. All levels were excavated with flat

shovels, trowels, and mattocks. Shovels were used for shovel shaving the softer fill; while mattocks were used for the harder fill. A dry screening system was implemented with a screen size of ¼ inch woven mesh which was replaced with ½ inch woven mesh later in the project in order to be able to process the fill more quickly (due to limited time). Level forms were filled out for each level, and all personnel also kept a journal documenting any information regarding the excavation of the units. At the end of each level, all level floors were photographed, and a hand drawn map on graph paper was created. The excavations (Figure 11) consisted of a one by two meter unit (TU1), two one by one meter units (TU2 and TU3), a backhoe slope trench, approximately seven meters long by one meter wide, and two soil cores.

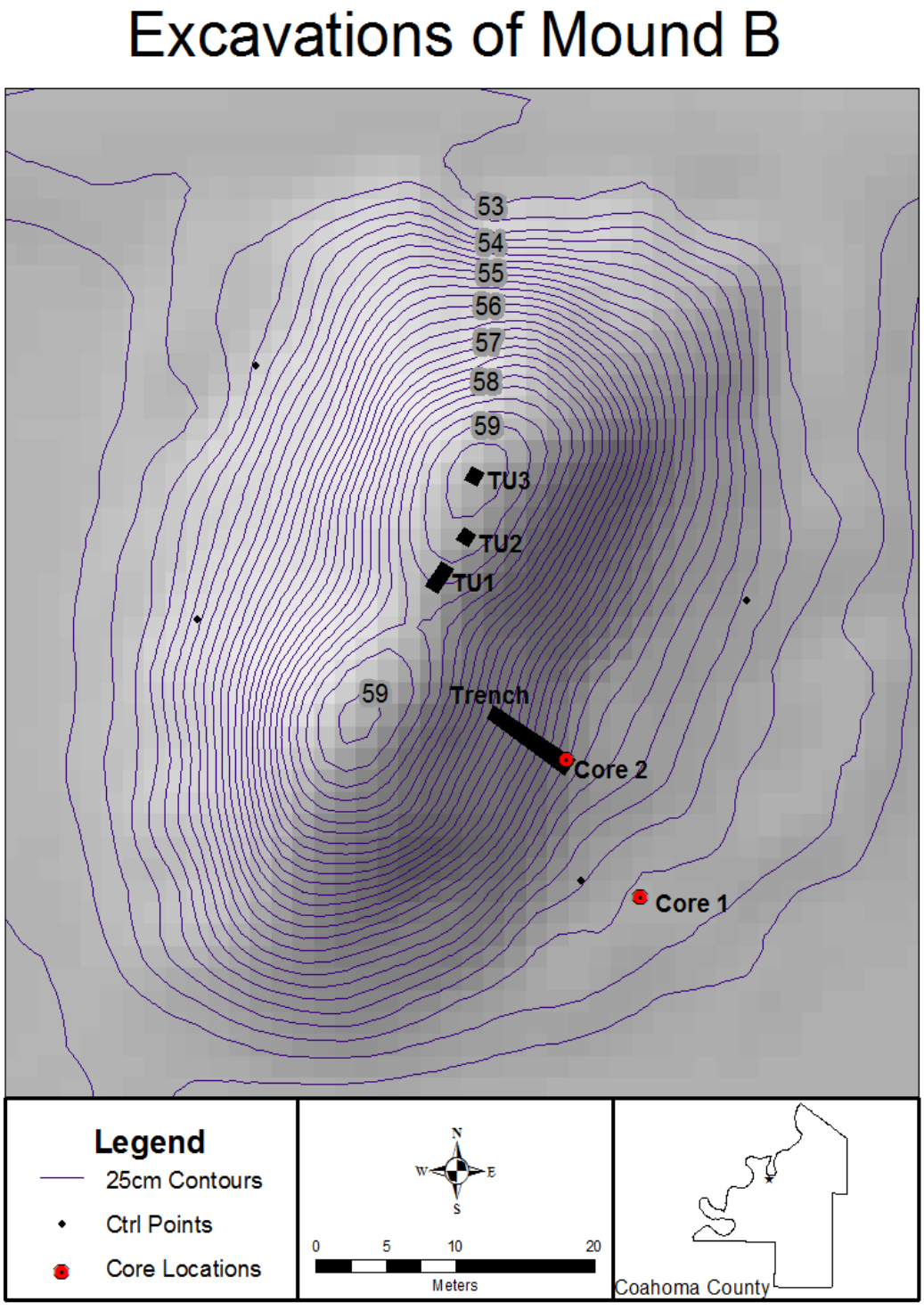


Figure 11. Locations of excavations and cores during the fieldwork of summer 2014 (Mississippi Geospatial Clearinghouse-www.gis.ms.gov)

Unit 1 (N100 E109)

TU 1 (Figure 12) was the first unit excavated. Unit 1 was a one by two meter unit placed lengthwise on the north/south axis of the mound with the western wall falling on the transect running along the central portion of the ridge. The unit was placed on the transition from the saddle to the northern peak. The placement of the unit was very specific; as it was placed to uncover any stratigraphic information indicating a double conical mound construction. If it was a double conical mound, the test unit should show sloping stratigraphy in the east and west profiles, which would correlate to the possible original mound slope.

Unit 1 was excavated to a depth of 160cmbd before excavation of the southern half was terminated because of the low artifact density, and the amount of time the excavation was taking. The northern half was continued to a depth of 200cmbd. After it was decided that excavation of the northern half would be terminated the walls were photographed, and wall profiles drawn. No sloping stratigraphy was found in this unit; rather, the profiles showed multiple layers of horizontal fill. No original mound slope (sloping stratigraphy) was identified in this unit. Instead, the evidence of zoned fill was present in the entire test unit. According to Sherwood and Kidder (2011:78) zoned fill refers to "the application of homogenous layers placed horizontally alternating from permeable to less permeable layers and back". This method allows for an equalization of moisture throughout the mound, and creates horizontal strata that enhance strength and decrease vertical stress. These bands consisted of two alternating soils, a brownish yellow (10YR 6/6) sandy clay loam, and a dark brown (10YR 3/3) clay loam. Diagnostic artifacts recovered in this unit included only Woodland varieties; 11 Mulberry Creek Cord Marked sherds (Brown 1998:61) and 58 Baytown Plain sherds (Brown 1998:61).

Figure 12. Test unit 1

Unit 2 (N113 E100)

Because no evidence of an original mound slope was identified in TU 1, a second test unit was opened closer to the peak of the north end of the mound, north of TU 1, with the same goal. This unit was placed three meters north of TU1 and on the same easting. It was placed in this position to identify sloping near the peak. TU 2 (Figure 13) was a one by one meter unit excavated in the same manner as unit 1, with the exception that at 90cmbd the screen size was changed from ¼-inch wire mesh dry screening to ½-inch wire mesh dry

screening, to expedite the excavation process and because of the low artifact density present in the first nine levels. This unit was excavated to a depth of 130cmbd. The stratigraphy was identical to that found in TU 1 suggesting an absence of a conical mound. Diagnostic artifacts recovered in this unit included Woodland varieties such as six Mulberry Creek Cord Marked sherds (Brown 1998:61), 28 Baytown Plain sherds (Brown 1998:61), and one Mississippian Period variety; Mississippi Plain (Brown 1986:10), which was recovered in Level 9.

Figure 13. Test unit 2

Unit 3 (N116 E99)

To further identify evidence of a conical mound, TU 3 (Figure 14) was placed 2 meters north and one meter west of TU 2. The purpose of locating this unit one meter west of the center line running along the long axis of the mound was to avoid more horizontal stratigraphy. If the unit were placed along the center line, in line with the others, it would have been approximately in the middle of the northern peak. Due to time constraints, this test unit was not dug using 10cm levels nor was all of the fill screened. Random samples of back dirt from TU 3 were screened for artifacts. TU 3 was excavated to a depth of two meters below surface. Stratigraphy here was identical to that seen in TU 1 and 2, except for the presence of approximately 60cm of down (south) ward sloping stratigraphy located between the horizontal zoned fill strata. This area where the stratigraphy slopes south for 60cm, and the lack of this feature in Unit 1 or 2 could indicate the haystack method (Sherwood and Kidder 2011:77) where two ends of the mound are periodically built up during construction to create a sort of berm to prevent the erosion of the zoned fill down the two long ends of the mound. Artifacts recovered from the random sampling included one Woodland Period Mulberry Creek Cord Marked (Brown 1998:61), one Woodland Period Baytown Plain (Brown 1998:61), and one Mississippian Period Mississippi Plain (Brown 1986:10) sherd.

Figure 14. Test unit 3

Cores

A Giddings Hydraulic Soil Sampler was used to bore two cores near Mound B. Core 1 was located 20 meters east of the mound, on flat ground, in a clearing that was made to be able to access the mound. Core 2 (Figure 15) was placed in the base of the mound near the eastern edge of the trench. The eastern edge of the trench cut into the location of Core 2; however, the core was taken before the trench was excavated.

Results of these cores, specifically Core 1, confirmed the presence of an anthropogenic A horizon in the slope trench (Stout-Evans: N.d.). Due to the core location being off the slope of the mound, on flat ground, only a few strata were covering it, hence it was significantly closer to the ground surface. Core 1 was excavated to a total depth of

215cmbd. At this depth, natural subsoil was not found. However Core 2 was excavated to a total depth of 155cmbd, as soils were much more difficult to penetrate here. This core encountered slope wash, and then "4 mound building episodes that were similar to the unit being dug at the summit of the mound" (Stout-Evans: N.d.). This stratigraphy matched that of what was found in units 1, 2, and 3. The horizontal fill construction technique is used at the top of the mound, and near the bottom of the mound indicating contemporaneous construction for the ridge-top shaped construction episode.

Figure 15. Core 2 being excavated

Slope Trench

A trench was excavated using a backhoe (Figure 16). The purpose of the slope trench was to expose and identify the beginning construction period of Mound B. This would allow us to gain insight into the original construction methods and intended shape.

The trench was placed slightly upslope on the east face of the mound, oriented east-west, and was just south of the middle of the center of the saddle. Because of the excavation method, the trench was not excavated in measured levels. The back dirt was not screened; any artifacts found during excavation were recovered and recorded. After the rough shape of the trench was dug, the walls were cleaned of roots, and then troweled to show the stratigraphy. Because of the size of the trench, only the south and west walls were cleaned and profiled.

Figure 16. Trench being excavated

Additional work by soil scientist Rachel Stout-Evans (n.d.) provided information necessary to understand the stratigraphy of Mound B. At the base of the trench, approximately two meters below ground surface, a one by one-meter exploratory test unit was placed along the south wall to determine where the beginning of sterile soil started.

Excavation of the exploratory unit started as a one by one meter unit, which was later cut in half to a 50cm by 50cm unit, and then later a 25cm by 25cm unit. This exploratory unit identified sterile levee soils at a depth of 180cmbd below the base of the trench, and a total of approximately 2.5 to 4.5 meters below ground surface. One of the layers exposed in the trench was an anthropogenic A horizon (Figure 17) (Stout-Evans, personal communication, August, 2014), an area where mound building had stopped long enough for organics to accumulate, and pedogenesis to occur. A bulk soil sample was obtained from this stratum for radiocarbon dating (see results chapter). After these new strata were exposed, they were profiled.

Figure 17. Anthropogenic A horizon in trench

GIS Methods

Trench Digitization

Because of the large size of the trench it was decided that it could be mapped using the Leica TCR-307 total station. To accomplish this, four meters of string were tacked into the wall on a level plane. The string provided us two reference points in order to run the free-station program on the Leica. This then allowed us to be able to shoot the stratigraphy point by point, along with the top and base of the trench. In order to turn a vertical wall into a flat feature the raw x, y, and z data required some post-processing. The data that was collected as x data remained x data, while the data that was collected as z data (elevation data) was turned into the y data. The original y data, which would now be the z was thrown out as it wasn't necessary, and would only show the areas where the wall wasn't completely trowelled flat (in a 3d environment).

This data was then imported as a xy event in Arc GIS. It was overlaid with a scanned copy of a hand drawn trench wall profile which was made along with the total station profile. This allowed for the connection of the points in the xy layer to be made more easily as they were drawn over the scanned copy of the hand drawn profile. The strata were then drawn as individual polygons so they could have their own attribute information. The final product of this was a digitized copy of the trench wall profile that could be symbolized as needed.

Lidar Processing

The 3d map representing the LIDAR data started with the clipped portion of Mound B from the original Digital Elevation Model (DEM) Bare Earth grid. The clipped DEM of Mound B was loaded into Arc Scene along with the smoothed contours shapefile created for

the previous map. Using the hillshade tool in the arc toolbox within ARC Scene six hillshade views were created. These hillshades have azimuths of 0, 90, 180, and 270, 20, and 200 (the latter two being the axes of the mound), all with a vertical azimuth of 35°. The contours shapefile was set to float on the Mound B hillshade layers, and the elevation was changed from feet to meters under the base heights tab of the properties dialog box. However a .3 meter offset was created so the contour lines would not be flush with the Mound B hillshade layers, and all contour lines would be visible.

Finally, a .tiff 2d scene file was then taken of each hillshade and contour layer together in the direction of the latter mentioned horizontal azimuths. These were then imported into ARC Map and all finishing notations were added.

CHAPTER 5

RESULTS

Test Units

Over the course of four weeks, three excavation units, and one large trench recovered 179 excavated artifacts. The following is a brief discussion of the results from the excavation units, trench, and cores (Figure 18).

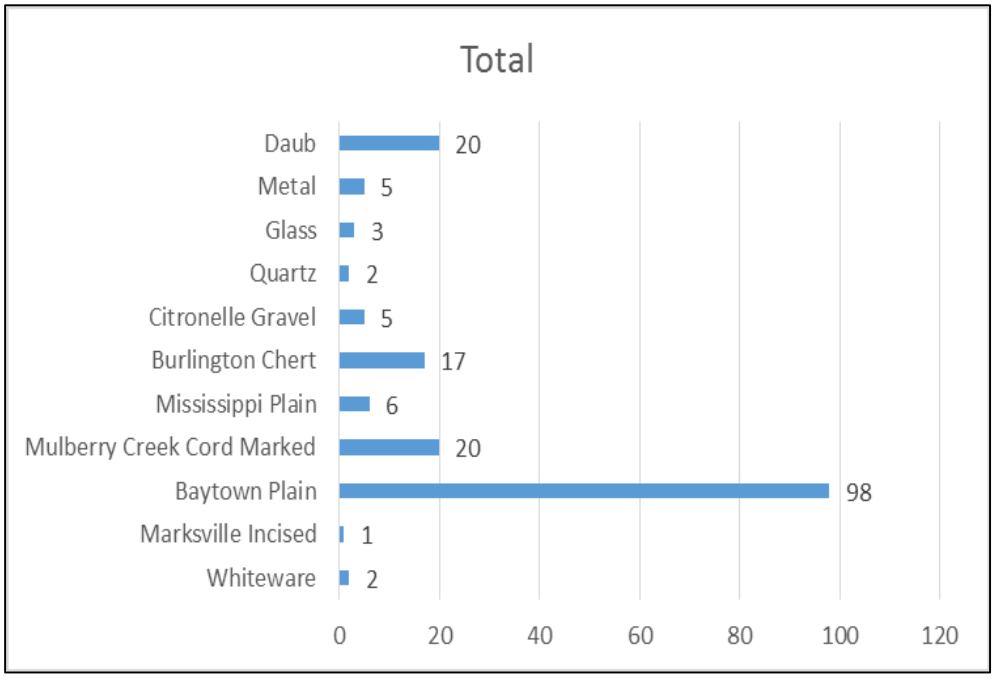


Figure 18. Count of all artifacts recovered

Unit 1 (N109 E100)

Unit 1 by far had the most artifacts, because of its doubled size as compared to the other units. A total of 101 artifacts were recovered (Figure 19). Although this unit had the most artifacts, none were diagnostic to the Mississippian Period (Table 2).

The prehistoric assemblage was comprised of 58 Baytown Plain sherds, eleven Mulberry Creek Cord-Marked sherds. Fourteen pieces of Burlington chert, one piece of local heat-treated gravel (Citronelle), and one piece of heat-treated quartz were also found. At Carson, Burlington chert is associated almost exclusively with an early Mississippian blade core technology although it was also heavily used during the Middle Woodland Period elsewhere in the northern Yazoo Basin (Johnson 1987). Also recovered were nine pieces of daub (all found within the first 50cm), with one of those pieces being cane impressed. The Baytown Plain and Mulberry Creek Cord-Marked ceramics were spread all throughout the unit starting in Level 4 (40cm) and staying consistent all the way to the termination of the unit at Level 20 (two meters).

The historic assemblage was comprised of two pieces of white ware, three pieces of historic glass and two pieces of unidentified metal. These artifacts, were all recovered within the first 30cm. These presence of such artifacts often mark the location of a historic structure which are common mound top fixtures in the Delta (Carpenter 2013). However the lack of level ground on top of Mound B and the small amount of historic artifacts recovered suggest that they were deposited as refuse.

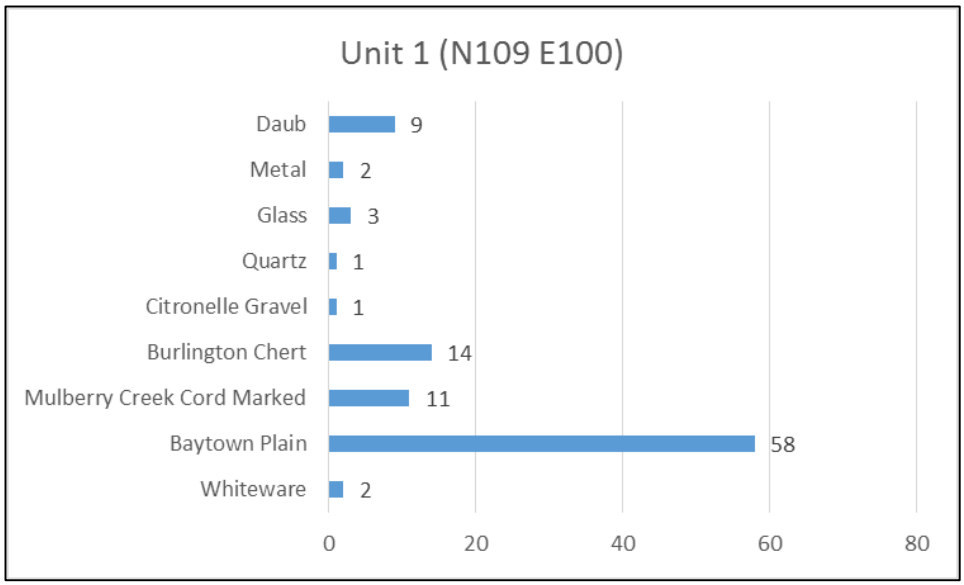


Figure 19. Count of all artifacts recovered from Unit 1

Table 2. Unit 1 artifacts per level

Unit 1	Historic Ceramics	Historic Glass	Historic Metal		Mississippi Plain	Baytown Plain	Mulberry Creek Cord Marked	Marksville Incised	Burlington Chert	Quartz	Citronelle Chert	Daub
Level 2	1	2							2		1	
Level 3		1							4			4
Level 4	1		2			7			8			4
Level 5						3	1					1
Level 6						2						
Level 7						4						
Level 8						8						
Level 9						8	2					
Level 11						9	2					
Level 12						1	2					
Level 14						1						
Level 15						4	3					
Level 16						3						
Level 18						2	1					
Level 20						6						

Unit 2 (N113 E100)

Unit 2 produced 57 artifacts (Figure 20). This number is less than Unit 1, however Unit 2 was half the size, and was only excavated to 130 centimeters below surface before it was terminated. No historic ceramics were recovered in this unit, however 26 Baytown Plain sherds were recovered, along with six Mulberry Creek Cord-Marked sherds, and most importantly one piece of shell-tempered Mississippi Plain. Only three pieces of lithic material were recovered, two being local gravel with one of those being heat treated. Also a flake from a piece of highly polished quartz was discovered in Level 6 (50-60cmbd). The polish on the piece is very fine, more so than what would be expected of typical river polishing. Finally, three pieces of metal were recovered, including a nail. Ten pieces of daub were also recovered in the first two levels (Table 3).

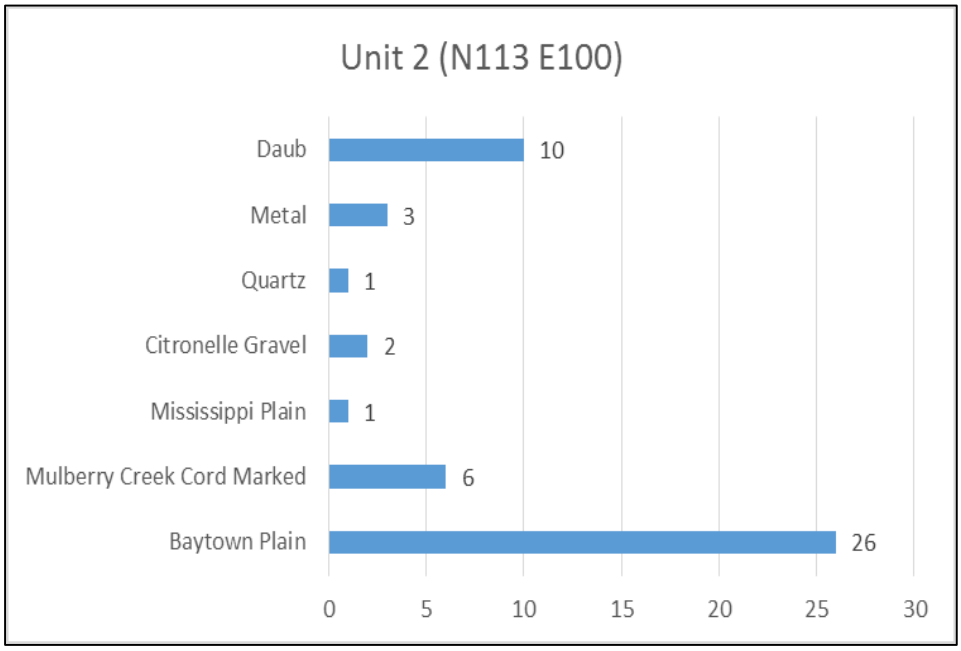


Figure 20. Count of all artifacts recovered from Unit 2

As in Unit 1 the small amount of historic artifacts within the first 40cm indicates their presence most likely as refuse. Interestingly the presence of the daub in Units 1 and 2 within the first 50cm could suggest a small structure might have been present on top of Mound B at one time. However the lack of postholes or wall trenches along with the lack of a flat surface at the mound top argue against this idea. The consistency of the Baytown Plain and Mulberry Creek Cord-Marked ceramics starting in Level 1 (0-10cmbd) and continuing to Level 13 (120-130cmbd) indicates the density of the area where the fill was being sourced. Most importantly in this unit however is the presence of one piece of Mississippi Plain shell-tempered ceramic (Figure 21) in Level 9 (80-90cmbd). The depth of this sherd, almost a meter into the mound, suggests that it was deposited either during construction or was carried in with the fill. Either way it indicates that the construction episode that it was found in can be identified as happening at or following A.D. 1000.

Table 3. Unit 2 artifacts per level

Unit 2	Historic Ceramics	Historic Glass	Historic Metal		Mississippi Plain	Baytown Plain	Mulberry Creek Cord Marked	Marksville Incised	Burlington Chert	Quartz	Citronelle Chert	Daub
Level 1			2			2	1		8		2	7
Level 2						7	1					3
Level 3						1						
Level 4			1			1						
Level 5						2						
Level 6							1			1		
Level 7						1						
Level 8						2						
Level 9					1	4						
Level 10						1						
Level 11							1					
Level 12						1						
Level 13						4	2					

Figure 21. Mississippi Plain sherd recovered from Unit 2

Unit 3 (N116 E99)

Unit 3 yielded a total of three artifacts (Figure 22, Table 4); however, this is due to the fact that not all of the soil was screened. The artifacts that were recovered came from random samples of back-dirt which were processed through a ¼ wire mesh screen. This random sampling was started at 75cmbd. The artifacts recovered consist of one Baytown Plain shard, one Mulberry Creek Cord-Marked shard, and one Mississippi Plain sherd. Because excavation was not in arbitrary levels, the depth of these artifacts is not known other than that they were recovered below 75cmbd. Again the persistence of the Mississippian artifact in association and below the Woodland Period ceramics indicates that the Woodland Period artifacts were being brought in with the fill.

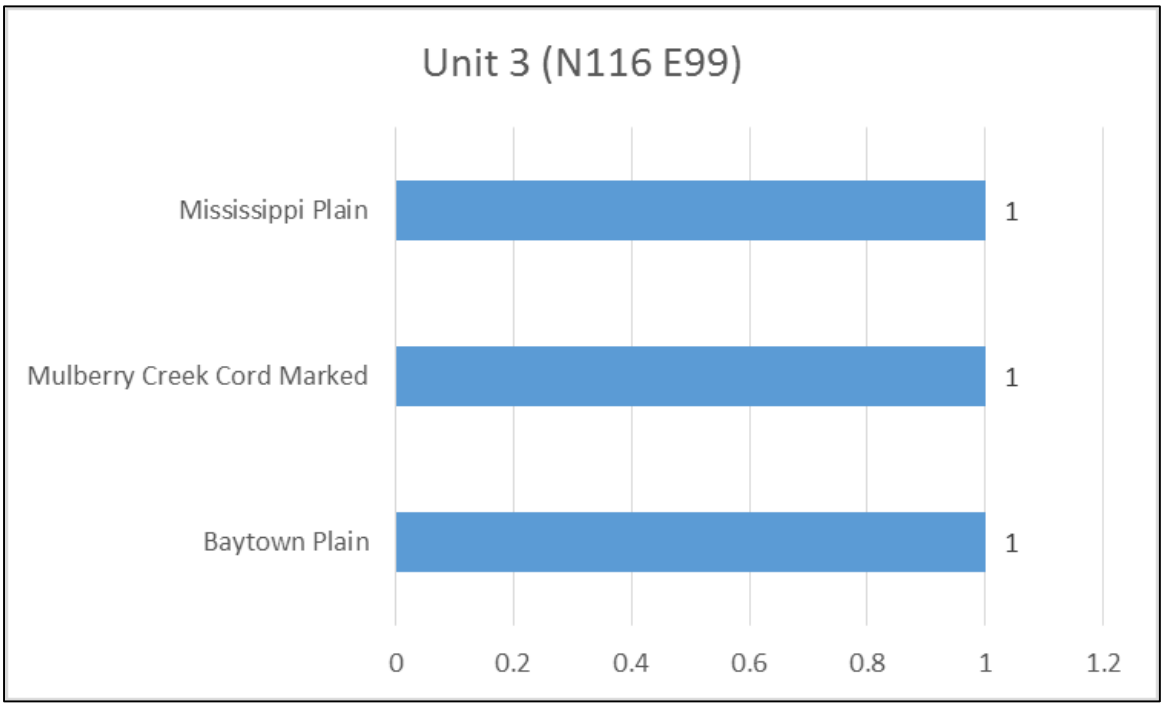


Figure 22. Count of all artifacts recovered from Unit 3

Table 4. Unit 3 artifacts

Unit 3	Historic Ceramics	Historic Glass	Historic Metal		Mississippi Plain	Baytown Plain	Mulberry Creek Cord Marked	Marksville Incised	Burlington Chert	Quartz	Citronelle Chert	Daub
70-100cmbd					1	1	1					

Stratigraphy in Units 1, 2, and 3

The exposed profile walls from Units 1, 2, and 3 (Figures 23, 24, 25) do not show any sloping mound stratigraphy that would indicate the presence of Mound B being a double-conical mound. Rather, the stratigraphy encountered represents a meticulous and intentional rising of the mound by way of zoned fill.

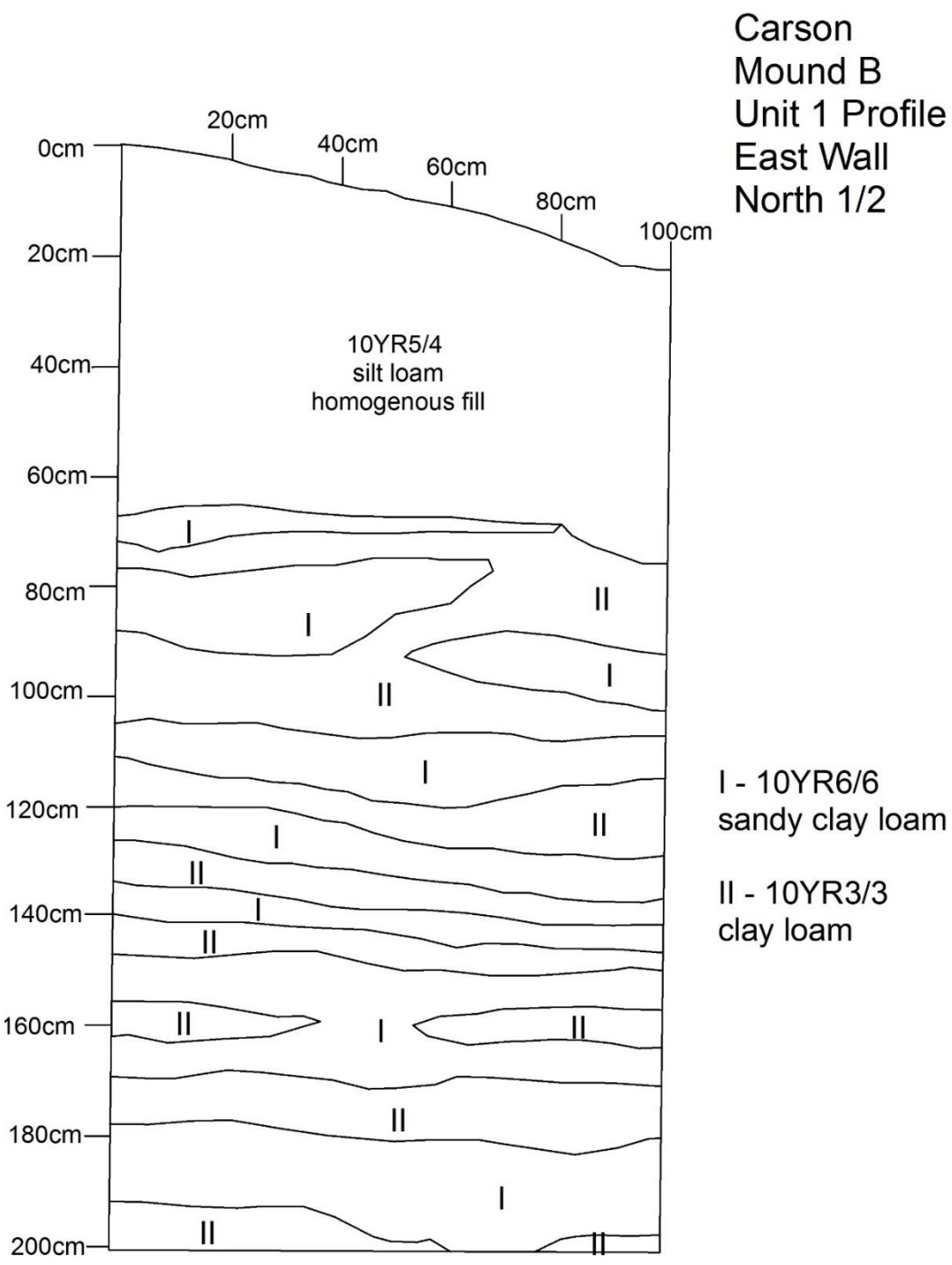


Figure 23. Unit 1 east wall profile, north half

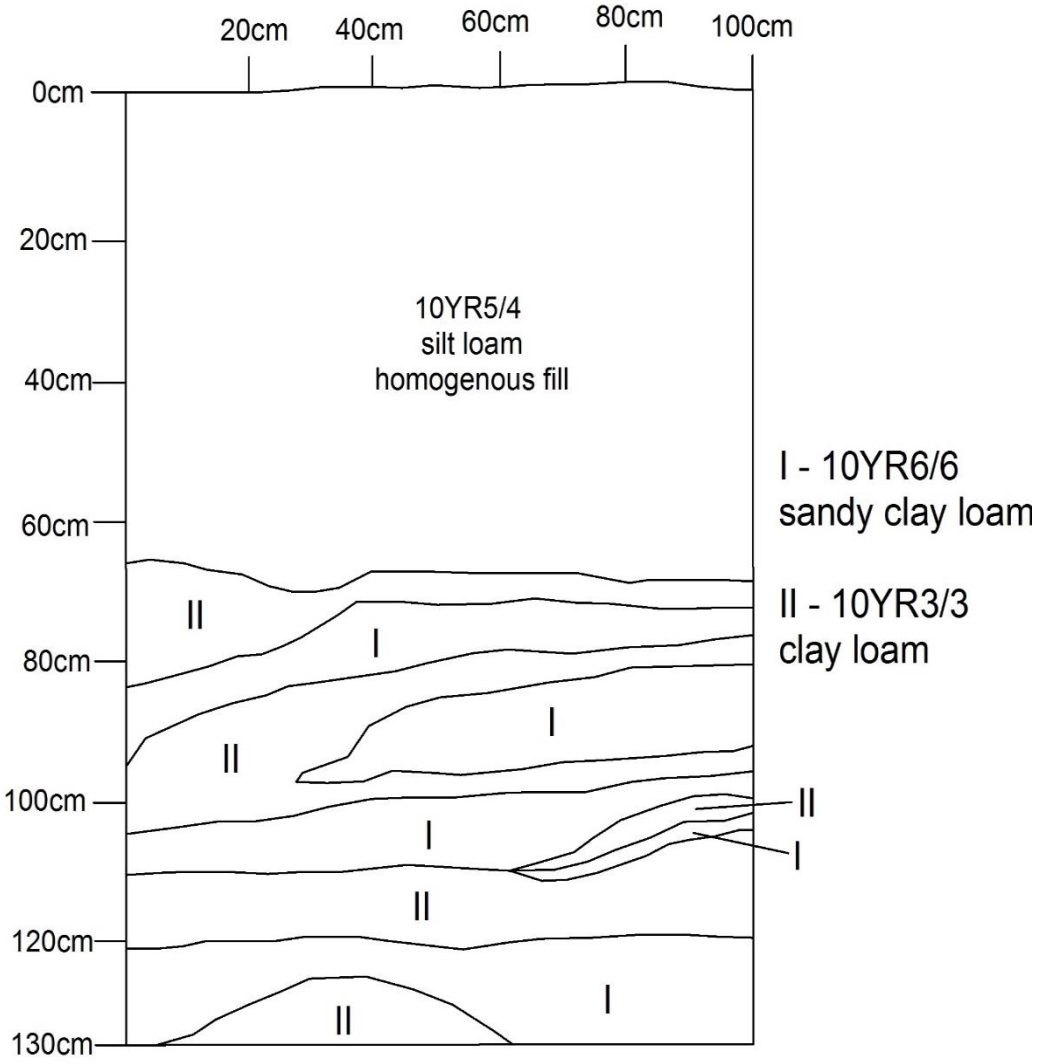


Figure 24. Unit 2 east wall profile

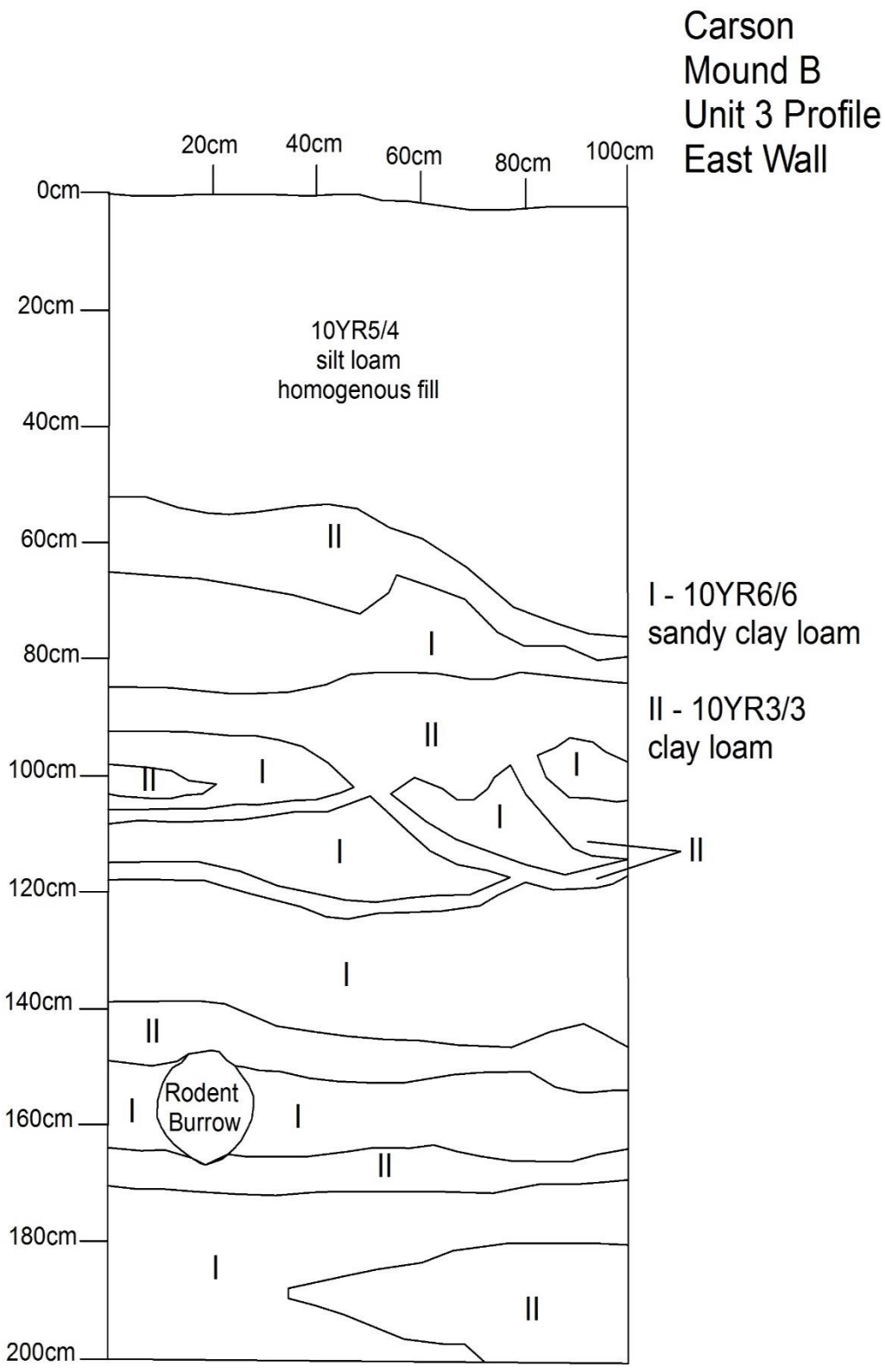


Figure 25. Unit 3 east wall profile

The small area in Unit 3 where the stratigraphy slopes south for 60cm, and the lack of this area in Unit 1 or 2 could indicate the haystack method of mound construction (Sherwood and Kidder 2011:77) where the two ends of the mound are periodically built up during construction to create a sort of berm to prevent the erosion of the zoned fill down the two long ends of the mound. This method would create a breaking point for erosion in the middle of the mound (due to lack of support) off to the east and west sides, which would account for the dip in the middle of the mound, that makes it appear to be two conical mounds side by side. This dip could also just be evidence of the mound settling over time. Sherwood and Kidder (2011:77) discuss the haystack method as a way to rapidly construct large mounds in a single event, as the ridge-top episode of Mound B was constructed. Expanding on this method, it is possible that the speed and overall pace of mound construction was dependent on the mound's function. The largest mounds at Poverty Point and Raffman do not appear to support a summit structure and therefore could have been constructed to fulfill a ritual or religious purpose (Sherwood and Kidder 2012:82). Hence it fits that a ridge-top mound, a mound shape that can't support a structure, would employ this method in order to construct the mound in a quick manner.

Furthermore, the presence of a piece of Mississippi Plain pottery found at 90cmbd indicates that the mound at least from the earlier mentioned anthropogenic A horizon dates to the Mississippian time period. Although there is an overwhelming presence of Woodland Period ceramics in the artifact assemblage (Tables 2-5), it is most likely they were being brought in with the mound fill; because they were found in the same levels and above the Mississippian Period ceramics.

A characteristic of Mound B that appears in descriptions of other ridge-top mounds is the almost equal-sized alternating color horizontal zoned fill (Figure 23), present in Units 1, 2, and 3 (Figures 10 and 11). This construction method could serve form, function, or both. Sherwood and Kidder (2011:77) discuss this method occurring at Monks Mound stating, "the zoned fills present an arresting color combination while providing an effective hydrologic system". At Monks Mound the soil layers consist of a yellow course-grained soil, while the darker layer consists of organic clays; however, due to the absence of fine-to-medium sized sand this system resulted in "internal movement and faulting" (Sherwood and Kidder 2011:78).

Figure 26. Zoned fill (horizontal sheet loading) in Unit 2

This zoned fill method is mirrored in Mound B in that the darker layer is composed of a brownish yellow (10YR 6/6) sandy clay loam, and a dark brown (10YR 3/3) clay loam.

Clays in the Mississippi Delta have a hydrostatic quality; that is, they are "shrink-swell" clays, which expand when saturated and contract when dry (Stout-Evans, personal communication, Summer 2014). According to personal communication with Stout-Evans (Summer 2014), this layering of specific soils could have represented a compromise between mound strength and the mitigation of later shifting and settling of the mound.

Trench

Twenty six artifacts were recovered during the excavation of the trench (Figure 24, Table 5) however because of the excavation procedure there is no context available. The collection of artifacts found in the trench represent all the types found in the three units. Twenty pieces of ceramic were recovered: one Marksville Incised, 13 Baytown Plain, two Mulberry Creek Cord-Marked, and four Mississippi Plain. Only one piece of daub was recovered, along with three pieces of Burlington chert and two pieces of local gravel. Although these artifacts have no context, the presence of Mississippi Plain ceramics found within the trench is further indication that at least one of the construction episodes, the last and final shaping episode, was completed after at least A.D. 1000.

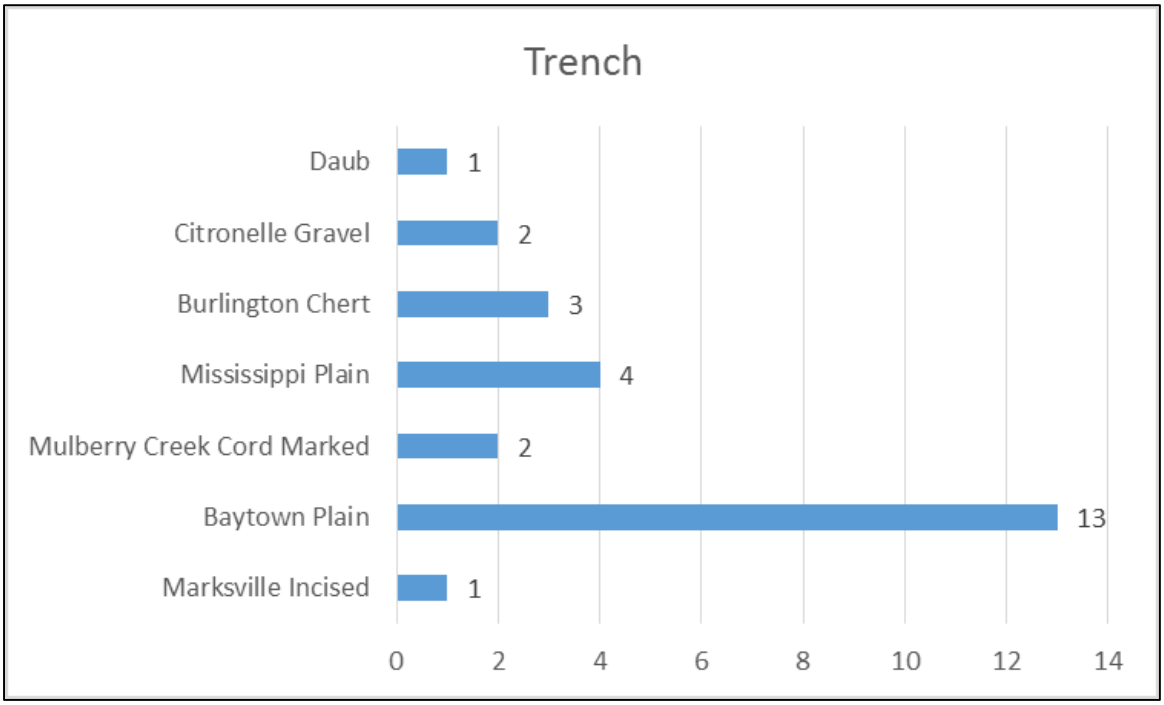


Figure 27. Count of all artifacts recovered in trench

Table 5. Trench artifacts

Trench	Historic Ceramics	Historic Glass	Historic Metal		Mississippi Plain	Baytown Plain	Mulberry Creek Cord Marked	Marksville Incised	Burlington Chert	Quartz	Citronelle Chert	Daub
0-200cmbd					4	13	2		3		2	1

Stratigraphy

The stratigraphy in the trench (Figures 25 and 26) shows that Mound B was built in two phases (Figures 28 and 29), the first being a short flat sub-mound which was exposed long enough for an anthropogenic A horizon to develop. The next phase, which gave the mound its final shape was constructed in one quick event, based on the absence of anthropogenic A horizons, or any sort of humic buildup that would indicate its exposure to

human occupation and/or natural deposition. However there is a possibility that there are more than two construction episodes. It is conceivable that any anthropogenic A horizons might have been stripped before continuing construction. However, if this were the case at those locations there should be an obvious change in soil characteristics, especially if the zoned-fill method was replaced by another method. Another way to recognize this might be an abrupt change in artifact density or type; however, so few artifacts were recovered this is not possible. Working on the assumption that there are only two construction events (which all evidence points towards), this second construction episode comprises the majority of the mound. Overall, the stratigraphy shown in Units 1, 2, and 3 along with the construction events shown in the trench indicate that Mound B is not a double conical mound. Mound B is most similar to a ridge-top mound akin to those at Cahokia.

Further evidence to support the hypothesis that there are only two construction events of the mound is the presence of the similar banding in both the south and west trench wall profiles, and the three test units at the top of the mound. The horizontal zoned fill banding is evident across the wall profiles from the west profile wall into the south. This construction event which is characterized by the horizontal zoned fill also contains the Mississippi Plain sherd. Thus, regarding Mound B, it is possible to associate the horizontal zoned fill construction technique with the Mississippian Period. This combination of a sub-mound platform that is then built over in one event to form a final ridge-top shape, corresponds with Pauketat's (2004) and Baires (2014) (discussed above) descriptions of other ridge-top mounds.

Figure 28. South wall of trench

Figure 29. West wall of trench

The exploratory one by one meter unit placed in the base of the trench revealed sterile levee soils approximately 1.5 meters below the anthropogenic A horizon. This was expected, as the depth of sterile levee sands was discovered by the two cores. This unit did not yield any artifacts, as it was only excavated to inspect the base of the mound. Rachel Stout Evans (with the National Resource Conservation Service) the soil scientist who was helping with the excavation, determined the fill below this anthropogenic A horizon to be cultural.

C14 Date Discussion

The C14 sample that was removed from the anthropogenic A horizon was a bulk soil sample. This is different from the usual samples of carbonized wood, seed, charcoal, shell etc. A bulk soil sample was taken due to the lack of any of the aforementioned items. This type of sample consists of the fill from the Anthropogenic A horizon itself. Because of this difference in samples, bulk soil samples can sometimes yield misleading results. The process of gathering carbons from the bulk soil sample consists of very fine screen mesh sorting, along with acid washes, to remove everything but the remaining carbons. These carbons are then dated, which can yield varying dates because there are multiple free carbons in the sample. This is different from typical samples where the sample itself is one item that has a set date, of which was recovered at a specific depth. When dealing with bulk soil samples, the carbons are able to move freely throughout the matrix, causing even more confusion when one tries to pin them down to a certain depth. However this isn't to say that bulk soil samples are useless, rather they are best used when the suspected sample consists of one quick event in which all carbons are from a similar deposition event. Thus

when actual carbon samples (charcoal, seeds, shell) are not available, bulk soil samples are the best way to go, however the results can be inconclusive at times.

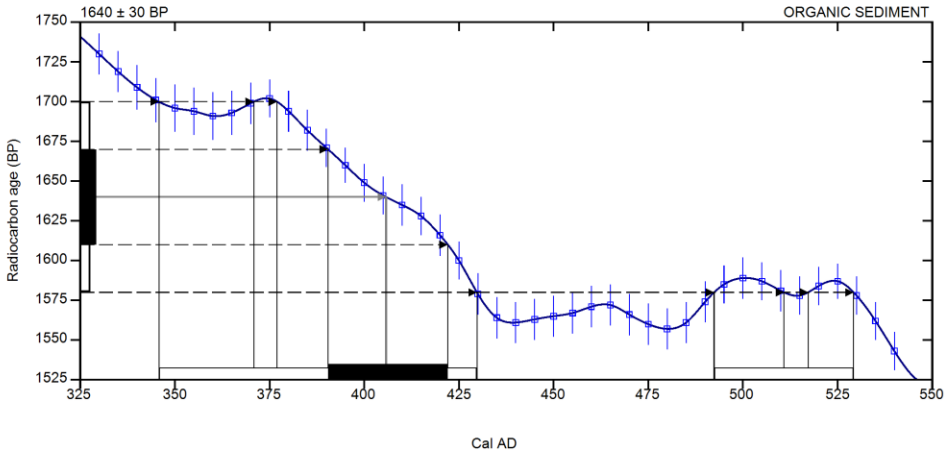
The sample that was obtained and was processed through Beta Analytic Inc. (Figure 27), had a conventional radiocarbon age of 1640 ± 30 B.P. (Beta-393859; organic sediment; $\delta^{13}C$ = -17.7 o/oo). This early date could indicate that the sub-mound was built pre-Mississippian period. However, the possibility of an early date resulting from the mixture of naturally occurring carbons from earlier contexts cannot be discounted. If this is the construction date for the sub-mound, we are left with the interesting question of where the Middle Woodland people who built this mound lived. Only one Marksville sherd was recovered from the Mound B excavation.

However, even if the sub-mound was built during the Middle Woodland as the radiocarbon date suggests, this does not detract from the overall idea of Mound B being a ridge-top mound. It simply further details the construction of Mound B; that being a small raised platform was built over and ultimately shaped as a ridge. With the above mentioned problems of bulk soil samples in mind, it is important to examine this result carefully. This being said, more avenues of dating should be explored before a solid date is given to this sub-mound platform.

CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12 = -17.7 o/oo : lab. mult = 1)

Laboratory number	**Beta-393859**
Conventional radiocarbon age	**1640 ± 30 BP**
2 Sigma calibrated result **95% probability**	**Cal AD 345 to 430 (Cal BP 1605 to 1520)** **Cal AD 490 to 530 (Cal BP 1460 to 1420)**
Intercept of radiocarbon age with calibration curve	Cal AD 405 (Cal BP 1545)
1 Sigma calibrated results 68% probability	Cal AD 390 to 420 (Cal BP 1560 to 1530)



Database used

INTCAL13

References

Mathematics used for calibration scenario

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

References to INTCAL13 database

Reimer PJ et al. IntCal13 and Marine13 radiocarbon age calibration curves 0–50,000 years cal BP. Radiocarbon 55(4):1869–1887.

Beta Analytic Radiocabon Dating Laboratory

4985 S.W. 74th Court, Miami, Florida 33155 • Tel: (305)667-5167 • Fax: (305)663-0964 • Email: beta@radiocarbon.com

Figure 30. C14 results (Beta Analytic Inc.)

Cores

Core 1

This core was bored just slightly up the edge of the mound on a relatively flat spot. Due to the angle of the core rig it was only possible to penetrate 173cm below surface. The first event encountered (Table 6) in this core was a dark brown (10YR 3/3) slope wash from 0-90cmbd. The following two layers comprise the remainder of the core. These layers match the stratigraphy in the units on the top of the mound. The second layer is a brown (10YR 4/3) silty clay loam from 90-155cmbd, followed by a brown (10YR 5/3) very fine sandy loam from 155-173cmbd. No evidence of the anthropogenic A horizon was found in this core; however, it is likely that it just wasn't deep enough to find it.

Table 6. Results of Core 1 (Stout-Evans n.d.)

Date	County	Site Name	Location	Geology	Landscape	Vegetation	Core #	Describers
7/10/14	Coahoma, MS	Carson Mounds	One third of the way up Mound B slope, east side	Alluvial Floodplain	Natural Levee/Ridge	Bermuda Grass/ Mulberry Trees	1	R. Stout Evans

Depth (cm)	Horizon	Color	Field Estimate Texture (% clay)
0-90	A1	dark brown 10YR 3/3	very fine sandy loam
90-155	A2	brown 10YR 4/3	silt loam 26% clay
155-173	A3	brown 10YR 5/3	very fine sandy loam
90-155	A4	very dark grayish brown 10YR 3/2	silt loam 26% clay
90-155	A5	brown 10YR 5/3	very fine sandy loam

Core 2

This core was taken on the east foot slope of Mound B. The first notable layer (Table 7) (0-50cmbd) is comprised of a very fine sandy loam to silt loam slope wash. Below this layer, from 50 to 76cmbd is a dark brown (10YR 3/3) layer that corresponds to the

anthropogenic A horizon found in the base of the trench. This is known due to the presence of 78cm worth of basket load fill beneath it, with 1-2cm bands of very dark grayish brown (10YR 3/2) spaced 4-5 centimeters apart in a repeating pattern (76-154cmbd). The core was only able be taken to a total depth of 215cmbd in this location. The last layer encountered, 154-215cm below surface corresponds to another mound building episode comprised of dark greyish brown (10YR 4/2) silty clay loam and silty clay. At first it was thought that the two above mentioned events were natural soil horizons and that the natural buried A had been stripped. However after comparing them to a previous core near Mound B (that was not part of this project) it turned out that they corresponded to basket loaded mound fill.

Table 7. Results of Core 2 (Stout-Evans n.d.)

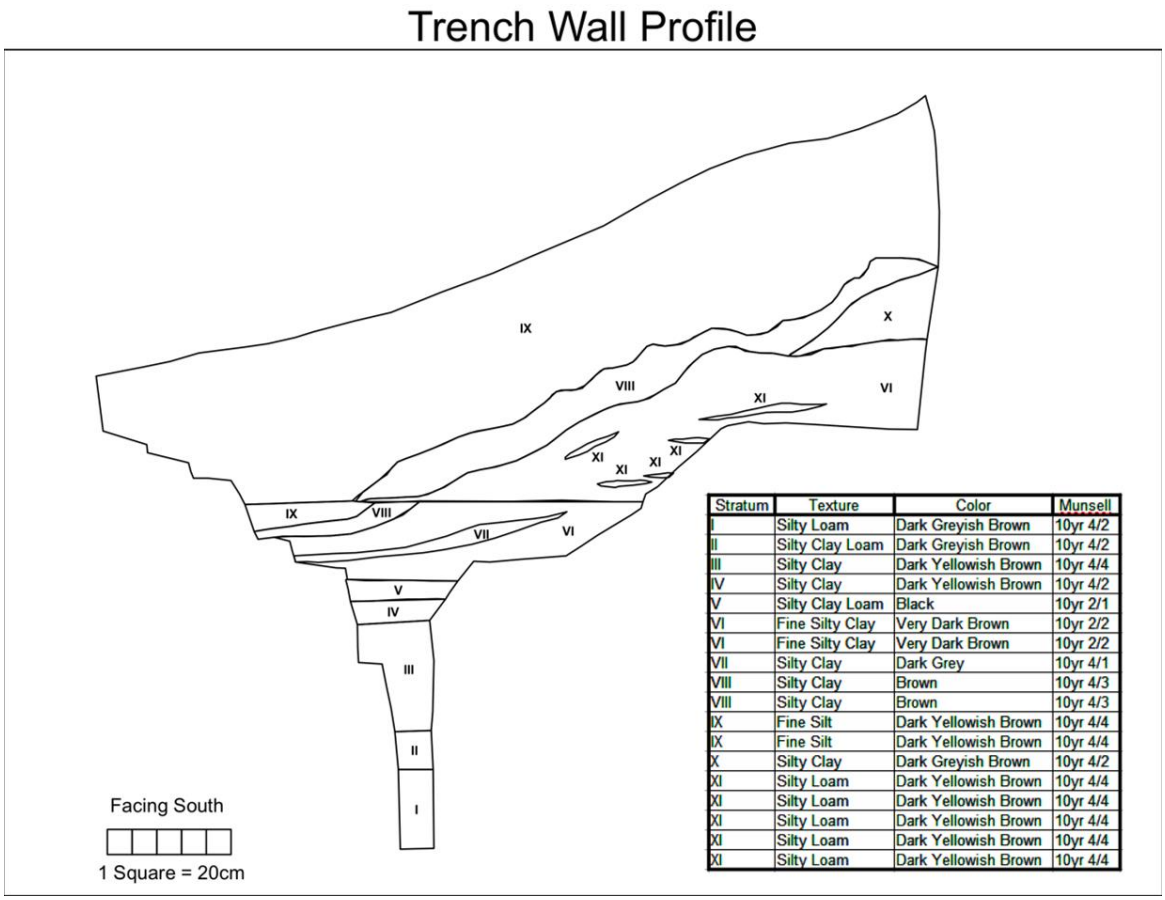
Date	County	Site Name	Location	Geology	Landscape	Vegetation	Core #	Describers
7/10/14	Coahoma, MS	Carson Mounds	East side footslope of Mound B	Alluvial Floodplain	Natural Levee/Ridge	Bermuda Grass/ Mulberry Trees	2	R. Stout Evans

Depth (cm)	Horizon	Color	Field Estimate Texture (% clay)
0-18	A1	brown 10YR 4/3	very fine sandy loam
18-29	A2	brown 10YR 4/3	fine sandy loam
29-50	A3	dark brown 10YR 3/3	silt loam 25% clay
50-76	A4	dark brown 10YR 3/3	silty clay loam 31% clay
76-120	A5	dark yellowish brown 10YR 4/4	silty clay loam 28% clay
120-154	A6	dark grayish brown 10YR 4/2	silt loam 25% clay
154-165	A7	dark grayish brown 10YR 4/2	silty clay loam 34% clay
165-215	A8	dark grayish brown 10YR 4/2	silty clay 50% clay

GIS Results

Trench Digitization

The following figures (31 and 32) are results of the digitization of the trench profile.



Stratum	Texture	Color	Munsell
I	Silty Loam	Dark Greyish Brown	10yr 4/2
II	Silty Clay Loam	Dark Greyish Brown	10yr 4/2
III	Silty Clay	Dark Yellowish Brown	10yr 4/4
IV	Silty Clay	Dark Yellowish Brown	10yr 4/2
V	Silty Clay Loam	Black	10yr 2/1
VI	Fine Silty Clay	Very Dark Brown	10yr 2/2
VI	Fine Silty Clay	Very Dark Brown	10yr 2/2
VII	Silty Clay	Dark Grey	10yr 4/1
VIII	Silty Clay	Brown	10yr 4/3
VIII	Silty Clay	Brown	10yr 4/3
IX	Fine Silt	Dark Yellowish Brown	10yr 4/4
IX	Fine Silt	Dark Yellowish Brown	10yr 4/4
X	Silty Clay	Dark Greyish Brown	10yr 4/2
XI	Silty Loam	Dark Yellowish Brown	10yr 4/4
XI	Silty Loam	Dark Yellowish Brown	10yr 4/4
XI	Silty Loam	Dark Yellowish Brown	10yr 4/4
XI	Silty Loam	Dark Yellowish Brown	10yr 4/4
XI	Silty Loam	Dark Yellowish Brown	10yr 4/4

Figure 31. Digitized trench profile

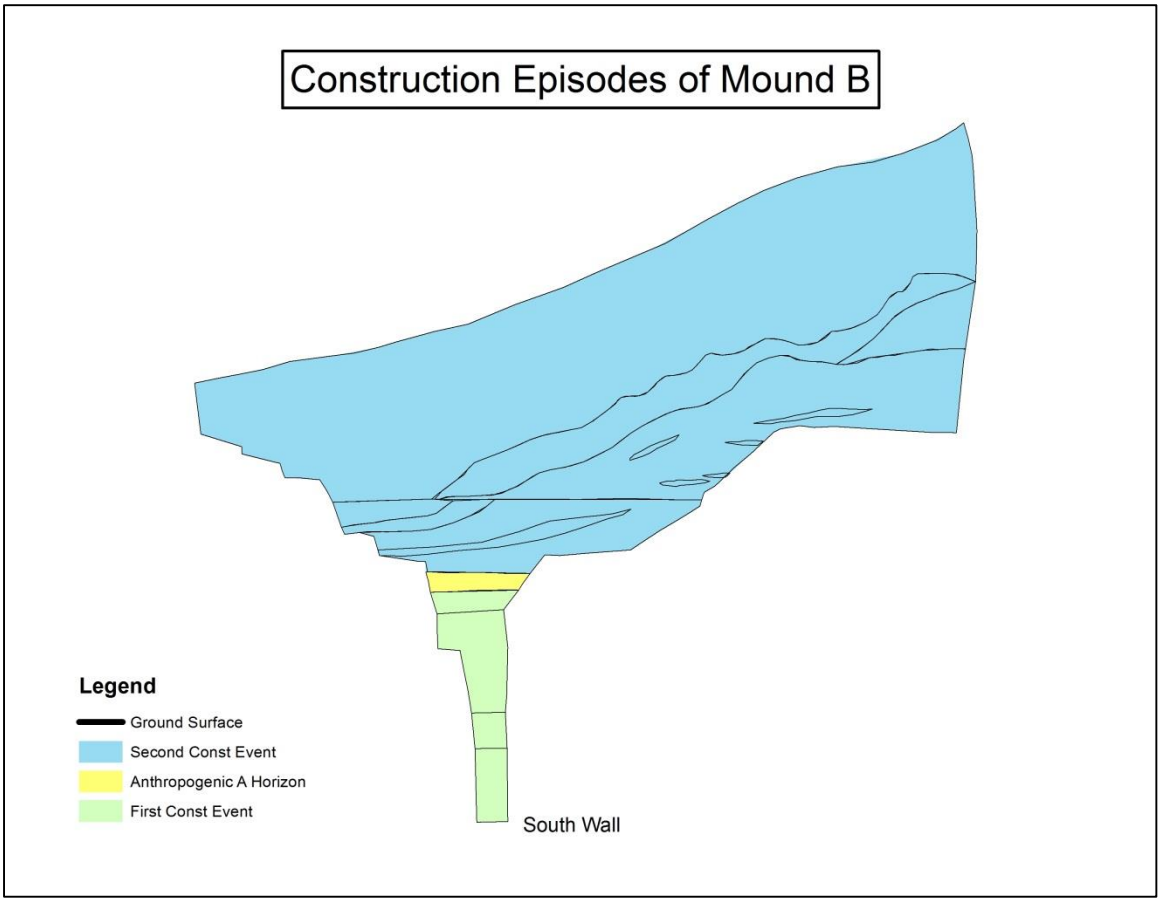


Figure 32. Construction episodes of Mound B

Lidar Processing

Figure 33 is the result of the LIDAR processing.

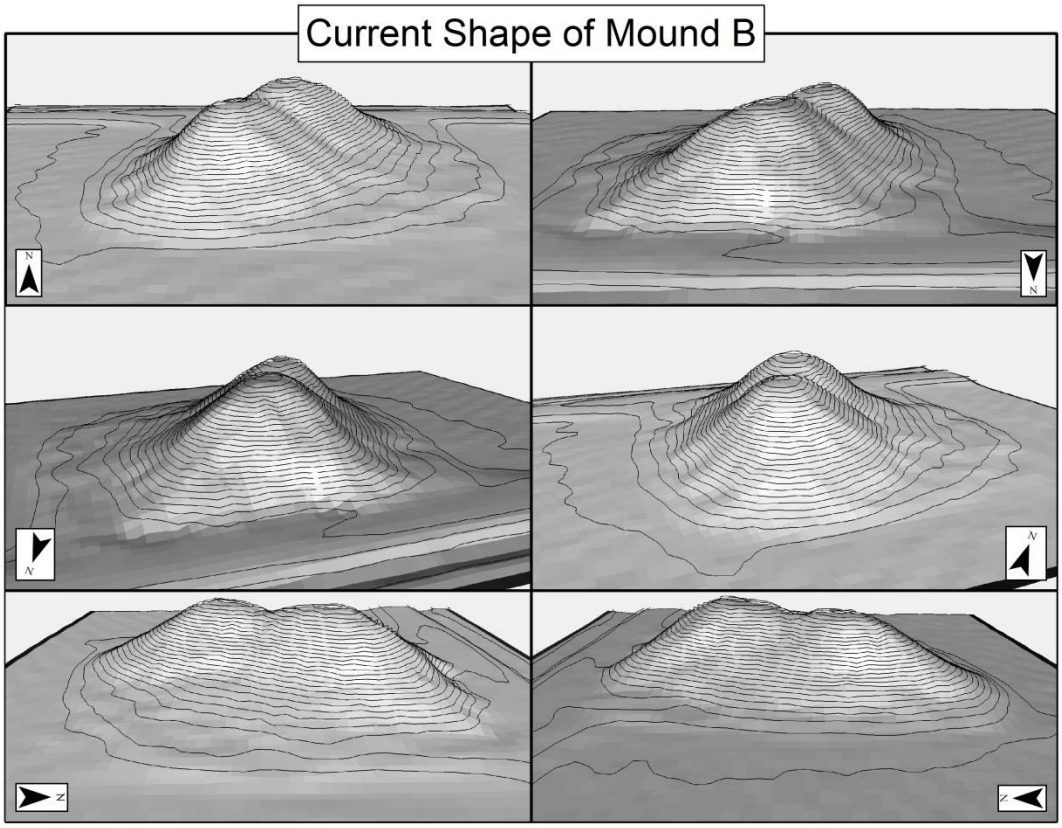


Figure 33. 3D view of Mound B from six different angles (xy:z = 1:2), from LIDAR data (Mississippi Geospatial Clearinghouse-www.gis.ms.gov)

CHAPTER 6

DISCUSSION AND CONCLUSONS

Ridge-top Mound Attributes

From the accounts of ridge-top mounds which have either been excavated as part of a research project, or excavated during the course of destruction, it has been shown that there are many shared attributes that distinguish ridge-top mounds at Cahokia. These attributes can be used in evaluating the possibility that Mound B at Carson is a similar construction type. The most noticeable attribute, the attribute which gave ridge-tops their name is 1) the shape; however, there are also more attributes such as 2) similar chronological affiliation; 3) the presence of burials along with a specialized set of artifacts; 4) shared construction techniques, specifically horizontal zoned fills with alternating colors;5) the presence of a sub-mound on which the final ridge-top shape was constructed;6) the presence of sub-mound structures, and 7) sub burial structures. These attributes will be discussed in greater detail below, along with the mounds which exemplify them, followed by a discussion of Mound B with regard to these attributes.

Table 8. Shared attributes of ridge-tops at Cahokia and Mound B at Carson.

	Shape	Chronological Affiliation	Burials and Artifacts	Shared Construction Techniques (Basket Loading, Horizontal Zoned Fill)	Sub-mound Platform	Sub-mound structure	Sub-burial Structure
Mound 49/Red Mound	x	x	-	x	-	-	-
Mound 66/Rattlesnake/ Harding Mound	x	x	x	x	x	-	x
Mound 72/Red Pottery Mound	x	x	x	x	x	x	x
Mound 86/Powell/ Hayrick Mound	x	x	x	x	x	-	x
Wilson Mound/Junkyard Mound	x	x	x	x	x	x	x
Cemetery Mound	x	x	x	-	x	-	x
Big Mound/Le Grange de Terre	x	x	x	-	x	x	-
Mitchell Mound/Great Mound	x	x	x	-	x	-	-
Mound B	x	x	-	x	x	-	-

Shape

Ridge-top mounds are named ridge-top mounds because of their apparent ridge shape. The plan view outline is rectangular in nature; however, it could have rounded corners due to results of plowing. Ridge-top mounds have an elongated ridgeline summit on top. The overall shape is that of a four sided pyramid which has been stretched out on its axis to create a ridge. Pauketat (2004:74) describes this shape as similar to "the hipped roofs of [Mississippian] buildings," and conjuring "an earthen charnel house of sorts"

(Pauketat 2007:235). An aspect of their shape that is worth noting is their size. Ridge-top mounds do not have a prescribed size minimum or maximum. Mound 49 and Mound 2 may be some of the smallest, with Powell Mound and Harding Mound being some of the largest. In fact ridge-top mounds can be so large that "four of them are among the ten largest earthen constructions in the Greater Cahokia region, with fill volume estimates ranging from less than 10,000m cubed to some 200,000m cubed of earth" (Pauketat 2004:75). All 17 previously mentioned ridge-top mounds, either currently or in the past, have displayed this recognizable shape, including Mound B at the Carson site.

Chronological Affiliation

Interestingly all of the ridge-top mounds from which diagnostic artifacts or features were recovered or found, were constructed within a 150-year period. The earliest known ridge-top mounds date to the Lohmann phase (A.D. 1050 to 1100) or the early Stirling Phase (A.D. 1100 to 1150). These phases are synchronous with the development of Cahokia into a major city, and the climax of Cahokia respectively (Baires 2014; Pauketat and Emerson 1997; et. al). The earliest known mounds from the Lohmann/Early Stirling phase are Mound 66/Rattlesnake Mound, Mound 72, and the Wilson/Junkyard Mound. Three ridge-top mounds are assigned to the Stirling phase: Mound 86/Powell Mound, Cemetery Mound, and Big Mound/Le Grange Terre. The final mound of which a chronological affiliation could be made is that of Mitchell/Great Mound, constructed in the Late Stirling phase (see Baires 2014:157; Table 4.1).

Regarding Mound B at Carson, it is known that the second construction event, the one that is characterized by the alternating colored horizontal fills, is a Mississippian

period event due to the inclusion of shell-tempered pottery. Therefore at least the ridge-top shaping event happened around A.D. 1000 or later, which corresponds with the above time period. It is important to note that the earliest Mississippian Period radiocarbon date from the Carson site is approximately A.D. 1200, from the set aside area near Mound A (Connaway, in press). This date brings the possible time of construction for Mound B even closer to when ridge-tops were being built in Cahokia. The predominance of Burlington chert in the test units also suggests that it was built early in the Mississippian occupation at Carson since this is an early marker in the Mound A set aside excavations (Lansdell 2009). The sub-mound platform in Mound B, which as of now is tentatively dated to the Woodland period, also corresponds to occurrences in Cahokia where a Mississippian period mound was built on top of a Woodland period feature, i.e. Wilson/Junkyard Mound.

Burials and Artifacts

The most consistent inclusions in a ridge-top mound are human remains. Ridge-tops are interpreted as burial mounds (Baires 2014; Fowler 1997; Pauketat 2004; et. al), and all known ridge-tops that have been excavated contain burials except for one: Mound 49/ Red Mound. However this is most likely the result of the limited excavations of that mound (see Pauketat et. al 2010). There are three burial methods that appear in ridge-top mounds: bundle burials, extended burials, and mass burials. Bundle burials are present in each of the mounds that contain human remains. Bundle burials were found in Mound 66/Rattlesnake Mound, Mound 86/Powell Mound, Wilson/Junkyard Mound, Mound 72, Big Mound, Cemetery Mound, and Mitchell Mound, while extended burials were present in Mound 86/Powell Mound, Wilson/Junkyard Mound, Mound 72, Big Mound, and mass

burials were found in Mound 66/rattlesnake Mound, Wilson Mound/Junkyard Mound, and Mound 72. Only two of these display all three types, Wilson/Junkyard mound, and Mound 72.

These excavations of Mound B did not recover any skeletal remains due to limited excavations. The ridge-top mound burials at Cahokia are usually located either below the sub-mound, into the sub-mound or directly on top of the sub-mound. Excavations in Mound B were limited to the top of the mound (which did not get close to the core mound surface), along with a slope trench. Although the slope trench did uncover the sub-mound core, only an area one meter wide and approximately one and a half meters deep of the sub-mound core could be excavated (a very small percentage of the mound, with total excavations possibly constituting ~2% of total mound volume).

Ridge-top mounds at Cahokia also contain many specialized burial artifacts. These artifacts are always found with burials, never in mound fill. This placement suggests that these artifacts are offertory in nature, and that the specialized (non-utilitarian) status speaks to the importance of the burial(s) with which they are associated. The most common artifacts found in association with burials are marine shell beads. Beaded blankets/mats were reported as being wrapped around bundle burials in some instances. Also found in context with ridge-top burials are discoidals, local and non-local projectile points, copper roles, and copper-covered objects (long nosed god masks, tortoise shell, deer teeth, wood pendant, wood staff, ear-spools), a bison skull, bone awls and needles, mica, whole ceramic vessels, woven grass mats, etc. A very diverse artifact assemblage is associated with ridge-top mounds; however, the most important part of this is that they are always in context with the burials and not found in the fill/construction episodes. Again, as

is the case with Mound B no specialized artifacts were found, however this is most likely the case because no burials were found.

Construction Techniques

The construction techniques used to create ridge-top mounds are shared throughout all ridge-tops for which we have proper stratigraphical records (those being Mound 66/Rattlesnake Mound, Mound 86/Powell Mound, Mound 49/Red Mound, Wilson Mound/Junkyard Mound, and Mound 72). Basket loading and alternating colored zoned fills (horizontal sheet loading), usually in the final ridge-top shaping episode, are the most common methods used (present in Mound 66/Rattlesnake Mound, Mound 86/Powell Mound, Mound 49/Red Mound, Wilson Mound/Junkyard Mound, and Mound 72, and Monks Mound), however mantle deposits (all except Mound 86/Powell Mound), and laminations (only in Mound 49/Red Mound) are also present. These construction techniques are part of a set of criteria that define ridge-top mound construction, exemplifying the planned and organized nature of their construction along with a specific set of skills and knowledge that the individual(s) must possess in order to create them.

Mound B at Carson displays basket loading and alternating colored zoned fills in its construction. The alternating colored horizontal zoned fills comprise the majority of the second construction episode, above the sub-mound, with the layer above being a basket-loaded homogenous, grey silty sand. It is important to note that this alternating color zoned fill does not show up at any other mounds in the Northern Yazoo Basin which have been excavated to date (Jay Johnson, personal communication, April 2015). The use of alternating colored zoned fill could represent a ritual act or meaning, or as Sherwood and

Kidder (2011) discuss, an effective hydrologic system to mitigate mound shifting and settling.

Sub-mound Platform

The presence of a sub-mound platform is noted in all of the mounds that have been excavated (Mound 66/Rattlesnake Mound, Mound 72, Mound 86/Powell Mound, Wilson/Junkyard Mound, Cemetery Mound, Big Mound, and Mitchel Mound). This sub-mound is usually the first step in ridge-top mound construction, sometimes covering a structure or burial pit, and sometimes followed by an intrusive structure or burial pit. These sub-mound platforms are typically constructed of a black clay, and also display an anthropogenic A horizon on their surface where they were open and exposed to cultural and natural deposition for a period of time. It is within or on top of these platforms where the majority of burials are found, leaving the succeeding ridge-top shaping episode empty.

In the case of Mound B a sub-mound was present within the base of the mound; however, as was mentioned before, only very little of the core mound was exposed due to time constraints. Regardless, an obvious anthropogenic A horizon was evident along with basket-loaded fill beneath it, showing a distinct difference in mound construction technique with regard to the fill of the sub-mound and the fill of the final shaping episode.

Sub-mound Structures

Sub-mound structures have only been found under three of six ridge-top excavations: (excluding Cemetery Mound and Mitchell Mound for lack of information), Wilson/Junkyard Mound, Mound 72, and Big Mound. These occurrences could be random,

admittedly it is a small sample size. However the structures found below the sub mounds create a link to the unique characteristics of ridge-top mounds. The creation and subsequent covering of this structure could be assumed to mark the beginning of the ridge-top mound construction. This kind of construction was not found at Mound B but, once again, this is likely due to the limited excavations.

Sub-burial Structure

Similar to sub-mound structures, another characteristic that is present in five ridge-tops is the presence of sub-burial structures, or rather structures on top of the sub-mound platforms that have burials intrusive into them. This is the case for Mound 66/Rattlesnake Mound, Mound 86/Powell Mound, Wilson Mound/Junkyard Mound, Mound 72, and Cemetery Mound. It is known that the sub-mound platform was exposed. This structure built upon it may have represented an important event or place. In the case of Mound 66/Rattlesnake Mound (also shown in Mound 72) the sub-burial structure was oriented 112° east of north, aligned with the summer solstice sunset and winter solstice sunrise (just 8° short of the 120° alignment). The later placement of burials within this structure, and subsequent destruction of the structure, signifies an end to that mound episode, which is then followed by the final ridge-top shaping episode. For Mound B, a structure on the core mound was not discovered, but again that may be a result of the limited time and scope of the investigation.

Other Cahokian Evidence at Carson

Mound B as an indicator of Cahokian contact at Carson can only go so far, however there has been more evidence discovered at Carson that speaks to this contact. This evidence has been recovered in the areas surrounding Mound A (with the exception of Burlington chert that can be found all over the site), within the palisade enclosure (Connaway, in press). This evidence includes Cahokian Cord Marked ceramics (a Mississippian Period type), Burlington chert (from Crescent Quarry in eastern Missouri), a Cahokian microlith industry (similar to the industry at Cahokia) and Cahokian points (a distinctly Cahokian type). These items are discussed in detail below.

Cahokian Cord Marked Ceramics

In 1978 Jeffrey Brain, then with the Peabody Museum of Archaeology and Ethnology of Harvard University, analyzed some of the ceramics from the Pellegrin Collection, a collection of artifacts from the Carson site. This collection was amassed by Dabney Carson Pellegrin, a direct descendant of the family who owned the site during the late nineteenth century, and lived on Mound C when W.H. Holmes mapped the mounds. A total of 2,956 ceramic sherds comprised this collection; 11 of these are Cahokia Cord Marked. Because the Cahokia Cord Marked sherds could not be located for this research, the following figure is the only evidence of these sherds (Figure 31). Unfortunately there is no provenience information for any of these artifacts, as they were found all over Carson.

The importance of the Cahokia Cord Marked sherds were discussed in a letter (http://rla.unc.edu/Archives/LMS1/index.html) between Burt Jaeger, a member of the Mississippi Archaeological Society, a local of Clarksdale, MS and Jeffrey Brain (dated Feb. 1979):

> The Cahokia Cord Marked and Kimswick Fabric Impressed [1 piece of a salt pan] testify to the early Mississippian occupation of the site and connections far to the north…Thus, Carson was clearly a very important late prehistoric site—perhaps a crossroads of major riverine and overland routes of contact reaching from southern Mississippi to Illinois to Georgia.

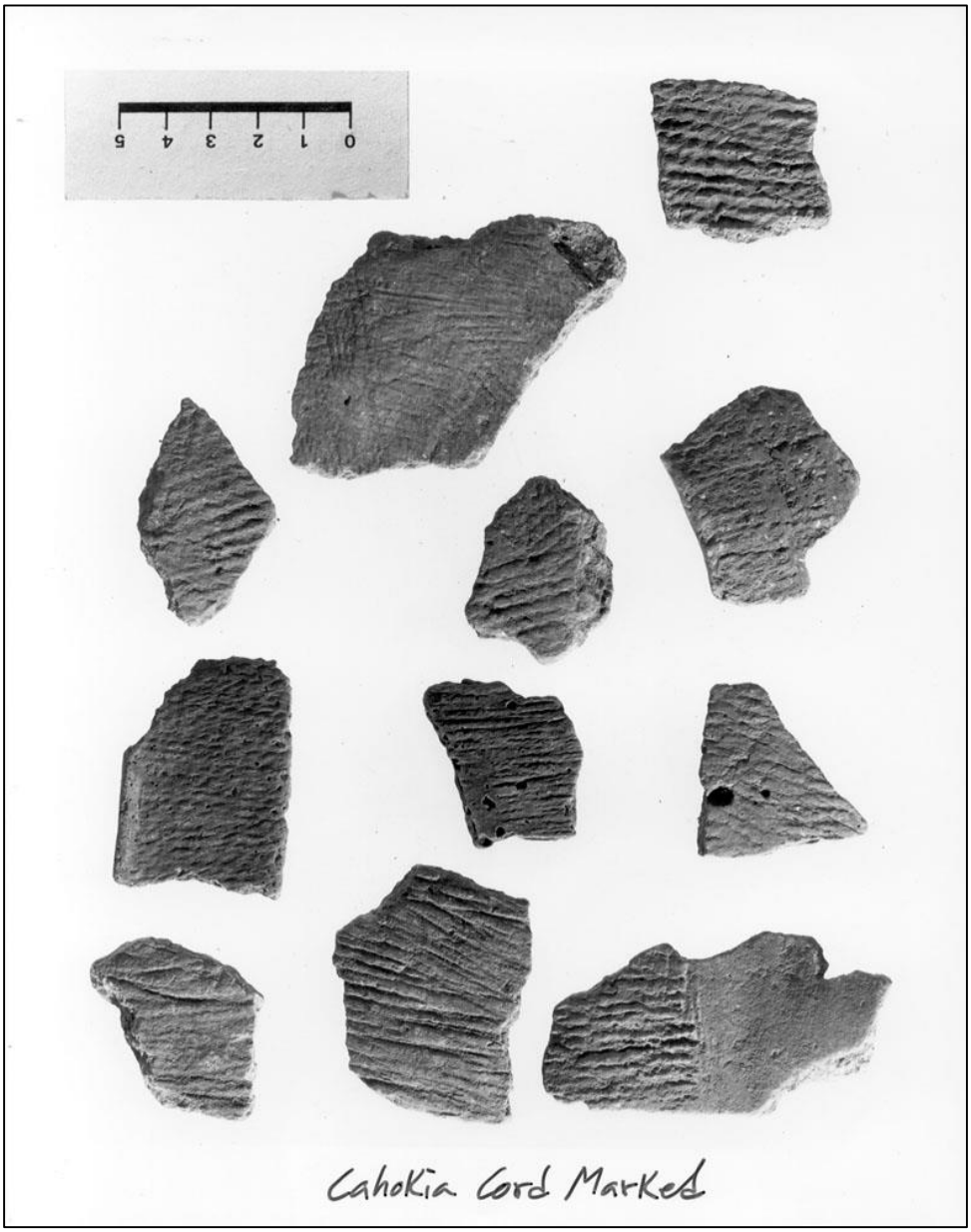


Figure 34. Cahokia Cord Marked pottery from the Pellegrin collection (http://rla.unc.edu/Archives/LMS1/index)

Although this is admittedly a small sample size of only 11 pieces, it's presence at the site is more evidence for either down line exchange of these goods, or Cahokian contact at

Carson. It is most likely that there are similar sites between Cahokia and Carson where this ceramic type is also present, however that topic was not investigated for this research.

Cahokian Microlith Industry, Burlington Chert, and Cahokian Points

Another important link between Cahokia and the Carson site is evidence of the Cahokian Microlith industry at Carson, identified by Johnson (1986) in his examination of the Pellegrin collection. This industry represents an Early Mississippian period expedient core technology present in the lithic assemblages at Carson, and almost identical to the assemblages from Cahokia (Johnson 1986:187). Furthermore, this core technology present at Carson, of which includes blade cores, bipolar cores, and flake cores, is based on the same type of high-quality Burlington chert (Koldehoff 1986). This chert is found in eastern Missouri (just southwest and across the Mississippi River from Cahokia) from the crescent quarries (Ives 1984). These quarries also happen to be one of the major sources of Burlington chert for Cahokia (personal communication Koldehoff to Johnson). Interestingly, Burlington chert has only been found at one other site in the Yazoo Basin, the Bufford Site, which is located 30 miles southeast of Carson. Although Burlington chert is present at this site, there has been no evidence to suggest that the Cahokian Microlith Technology was implemented. However, both Cahokia Cord Marked and Varney Red Filmed ceramics, which represent Early Mississippian components in the Yazoo Basin (Williams and Brain 1983), were recovered from the Bufford site, indicating initial Mississippian occupations associated with Burlington chert.

The introduction of Burlington chert and the Cahokian core technology at Carson nicely fits the early Mississippian time period (when ridge-tops were being built in

Cahokia). Included in the Pellegrin collection are Late Woodland ceramics (Johnson 1986:201). This chronology follows that of the Zebree site Zebree (in northeast Arkansas), whence the introduction of Burlington chert is during the Early Mississippian. Although Brown (1978) characterizes the Mississippian influence at the site as occurring late (based on ceramics from around Mound A) the presence of Cahokia Cord Marked ceramics, and Burlington chert suggests an early Mississippian occupation of Carson.

This initial Mississippian connection with Cahokian Microlith Industry based on the presence of Burlington chert, and in association with Cahokian Cord Marked ceramics is even more significant in light of the fact that none of the Middle Mississippian occupations in the Yazoo Basin are known to contain elements of the Cahokian Microlith Industry. Johnson (1986:201) suggests this is due to "…an initial spread of the Mississippian tradition out from Cahokia with a subsequent development of regional autonomy…"

Furthermore, multiple Cahokia points (Figure 32) have been recovered in the ongoing excavations at the area around Mound A at Carson (Connaway, in press). These distinctive points are indicative of Cahokian projectile point technology; however, at this point it is not known if they first entered Carson as trade goods, or were manufactured at Carson.

Figure 35. One of the Cahokia Points recovered from Carson (Burlington Chert) (Connaway n.d.)

The Carson and Bufford Sites represent the known southern limit of the presence of Burlington Chert during the Mississippian period (Johnson 1986:201). Because of this it could be expected that there would be a conservation of raw materials. However Carson site does not meet this expectation. Rather in comparison with and Cahokia, the Carson blade cores "are intermediate in length and largest in the other two dimensions [width and thickness]" (Johnson 1986:201, see Table 8.11).

Amorphous flake cores comprise the majority of the core assemblage from Carson. These amorphous cores represent an expedient technology, saving on time and maintenance, at the cost of the raw material. Although this contradicts the idea of conservation at the end of the supply chain, it can be explained in part by Koldehoff's (1986) work with amorphous flake cores from Cahokia and Zebree. This explanation is founded on Parry and Kelley's (1987) work with linking expedient core technology with sedentism. They (Parry and Kelley) discuss that the loss of mobility, along with the introduction of sedentism causes communities to adapt a stockpiling method for raw materials in order to effectively remove themselves from the effects of long distance raw material trade, which ultimately causes the selection of new core reduction strategies. Johnson (1986:203) suggests that the Carson assemblage is the "most eloquent documentation of Parry and Kelley's thesis." Although, it is important to note that local Citronelle chert flake cores were not being repurposed, while the Burlington chert was.

The blade core technology may also represent a specialized industry. Johnson (1986:204) argue that blade core technologies are coincidental with "periods of maximum cultural complexity as expressed in mound construction, long distance trade, and mortuary practices," all of which are known to have been occurring at Carson. Within the Yazoo Basin blade core technologies only occur in the Poverty Point and Early Mississippian periods (Johnson 1986:204). These blades, which are almost exclusively used as drills at Carson (Johnson 1986:204) may represent the intersection of the functional and technological aspects of the Cahokian Microlith Industry, materializing at Carson in the form of drills made of Burlington chert, indicating craft specialization. This implication of craft specialization can be seen being entangled with the creation of complex social networks,

representing the foundation of Mississippian society, and placing the Carson site within its web. It is important to note however that although the Cahokia Cord Marked ceramics, and Cahokian points may be indicators of long distance trade, the presence of the same microlith industry (a shared idea) is more indicative of Cahokians at Carson. This idea can be taken further with regards to Mound B. If Cahokians were at Carson, Mound B may be representative of a Cahokian heterarchical power structure in place at Carson. As is mentioned above, according to Pauketat (2004) ridge-top mounds may be indicative of an early form of heterarchical governance at Cahokia. However to address this hypothesis much more work on Mound B is needed.

Conclusions

Ridge-top mounds are distinctly different constructions from the standard dichotomy of platform mounds and conical mounds used in classifying Mississippian monumental architecture. This distinction offers a fresh view of research into the beginnings of the Mississippian era, and more specifically mound construction technologies. These technologies can be seen as representing specific meanings and purposes, ultimately displaying the agency of their creators.

The attributes of ride-top mounds developed on the basis of the review of the literature, (shape, similar chronological affiliation, the presence of burials along with a specialized set of artifacts, shared construction techniques, the presence of a sub-mound on which the final ridge-top shape is constructed, the presence of sub-mound structures, and sub-burial structures) characterize the known ridge-top mounds of Cahokia and can serve as the archetypical model of ridge-top mounds. Although these attributes can be found in a

multitude of mounds (including platform and conical), together they form a useful model defining the ridge-top mound, against which other mounds may be tested.

Mound B at Carson contains four out of the seven ridge-top mound attributes, those include; (1) the internal structure, as exposed in test pits along the ridge, show that is was built to be a ridge-top mound; (2) it likely dates to the early Mississippian period, when ridge-tops were being built; (3) it clearly displays the same construction techniques as the ridge-top mounds in Cahokia, and (4) it was built on a sub-mound. One cannot say that Mound B does or does not contain burials with specialized artifacts, a sub-mound structure, or a sub-burial structure simply because these excavations were too limited, exposing only a fraction of the sub-mound where the burials (and in turn specialized artifacts) would expect to be located. As one of the most famous sayings in science goes "the absence of data is not negative data", rather in this case the second most famous saying is also necessary; "more research is needed" to find evidence for or against the presence of these features. However, with the presence of four out of the seven attributes, along with the evidence for Cahokian contact, the evidence shows that Mound B is a ridge-top mound in the Northern Yazoo Basin of the Lower Mississippi River Valley.

The Carson site clearly shows evidence of Cahokian contact, through the presence of Cahokian Cord Marked Pottery, a similar microlith technology based on the same chert (Burlington) and source location, the presence of Cahokian points, and most importantly a ridge-top mound. Mound B at Carson fits the archetypical model of ridge-top mounds, with one important exception, its location. The Carson Mounds site is located approximately 483km south-southwest of Cahokia. This long distance connection and subsequent spread of Mississippian traits into the Northern Yazoo Basin entails broad implications.

On the small scale of Carson, Mound B could represent a dissemination of cosmological and ritual practices from Cahokia, as discussed by Pauketat (2004) and Baires (2014). The approximately 20° east of north offset of Mound B matches a similar alignment at Cahokia where it has been related to a lunar standstill. If this was the case, the alignment anticipates a similar alignment found elsewhere at Carson in structures east of Mound A, on top of Mound C, and the alignments of Mounds C, D, and E. This is not to conclude that Mound B at Carson shares the same function and meaning as the ridge-top mounds of Cahokia. It is rather more plausible that the structure of Mound B was influenced by ideas derived from Cahokia, but the meaning and significance was appropriated to suit the needs and/or desires of the people of Carson.

The identification of a ridge-top mound, a previously exclusive Cahokian mound form, at Carson opens a new avenue of research at Carson regarding the construction of Mound B, the respective meanings and relations of Mound B to the other mounds, and Mound B's functioning in the political economy of Carson.

On the larger scale, Carson most likely played an important role in passing on the Mississippian traits being disseminated out of Cahokia, and in turn could have facilitated their introduction to the Northern Yazoo Basin. Carson could have acted as a polity somewhere within the umbrella of Cahokia's political governance, or at the least was an independent entity steeped in Cahokian practices through some sort of contact. It is possible that Mound B may represent a heterarchical Cahokian presence at Carson, similar to how Pauketat (2004) describes ridge-top mounds as representing heterarchical factions at Cahokia. This idea raises many important questions regarding the spread of

Mississippian traits into the LMV, their adoption and appropriation, the extent of Cahokian interaction in the Southeast, and the nature of ridge-top mounds.

Although raising many more questions, this thesis has served to answer two important questions regarding the presence of Mound B at Carson. Mound B is most likely a ridge-top mound, the first identified outside of Cahokia. Furthermore Mound B appears to have been constructed during the early Mississippian period, possibly coterminous with those in Cahokia. Future research of Mound B should focus on the base of the mound in order to search for sub-mound burials and structures, more specific dates for the creation of the sub-mound and the ridge-top layer, and the role of Mound B in relation to the arrangement and orientation of the other mounds at Carson.

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Educational Background

2015 **The University of Mississippi**, Oxford, MS. Master's Thesis: "Excavations of Mound B: a Ridge-top Mound at the Carson Site, a Mississippian Mound Center in the Northern Yazoo Basin." Masters of Arts, Anthropology.

2012 **The University of Southern Mississippi**, Hattiesburg, MS. Honors Thesis: "Otolith Analysis of the Grand Bay Sites: 22JA564, 22JA575, and 22JA633, Jackson County, Ms." Bachelors of Arts, Anthropology.

2010 **Mississippi Gulf Coast Community College**, Gautier, MS**.** Associates Degree, Petrochemical Process Operations.

Research Interests

Southeastern Archaeology, Cultural Resource Management, Archaeo-Geophysics, GIS, Public Archaeology

Employment

2015

Tennessee Valley Archaeological Research

Staff Archaeologist and Geophysical Specialist (current)

University of Mississippi: Center for Archaeological Research, MDAH and MDOT

Mississippi Mound Trail Geophysical Survey, Multiple Counties, MS. Field Technician

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Mississippi Mound Trail, Sharkey County, MS. Field Technician.
Supervisor: Dr. Ed Jackson

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Teaching Assistant, Anthropology 101, Introduction to Cultural Anthropology

Supervisor: Dr. Maureen Meyers

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Phase I Lee County, MS. Field Technician.

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Phase III Knox County, TN. Water Screen Supervisor, Field Technician, Monitor.
Supervisor: Rocco De Greggory

Phase I Limestone County, AL. Field Technician.

Supervisor: Rocco De Greggory

Phase I Limestone County, AL. Field Technician.

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Phase III Kemper County, MS Field Technician.

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2012

Jackson, Scott and Associates

Phase II Monticello Paper Mill, Lawrence County, MS. Field Technician.
Supervisor: Dr. Ed Jackson

Phase I Monticello Paper Mill, Lawrence County, MS. Field Technician.
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Phase III Moran Site, Harrison County, MS. Field Technician.

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2011

University of Southern Mississippi

Archaeology Lab Technician.

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Phase II Camp Shelby, Forrest County, MS. Field Technician.

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Scholarships and Awards

University of Southern Mississippi

Shan M. M. Winn Award for Outstanding Student in Anthropology

Student Leadership Scholarship

Mississippi Gulf Coast Community College

Full Vocational Scholarship

Publications

In Press **Butz, Samuel H. and Jackson, H. Edwin**. Analysis of Fish Otoliths. In *Archaeological Investigations of the Coastal Shell Middens in the Grand Bay Estuary, Mississippi*. Edited by H. Edwin Jackson. Publisher: Mississippi Department of Archives and History.

Technical Reports

In Press **Butz, Sam.** Excavations of Mound B. In *In the Shadow of Mound A: Seven Years at the Carson-Montgomery Mounds, 22-Co-505-518, November 2007-December 2014, Coahoma County, Mississippi.* Edited by John Connaway. Mississippi Archaeology.

2014 **Cureton, Travis, Sam Butz, Todd McLeod, and Jay K. Johnson.** *Archaeological Survey of Site 22HiXXX: A Historic Pauper Cemetery in Lafayette County, Mississippi.* Mississippi Department of Archives and History.

Presentations

Butz, Samuel H. "Excavations of Mound B: A Ridge-Top Mound at the Carson site, a Mississippian Mound Center in the Northern Yazoo Basin." Presented at the 71st Annual Meeting in Greenville, South Carolina, November 12-15, 2014.

Butz, Samuel H. "Why a Senior Thesis is Important." Presented at the 2012 University of Southern Mississippi Undergraduate Orientation Meeting.

Butz, Samuel H. "Preliminary Zoo-archaeological Investigations at the Ford site (22JA564): Determining Seasonality through Otolith Analysis." Presented at the 2nd annual Undergraduate Research Conference. April 16th, Hattiesburg, MS.

Memberships and Leadership Positions

University of Mississippi Graduate Student Council

Senator for Department of Sociology and Anthropology

University of Mississippi Anthropology Society

President Elect

University of Southern Mississippi Anthropology Society

President, Member at Large

Lambda Alpha Anthropology Honor Society

President

Southeastern Archaeological Conference

Mississippi Archaeological Association

Southern Miss Sustainability Advocates

Treasurer

Mississippi Gulf Coast Community College: Outdoor Recreation and Leadership Club

President

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President

Mississippi Gulf Coast Community College Phi Theta Kappa Honor Society

Field School and Relevant Coursework

2014

Geographical Information Systems (lecture and lab)

Field Director for Carson Mounds Archaeology Field School in Clarksdale, MS

2013

Archaeo-Geophysics (lecture and lab)

2012

21st Century Cartography (lecture and lab)

Geographical Information Systems

Advanced Prehistoric Faunal Analysis (lecture and lab)

2011

Winterville Mounds Archaeological Field School in Greenville, MS

Cultural Resources and Public Policy

Prehistory of Southeastern Indians

Archaeo-Geophysics Instrument Experience

Bartington Grad 601 Magnetic Gradiometer

Bartington MS2 and MS2H Downhole Susceptibility Unit

GSSI SIR 3000 GPR

Leica Total Station

Topcon GRS-1 GPS

Software Experience

Microsoft Office Suite

Adobe Photoshop Suite

ESRI ArcMap

ESRI ArcScene

Bartington GP300MX

Bartington Multisus Field Pro

Golden Software: Voxler

Golden Software: Surfer

Volunteer Experience

2012

Mississippi Archeological Association, Forrest County, MS.

Instructed public at a Phase II excavation.

Camp Shelby Joint Forces Training Center, Forrest County, MS.

Instructed public at a Phase II excavation.

2011

Mississippi Archaeological Association.

Helped with setup, and public outreach at State Expo.

Mississippi Archaeological Association, Harrison County, MS.

Instructed public at a Phase II excavation.

Carson Mounds, Coahoma County, MS.

Assisted in the recovery of human skeletal remains.

2010-2011

University of Southern Mississippi Archaeology Lab technician

References

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