

**CERAMICS AND SITE FUNCTION IN MIDDLE WOODLAND WEST TENNESSEE: A  
COMPARATIVE ANALYSIS OF THE PINSON AND JOHNSTON SITES**

By

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### **Abstract**

The Johnston Site (40MD3) is an understudied mound site which has existed in the shadows of the nearby Pinson Mounds (40MD1) over the past century. While in the last decade several new projects have been conducted at Johnston (40MD3), not much of the information has been synthesized. The inter-site perspectives have also lacked interpretation through modern understanding of Native American perspectives. Through literary analysis and data collection, the Johnston Site (40MD3) is not only brought to attention, but current archaeological frameworks within the Southeast are challenged. Results suggest a blend of secular and sacred presence at Johnston (40MD3) as well as a significant connection to surrounding sites such as Pinson Mounds (40MD1).

## Introduction

Two-thousand years ago, along the South Fork of the Forked Deer River (referred to as SFFDR) in what is now known as West Tennessee, Native Americans erected and occupied three monumental sites that have captivated and puzzled archaeologists for over a century: Elijah Bray (40CS95), Johnston (40MD3), and most famously, Pinson Mounds (40MD1). The latter is the largest and most complex mound site dating to the Middle Woodland period (ca. 200 BC-AD 500) in the American Southeast. Subjected to intensive archaeological investigation in the 1970s-1980s, Pinson is considered a Middle Woodland ceremonial site par excellence, and its impressive mounds/earthworks, elaborate human burials, and notable assemblages of exotic material culture have been interpreted as evidence of large ritual gatherings related to the pan-regional Hopewell phenomenon.

Still shrouded in mystery despite over a century of study, Hopewell is currently understood as an intensification of ceremonial interaction among different groups across eastern North America, primarily indexed by the widespread movement of exotic artifacts and ideas, including certain forms of ritual practice and monument construction. Researchers' focus on these areas, however, has meant that our understanding of other important aspects of Middle Woodland period societies – their economies, social organization, and daily lifeways- remains stunted. This interpretive imbalance presents a challenge to increasingly sophisticated and culturally rooted understandings of Native American worldviews, which are not predicated on strict boundaries between sacred and secular life, but rather on situational relationships and context (Fowles 2013; Henry and Logan 2020). In this thesis, I begin to redress this research imbalance with a detailed study of a type of Middle Woodland material culture with the potential to inform the dynamics of both quotidian and special-purpose activities: namely, ceramics.

Because pottery can and was used in ritual and domestic settings, careful analysis of ceramic assemblages may elucidate a range of experiences at sites that, to date, have primarily been recognized as ritual centers.

My focus is two of the aforementioned Middle Woodland sites along the SFFDR – Pinson and Johnson. To the extent that they have been reported, ceramic data from Pinson has emphasized their provenance and the light they might shed on ceremonial activities, including ritual gatherings and pilgrimage. However, not every context at Pinson is ceremonial; there have been multiple excavations in midden areas and off-mound portions of the site that may be the remains of domestic activities. Moreover, regardless of context, very little attention has been paid to ceramic attributes that are not immediately tied to an exotic origin, and what those might tell us about assemblage diversity and on-site activities. Even less attention has been paid to the Johnston Site (40MD3) as a whole; it is smaller than the Pinson site and has undergone far less archaeological investigation. However, Johnston may slightly predate and presage activities at Pinson (Kwas and Mainfort 1986), and may thus shed light on the context of emergent Hopewellian monumentality and ceremonialism and Middle Woodland lifeways in the SFFDR and greater Southeast.

To set up my research, I start below with an overview discussion of Hopewell and the Middle Woodland period, explaining what (we think) we know about the ceremonial interaction sphere and related aspects of everyday life. The bulk of published research on these topics concerns the so-called Hopewell heartland of the Ohio River Valley, but it provides instructive points of comparison for the relatively under-reported Middle Woodland Southeast (Wright 2017). I then turn my attention to the archaeological study of ceramics, including what macroscopic ceramic analysis has the potential to reveal about the past, and what ceramic

analysis has revealed about Hopewell/Middle Woodland sites and societies in particular. I discuss the particular middle-range concepts that structure my approach to archaeological ceramics and pose a series of related questions and hypotheses specific to the SFFDR assemblages.

Grounded in this cultural background and theoretical discussion, I narrow my focus and concentrate my analysis on the Pinson and Johnston sites. In turn, I discuss excavated contexts and both sites with an emphasis on ceramic assemblages. For Pinson, this entails a description of diverse mound, earthwork, and off-mound contexts across the massive site, and a synthesis of previously reported ceramic findings from these contexts. For Johnston, I present recently collected ceramic data from an off-mound midden context excavated in 2017; drawing upon middle range theories related to ceramic production and use, I argue that this assemblage represents a diversity of populations and transfusion of ideas even though it originates from a context that may have otherwise been considered a straight-forwardly quotidian midden. I conclude with a comparison between the Pinson and Johnston ceramic assemblages and reflect upon the potential of careful ceramic study to illuminate previously underappreciated aspects of the Middle Woodland experience.

### **Hopewell Interaction, Middle Woodland Experience, and Ceramics**

The Middle Woodland period (BC 200- AD 500) in the Eastern Woodlands is best known for an intensification of ceremonial artwork and an increase inter-regionally interaction associated with Ohio Hopewell, named for the Hopewell mound site that contained prime examples of exotic trade goods and earthen monuments indicative of extensive exchange of materials and ideas. These vast interaction networks not only spread goods from as far as

Yellowstone to the Appalachian Mountains but also were highways for the exchange of social ideas and ritual practices (Perry, 1996, Abrams, 2009).

The exact means of interaction that produced such far-flung distributions of exotic material culture is still up for debate, from down-the-line trade, the targeted acquisitions, to communal trade fairs (Wright 2020). Whatever the mechanism, though, Spielmann notes four characteristics which appear to explain the significance of the exotic material goods and artworks that define Hopewell culture: power of distance, skilled Crafting, enchanting objects, and transformation.

The Power of distance shows that any object is more desirable and powerful if it is hard to retrieve or accessible. This idea is important to understand any archaeological findings which seem to “defy logic”. It seems reasonable through our modern western lenses for past societies to collect resources which are easily accessible and near (save time and energy). However, many Hopewellian sites show the use of materials which came from great distances or difficult access points while there are local sources for that exact same resource (Spielmann, 2002). Skill crafting is another concept which is the idea of taking something ordinary and making it extraordinary. This helps archaeologists understand the ornamentation of axes or ceramics. These items may be too elegant to be used for everyday work or even their associated function at all but are instead important for ritual empowerment. Enchanting object is a similar idea in which Hopewellian groups understood that the aesthetics of an object makes it more desirable and thus more powerful (Spielmann, 2002). A shiny gemstone is enchanting because it is enchanted; itself is powerful. Lastly, there is the idea of transformation. This is where an object is passed from person to person over a long span of time. Between each person, the item is worked further. Spielmann gives the example of a shell necklace. Everything a new wearer obtains the necklace,

they grind the beads further. This not only literally shapes the object into a more skill crafted and enchanted object but imbues it with the story of each individual, further increasing its rank (Spielmann, 2002).

Certain Hopewell ceramic artifacts appear to exhibit some of these important characteristics, particularly power of distance, skilled crafting, and even possibly enchantment. The power of distance is especially prevalent when obtaining materials for producing ceramics. Materials are locally prevalent, yet detailed chemical analysis may signify tempers or pastes were mined from farther away sites. Within Mainfort's analysis of Pinson Mounds (40MD1), he even notes the possibility that some limestone tempers may be from sources farther than the ones more locally available. This can be applied to anything, even local materials. Skill crafting is demonstrated within Hopewellian ceramics through intense artistic creations. The pottery may become a sculpture or be delicately decorated, making the artifact itself become an item of ornamentation. This can bleed into the concept of enchantment surrounding Hopewellian ceramics as the intense designs through incising or painting create an aesthetically attractive piece, infusing it with power and desirability.

In terms of the Middle Woodland period specifically, ceramics have been vital to understanding the social interactions and diffusions of culture. As mentioned previously, this time period is distinguishable from others due to widespread evidence of intense patterns of exchange. Oftentimes ceramics are physical representations of this exchange. Styles may be traceable across large spheres of interactions. A more specific example is seen in Swift Creek pottery where these ceramics are stamped with a paddle. These designs appear across the U.S. East Coast. Though pastes and tempers remain fitting to local sources, the pattern remains exactly the same. Here, "exactly" cannot be stressed enough, as the pattern even demonstrates

the cracking of the wooden paddle used for stamping. This indicates that the individual paddle itself is what traveled with the diffusion of culture (Wallis, 2011). Other examples include the burial of seemingly utilitarian vessels in highly ritualized mortuary mounds (Mainfort, 2013).

The use of ceramic vessels in this unexpected way (from an archaeologist's lens) can refer back to what we know about Hopewellian assemblages (Spielmann, 2008). We can begin to see that the ideas and activities of culture are not separated into neat boxes. We return again to the idea of the situational significance of human behavior. That most of these artifact assemblages come from sites with impressive earthworks and mounds is additional evidence that they played a special, plausibly ceremonial role in the lives of their makers and users. However, there was more to the Middle Woodland experience than conspicuously ceremonial activity. The Middle Woodland societies who produced the Hopewell archaeological recovery numbered in the 100s-1000s of people. Archaeologists have long debated their sociopolitical organization, but the current consensus is they were neither strictly egalitarian tribes nor formally hierarchical chiefdoms, but rather complex webs of collective action underwritten by wide-reaching participation and performance. Magnificent Hopewell assemblages were not formed by one group at one time; they resulted from various villages and peoples coming together at ceremonial earthworks, enacting their daily practices alongside their ceremonial responsibility.

Viewed in this way, archaeologists working at monumental Hopewell centers have an opportunity to examine both sacred and secular facets of Middle Woodland experiences, to the extent that they are divisible. The key here is to distinguish between different contexts that might speak more to one realm or the other. In this thesis, I consider assemblages associated with mounds or earthworks to be the most straightforwardly tied to Hopewell ceremonial activity; in other words, whatever attributes define an assemblage (specifically a ceramic assemblage) from



these contexts can be considered the attributes that define a *ceremonial* assemblage. Off-mound or no-earthwork contexts, however, are not as obviously ritualized. They may represent the remains of ritual activities, or they may represent the remains of habitations that better reflect the domestic experiences of site occupants or visitors. If the attributes of ceramic assemblages from these contexts resemble those from mounds earthworks, then we can infer that the activities they represent were similarly ceremonial in nature; if they are different, then perhaps we are dealing with quotidian Middle Woodland, non-Hopewell ceremonial activities. To interrogate these patterns, I turn now to more general approaches to ceramic research, with an emphasis on the attributes I focused on for this thesis.

### **Ceramics: Middle Range Theory and Analytical Hypotheses**

Once useful as a tool to serve a welcomed meal or present in a ceremony, ceramics have shown to be a great resource of knowledge for Middle Woodland cultures. Jars, pots, and cups not only have identifiable physical characteristics, but their chemical make-up can also tell us specifics about their origins. Even after a vessel is broken and seems useless, its small shattered remnants (better known as sherds) can still hold a wealth of information waiting to be interpreted.

There are a handful of core attributes which are used to better understand and identify a ceramic artefact. These are paste (the material that is the bulk of a piece, usually clay), temper (additives used to make the paste more stable; such as sand), surface treatment (anything applied to make the piece more functional and/or act as decoration), color (can indicate firing techniques used and/or usage patterns) (Krause, 2016). When dealing with diagnostic sherds instead of whole vessels, the anatomy of a pot also comes into play. It is important to identify if the sherd is a part

of the rim, body, or base. Added together, all of these macroscopic attributes combine to make a unique vessel, representative of a past event and culture. This analysis does much more than simply rebuild a vessel. Understanding the attributes of a ceramic artefact can tell us how a vessel was made, what types of vessels in terms of utility, and where/what purpose such vessels had (Wallis, 2011). (fig)

My analysis of the SFFDR assemblages is meant to be compared within and added to the concepts which drive Hopewellian/Middle Woodland ceramic analysis. These questions are based upon middle-range theory, which is an area of thought that combines theorized ideas with empirical data. As I interpret my data I seeking to answer the following three questions:

1. Are ceramics locally or non-locally produced?

When considering if a vessel is local or non-local then its attributes must be compared to local resources. Materials collected for the paste and temper can inform us where the pot was likely produced. If collected locally, then the pot was likely created near the area of excavation. However non-local pastes and/or tempers will likely suggest either the vessel itself or the materials were carried away from the source (Costin, 2005). There are also some cases in which ceramics are made of one local attribute while another attribute is non-local (therefore carried in). In discovering if the materials used are local or nonlocal we can then begin to infer further why a vessel is present: it was crafted on-site, traded for, crafted by a visiting group, etc. This is possible due to tedious research of ceramic typologies in the Southeast over the past century. Though this research has led to an intensification of specific typologies, it has proven useful to understand which ceramics are local to a region or not (Mainfort, 2013). For purposes of

simplification, however, I condensed these typologies down from their singular honorific to fit into groups based on their physical characteristics. This is further elaborated on below.

2. Do these ceramics represent several communities of practice?

Before defining how we may identify one or multiple communities of practice the very concept should be defined. Communities of practice are considered to be a part of a theory of learning in which learning is an aspect of social interaction within one or multiple communities (Wegner, 1998). This is essential to discussing craft production as the concept elaborates on the idea of shared knowledge or osmosis of techniques between two people and/or groups. This further leads into the very nature of Hopewellian culture, as mentioned above the driving forces of Hopewellian ideas are the interaction of various secular and sacred concepts. This is applied to ceramics in the form of recipes. One can determine the number of communities of practice by the variety of techniques and materials used to make pottery. If ceramics demonstrate several different material make-ups, forming, and firing recipes then it is highly likely a variety of communities have shared their practice techniques. However, if the majority of ceramics take on a standardized recipe this may suggest only one community is at play. This goes for trade as well, as simply trading ceramics could spark new recipes or ideas within a group. Standardized ceramic production can mean there is not only a lack of taking on new techniques but a lack of mere exposure to other techniques (Wellis, 2011) (Costin, 2005). When thinking about “recipes” it is also important to remember these groups are not following a sterilized protocol when creating a ceramic. One “recipe”, or community of practice, will likely exhibit individualisation between each potter. It is the skeleton of creation which stays remotely the same. Materials and methods are generally similar within one community of practice. It is when you see more distinct

differences such as different materials mixed with various production techniques, do you see something definable as a separate recipe.

3. Are there different styles present which may suggest a variety of functional intentions?

Style is another component which must be taken into account when investigating the usage of pottery. It must not be confused with recipes, as ceramics can be made of the same materials and created in the same manner, just built differently to be best suited to other functions and decorative tastes. The higher the number of stylizations the greater the possibility of specific functional usage and value (Costin, 2005). If a set of ceramics lacks a diversity of specialization, then it is likely that individual pottery pieces were used in a variety of ways, taking on a more utilitarian pattern of usage. This would then allow us to interpret ceramics as more versatile and uniform in function (Costin, 2005). However, we can also step away from the ideas of function use and look toward self-expression. The more styles present the more ideas are circulating in a community. Much like hypothesis two, the presence or lack of stylistic variety can tell us about the number of communities of practice. Decors can represent social or sacred ideas that can be passed between groups when meeting or trading. This is also something which is arguably innately up to human preference. If someone is exposed to a new pattern, they may have many reasons to replicate it: religious significance, social acceptance, or even just that it is pretty. This project is not meant to question the why, but to record its prevalence. This is because the reasons “why” it is present don’t affect the fact that the interaction and exchanges occurred.

These three questions will be applied to data from three different site areas. This is the Pinson Mounds (40MD1) earthworks, non-earthworks, Cochran site, and Duck’s Nest Sector.

Finally, the Johnston data will be held up to these three hypotheses. This will leave us with five separate contexts which will provide a great backdrop for interpreting Johnston, as well as plenty of information to build inter-site comparisons. Though Johnston is a midden site, it will be enlightening to see if it holds any similarity to either ceremonial areas or off-mound sites at Pinson. The Johnston midden may also be distinct in its own right, but whatever direction the data goes it will leave us with some answers and more questions to explore in future research. This is not to single out aspects of these sites, but to do the exact opposite. This project is meant to connect the various spheres of interaction between secular and sacred events; in an attempt to understand the overlooked connections along the SFFDR. It is not only supposed to see how Johnston and Pinson compare to one another but in what ways they have variability within themselves.

### **Pinson Site Background**

The Pinson Mounds (40MD1) have been studied in the greatest detail compared to neighboring sites. With over 13 mounds, Earthen embankments, and ritual areas, the Pinson site is a popular spectacle with its state park. The various mounds and other sites mingled together at Pinson are a result of various groups visiting and living in the area over several centuries. These activities have left it as a mosaic of ritual ceremonies, everyday homesteads, and a meeting place for various groups. The entire ceramic assemblage descriptions were analyzed and interpreted by Mainfort et. al. over the last few decades. Any information in the following section is pulled from Mainfort's "Pinson Mounds" book. Mainfort's projects were not ceramic focused, so any interpretation I reference below is pure speculation.

## Earthwork Areas

### Ozier Mound

10m tall, making it the second largest at Pinson, Ozier Mound is one of five flat-top mounds at Pinson. The mound measures 73m x 70m at its base and 36 x 31m at its flattop with a volume of nearly 26,000m<sup>3</sup>. Dates for the mound use is roughly A.D. 128-383. Excavations over the year have uncovered an area of land which adds up to 127m<sup>2</sup>. There are various features through the mound including burn pits and various other activities. These features combined are suggested to represent ritual food prep, but are “on the scale of a picnic”. This is notable as there is no strong evidence for feasting. Overall the mound shows variability of use with specific layers being identifiable as mortuary practices while others seem to have been used for other ritual activities, each sandwiched between 8 different construction layers. These features produce an array of artifacts such as ceramics as well as mica, microblades, galena, and copper. These rare items further support claims for ritual activities being conducted on the mounds summit.

The ceramics of Ozier Mound are stated to be a good representation of ceramic assemblages across Pinson Mounds (40MD1) (Mainfort, pg. 93). Out of the 732 identifiable sherds uncovered, the majority are sand tempered with little clay in the paste. The three major exterior treatments being plain, cordmarked, and fabric impressed with a larger emphasis on cordmarked. Other ceramics are tempered with grog and sand, or just grog. Though the Ozier assemblage as a whole is a good average representation of Pinson Mounds (40MD1) ceramics, there is a considerable amount of fabric-impressed ceramics which only occur in two other mounds (Mound 12 and Mound 14). They also are commonly treated to be plain, cordmarked, or fabric impressed. An interesting minority in the assemblage are check-stamped sherds which on

further analysis prove to be nonlocal. These are only found elsewhere are Twin Mounds, and their absences from Duck Nest are interesting. This is due to the possibility that Duck's Nest Sector predates both mounds and would be more likely to have an earlier dated ceramic treatment such as checked-stamped. This is significant as it may be a key to understanding the differences in the groups which conducted rituals at Ozier Mound versus the Duck Nest Sector. Mainfort also notes that it is interesting to see a lack of red-painted ceramics within the mound as they are expected from this time period and the assumed groups of people.

### **Twin Mounds (mound 6)**

200m south of Ozier mound, The Twin Mounds comprises two conical burial mounds which are conjoined. Northern mound is 26m in diameter and 7m tall while the Southern mound is 30m diameter and 8m tall. There appear to be ritual areas to the south of these mounds. Was excavated in the 1800s but luckily excavators just missed burials, leading them to believe there was "nothing worth finding", ultimately preserving the mound from looting. Now the main goal of studying burial mounds is not to uncover human remains or elaborate funerary objects, but to understand the construction of the mounds. Excavation was done after consulting with nearby Choctaw residents, and they often visited to oversee the excavation. Excavation was done in deep trenches, revealing stratigraphy that told of 5 major construction sequences. Burned areas, lines of post holes, and stone slabs are found to be present at various stages of construction. The posts attract particular interest due to being driven into the ground at an angle after construction. There seems to be no structural purpose for these posts, and it is thought that perhaps they hold a spiritual significance for protecting the dead from evil forces, or giving the dead a tool to be released into the next world. The layering of the mound is also distinct and precise, showing intense effort to keep the soils from mixing. They follow the important Hopewellian colors of

black, yellow, red, and white. In later construction stages much of the dirt was also heated and deposited while still hot. The sil contains calcined bones and burned sherds of ceramics. The only bone identified belongs to white tail deer. Two burials uncovered found a young adult male (24-32) who was adorned with various artifacts such as a boatstone necklace, shell bracelet, copper stained teeth, and chert set upon the molars. The other burial was only distinguishable by a crushed cranium of a young adult. These burials were located underneath the deposited sandstone rocks. Underneath the platform of the mounds are various basins, pits, and postholes. These features were not a part of a pre construction sequence of the mound, but of other ritual practices as it appears the topsoil for the features were removed before mound construction. Bones found within these basins were identifiable as nonhuman, pointing towards remnants of ritual feasting. Under the mounds are complex burials which all have drastic juxtaposition with one another. For example one feature of burial has 8 female individuals with burial regalia which seem to connect them to a deity or spiritual significance as well as have east-west orientation. Another buril has four elderly men which are buried with items that are more connected to their individual identity and follow a north-south orientation. There are other burials present of various ages, sexes, and burial objects. Some burials are placed atop clay lined pits while others are not. Some burials are also sealed with logs burnt in situ then covered with puddled gray clay. Four dates were taken for these basins and lead to an average range of A.D. 68-243.

Excavations here were not screened but artifacts uncovered and noticed were kept. This thus leads to a lost accumulation of ceramics which have not been formulated into a comprehensive list. A majority of the sherds uncovered were sand tempered. Analysis shows that many sherds were nonlocal or produced on site with nonlocal materials. Cordmarked is a huge focus here. This site obviously holds a major cultural and spiritual significance, though the



understanding of ceramics is extremely underrated. Having an idea of ceramics could be useful here, as it is evident that burnt ceramic sherds are often mixed in with soil which contains (often unidentifiable) calcined bones.

### **Mound 12**

Located 200 m southwest of Sauls Mound, Mound 12 is elliptical in shape with a base 24m by 17m and 1.5m tall at peak height. Interestingly it was built on a sandy knoll to possibly make it appear higher. Premound surface dates come in around B.C. 258-A.D.429, which Mainfort suggests is actually closer to 100 B.C.-A.D.260 as there is a lack of evidence of domestication. Construction of the actual mound began quickly after ritual activities were complete due to the lack of stratigraphy and erosion evidence. Puddled clay and sand are used to stratify crematory burial surfaces. The majority of this mound appears dedicated to cremation. Much of the knowledge surrounding this mound involved discussion of dates accuracy comparing radiocarbon dates, ceramics, and stratigraphy evidence.

Prior construction surface appeared to be a prolific ritual surface which contained many ritual objects including a relatively large deposit of 760 pot sherds collected from two adjacent 2x2 excavation units. These ceramics uniquely have a larger quantity of fabric impressed treatment than cordmarked, suggesting an earlier date than the other areas in Pinson Mounds (40MD1). A premound feature which was a decomposed burial also contained a fabric-impressed jar. Many of the ceramics appear to be utilitarian in nature, though ritual items such as mica, blades, red ocher, and puddled clay suggest these ceramics could still be ritual in nature.

### **Mound 10**

Located 110 of Sauls Mound, Mound 10 is 61m long and 40m wide while standing 1.3m

tall. The smallest flat-top mound at Pinson, it was thought that the mound had suffered erosion much like many other earthworks in the area. However, historical documents suggest the mound did not suffer much damage due to plowing. Excavation of the mound shows it was built much like other mounds at Pinsons and mother sites with "Hopewellian core aspects" (Mainfort, pg. 151) The mound is roughly uniform in stratigraphy but did present some areas of ash dump and artifacts. The middle of the mound houses a hearth or basin for fires. This feature contained charcoal, calcined bones, lithic debitage, and ceramics. This, plus the lack of burials, characterizes Mound 10 as a platform mound. An undocumented excavation was also uncovered with no identifiable origin. The shape of this mound is also debated as it appears to have meant to be a square or rectangle, but is not presently that shape. Instead it is more trapezoidal with the possibilities of having a ramp

Most of the artifacts unearthed were ceramics, some being from Swift Creek. The assemblage has a notable similarity with the ceramic assemblage from Duck's Nest sector. Many of these sherds appear stylistically non-local, but are not discussed in extreme detail.

### **Duck's Nest**

550m south of Saul's Mound, Duck's Nest is located on a low bluff overlooking the South Fork Forked Deer River floodplain. It is a circular embankment with a diameter of 13m. The walls are 2.5m wide and stand 1m tall. Dating tests concluded an ambiguous age, unfortunately. The walls were built in three construction stages. There is a fire basin within the middle of the earthwork, with the charcoal concretions determined to be of modern origin.

Within one strata an entire sand-tempered, cordmarked jar was uncovered. More sand-tempered, cord marked ceramic sherds were found with no signs of heat treatments or concretion adhering, meaning it was dropped into the basin after the fire was put out. Stamped,

limestone tempered, and incised sherds found within Duck's Nest create a possibility of connection with the nearby Duck's Nest Sector.

### **Mound 31**

The smallest of all the confirmed mounds, Mound 31 sits 60m east of The Twin Mounds. It is 10m in diameter and 1m tall, though excavation reports from 1927 states it was once 2m high. Erosion and farming could be responsible for it being cut half in height. Radiocarbon dates suggest A.D. 558-643, Mianfort believes the age to actually be around A.D. 1-300 due to an average of inconsistent dates and judgment from the present ceramics. Excavations uncovered a 56m<sup>2</sup> area that unearthed a feature of a central burial pit in the mound. The remains of a 50+ year old male and another individual were located in this feature. Analysis showed these burials may have belonged to a different population than those in Twin Mounds, as there was a lack of certain burial rituals such as puddling and burial cover. Artifacts in Mound 31 include shells (possibly necklace), calcined bone, and blades, sandstone, mica, pottery sherds. Several pits around the mound are filled with ash, charcoal, bone, and suggest ritual practice prior to the mound's construction. Several of these pits and areas under the mound were also previously fired. There are various post holes associated with the mound but no identifiable pattern of their placement. The mound fill shows no "stages of construction" but does have various deposits of charcoal and ash. Due to a lack of personal burial objects for the man in the mound, it is thought that the mound was meant for spiritual representation of eagle trapping, much like how the burials in Twin Mounds may represent the Earth Diver.

Most of the ceramics were heavily eroded and hard to discern, and over half were found outside of the burial facility. A few sherds are notably nonlocal, with a stamped treatment connecting the ceramics here to mound 10, mound 14 sector, Twin Mounds sector, and Ducks

Nest. (Mainfort, pg. 138). There are also Two podal supports found amongst the ceramics located outside of the burial facility. The significance of these podal supports is not explored despite them rarely being found across all of Pinson Mounds (40MD1). The present of podal sherds could provide further information in later discussions.

### **Mound 29**

Another platform mound which stands 3.6 m tall and measures 49m by 51m at the base. Mound 29 was built in two stages. Excavations uncovered a sparse amount of artifacts and evidence which points towards the possible promise of ramps.

Mound 29 holds the most significant ceramics in the area of the “Eastern Ritual Precinct”. A majority of the sherds are fabric-impressed, and expected minority. Yet six sherds, each coming from the same vessel, are not like any other ceramic found at the entirety of Pinson Mounds (40MD1) itself. They are plain treated and tempered with crushed quartz. These sherds are the only example of quartz tempering found at Pinson. It is thought this style of pottery production is an Eastern Tennessee tradition. Such non-local artifacts suggest that the Eastern Citadel area was mainly occupied by pilgrims.

### **Mound 30**

Standing 2m tall and 35m in diameter, Mound 30 has an irregular shape which was mistaken for a bird effigy. Further analysis has proven that it is actually just an eroded circular shape.

A small amount of ceramics were discovered, mainly plain and cord-marked.

### **Earth Embankment**

Walls stand roughly 2m high and surround an area of 6.7 ha. Has several openings in it, a majority of them being modern in origin as farmers created pathways for easy access. Much like

many Middle Woodland construction projects, the topsoil was removed before building the earth embankments. Appears it was built in one construction segment, producing a few artifacts such as a chert bladelet and ceramic sherds. Mainly there is a lack of key features such as rock-covered surfaces, posts, and contrasting soils which are characteristic of Ohio-Hopewellian construction.

This area as well as the following areas below yield a considerably low amount of artifacts, and have even less ceramics collected. Them and their contexts are worth mentioning as a lack of ceramics is just as telling as the presence of them.

## **Non-earthwork Areas**

### **Cochran Site Area**

This area is not a mound, but a significant sight area. Located 200m northwest of Twin Mounds and Ozier Mound, the Cochran Site Area spans a 100m by 50m area. A 208m<sup>2</sup> excavation area uncovered various posts and 12 nonstructural features. Out of the features three shallow pits held significant hopewellian artifacts. These include a small number of ceramics, mica, chert, quartz, flint knives, copper fragments, a copper bead, polish greenstone, and carved sandstone, and unidentifiable burnt bone. Dating methods brought the age of the site to be A.D. 318-439, though Mainfort states other artifacts suggest an age several centuries earlier.

The ceramic assemblage is small, and most sherds are considered to be stylistically non-local. Most have sand temper with a minority including grog as well. Cord Marked exterior treatment is the most common, with plain and fabric impressed also being present. The lack of ceramics is compensated by a large quantity of lithic artifacts. Any interpretations of the site's function have been disproven and are still being debated. It is suggested that the presence of the ceramic sherds near a deposit of calcined bones may suggest a mortuary offering. Otherwise the

low presence of ceramics is not quite understood.

### **Twin Mound Sector**

The Twin Mounds Sector is an area which lays south to southeast of The Twin Mounds. This sector is divided into an upper and lower section. Radiocarbon dates calibrate occupation dates to be between 167 B.C.- A.D. 318. Excavation of the upper sector was about an 115m<sup>2</sup> area. Various features were found such as post holes, burned areas, and a 2m feature that was interpreted as a crematory facility. There is no cross-section of the latter feature thus further interpretation is not possible. A copper gorget, various lithics, utilitarian ceramics, and charred human bone were also found. The presence of various non-local materials, mortuary features, and short-term structural remains suggest the area was an impermanent ritual area.

Ceramics found here are stated to be “overwhelmingly cord-marked”, while other styles present include incised, plain, stamped, limestone tempered, and red-stained sherds (Mainfort, pg. 135). There are utilitarian ceramics which are found associated with a flexed human skeleton, as well as other ceramic vessels associated with unidentified bone fragments. The minority treatments and tempers (basically anything which is not cord marked) are considered non-local.

### **Mound 12 Sector**

The Mound 12 Sector is a region which was excavated in 1974 due to a scatter of ceramics being found while surface collecting. The excavation area is 120m<sup>2</sup> and located 70m northeast of Mound 12. It was soon revealed to be a significant site after uncovering a layer of sand; a significant indicator of construction across Pinson Mounds (40MD1). Underneath the sand, post molds were found which are thought to represent two separate structures. There was also a feature of a 65 cm long x 60 cm deep pit where possibly human bones were discovered. Charcoal, red ochre, and calcined bone found inside also suggest the pit was a crematory basin.

Various ceramics were pulled from not only this feature but the excavation area as a whole that have links to the Ducks Nests Sector.

### **Mound 14 Sector**

This area is located southwest of Sauls Mound and includes various excavations since the 60s. A wall-trench house, dated between A.D. 1000-1150, was uncovered. This house was superimposed over a middle woodland occupation area resulting in all the collected artifacts coming from the middle woodland period. non-ceramic artifacts include a piece of galena, bladlets, end scrapers, and worked crystal quartz. These are what support the claims that Mound 14 sector is a short-term ritual area.

The ceramics collected represent the common cord-marked, sand tempered utilitarian rares which appear most commonly around Pinson Site mounds. There are also a few nonlocal sheds located in this area and various rare sheds expected of the Duck's Nest sector are found in relatively high frequency such as complicated stamped and red stained sherds.

### **Duck Nest Sector**

400m south of Sauls Mound, north of Duck's Nest, Duck's Nest sector is one of the only midden-like deposits found at Pinson Mounds (40MD1). An excavation of eighteen 2x2m units was conducted. Dated to approximately A.D. 237-345, surprisingly the only feature uncovered was feature 20, which was a basin filled with charcoal and artifacts. The artifacts found within Duck Nest Sector are notably different from other areas within Pinson Mounds (40MD1). Ferruginous Sandstone is present with signs of burning. There were also large quantities of chert tools and debitage, mica, three specimens of galena, ceramics, and calcined bone. The artifacts suggest this area is a specialization activity area such as cremation ritual debris, feasting, less formal ceremonial food consumption, and a wealth of other possibilities (Mainfort, pg. 159).

Whatever it may be, the main activity occurred elsewhere as the artifacts appear twice altered. This, plus the lack of features, further supports the area as indeed a large midden deposit.

A total of 2,174 ceramic sherds were unearthed which could create a minimum of 48 vessels. 13 of said vessels can be characterized as nonlocal. Duck's nest sector could easily be one of the most significant sites for ceramic analysis. The ceramics represent Midsouth and Southeastern Pottery, circa A.D. 300. Over half of the sherds are sand-tempered, cordmark treated types which are dominant in West Tennessee. These sherds seem to make-up concoidal jars which most of their bases appear missing. It was thought these sherds were made out of nonlocal clays. Ironically those of apparent nonlocal origin are made with local clays. These vessels have characteristically thin walls. Other sand-tempered sherds which lack any exterior treatment seem to be thicker, appearing to come from flat-bottom jars and large beakers. There are also surprising fabric-impressed ceramic sherds which give insight into the features age. These are tempered with sand and grog or just sand. Fabric-impressed sherds can be found in each unit, despite having low numbers.

All Limestone tempered ceramics are thought to be nonlocal due to a lack of nearby limestone deposits. However, analysis shows that these ceramics were made with local paste, suggesting that limestone was brought to the location and pottery was produced on site. Expectantly, all of the limestone from these sherds had been leached out. Diagnostics done upon the cavities left behind also suggest the possibility of the use of plants for tempering. Limestone sherds appear sparingly across all Pinson excavations, but appear nonetheless.

A stamped ceramic appears within the Duck Nest causing Mainfort to state that it may be more useful for dating than any radiocarbon dates. These complicated stamped ceramics are mentioned due to their mystery. Petroglyphic analysis shows they are probably made of local



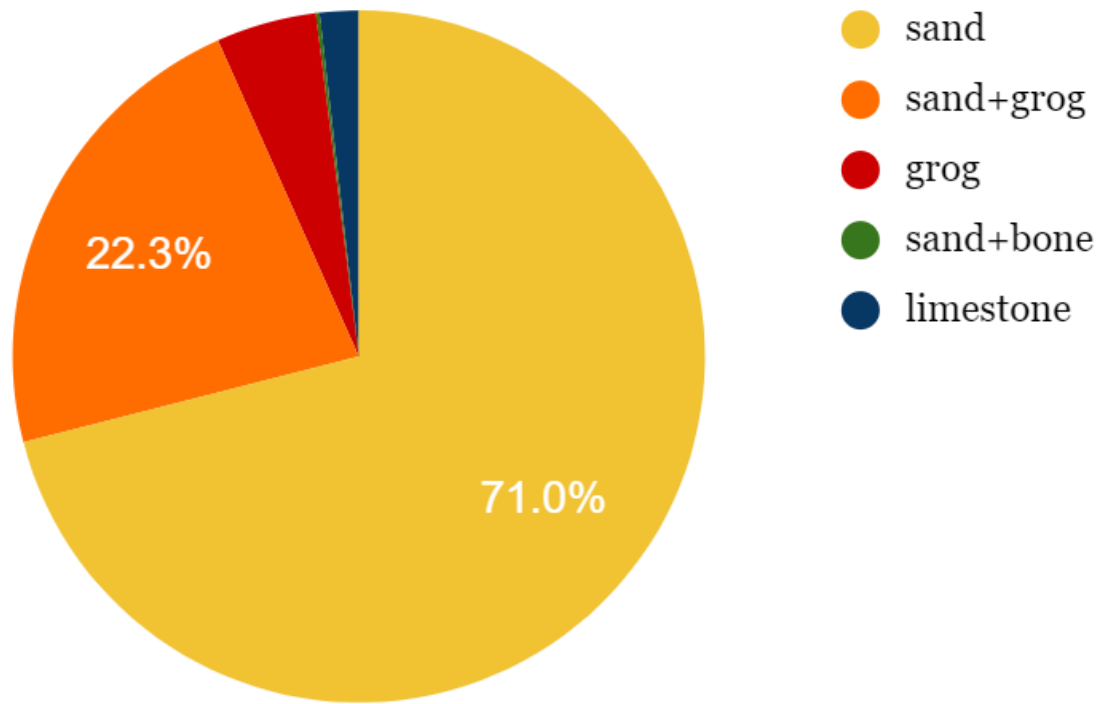
paste. It is suggested through other detailed research that the paddles used to create these ceramics were what traveled instead of the finished vessel itself. It is concluded that these ceramics were made near or at Pinson, with a select few seeming to come from the Tennessee/North Carolina Appalachian region.

Bone-tempered ceramics found within the Ducks Nest sector are thought to be nonlocal examples for ceramics, as bone-tempering is not found in West Tennessee. Red filmed pottery is also found at Duck's Nest sector in low quantities. These ceramics appear at Mound 10, Twin Mounds sector, Mound 14 sector, Mound 12 sector, and under Mound 12. These sherds are stylistically similar to Lower Mississippi valley ceramics. The clay was chemically proven to be local, making it another case of possible pilgrimage.

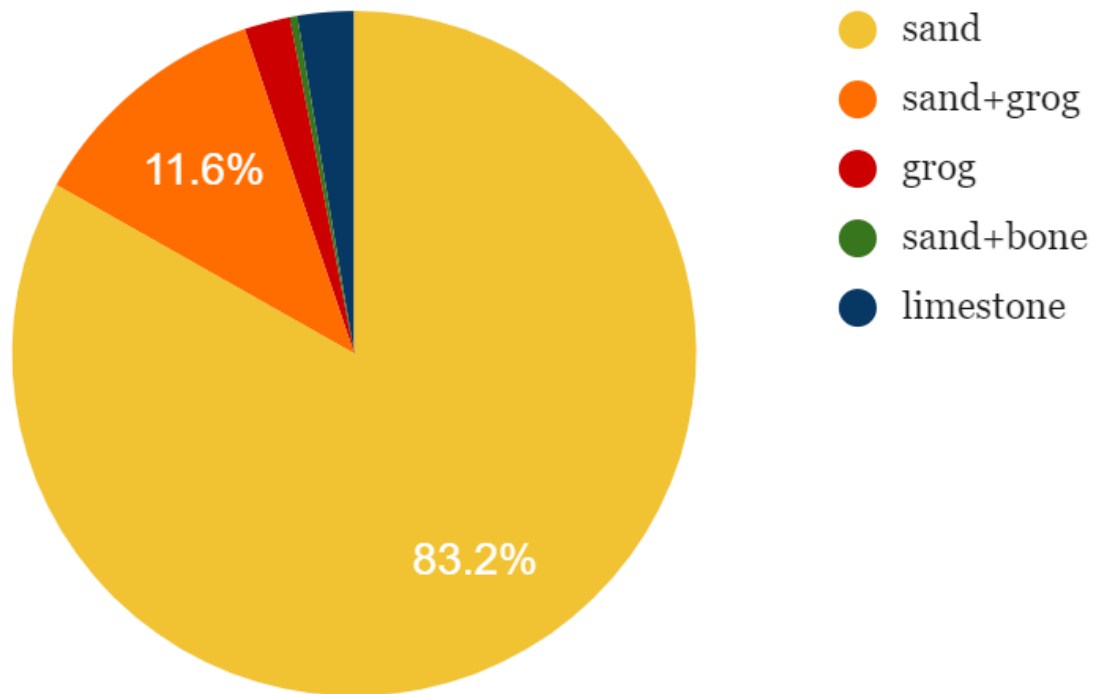
#### **Enclosure Interior**

Notably sterile excavations, demonstrating a lack of structures or habitation zones here. Still significant as it is an area surrounded by earthen embankments.

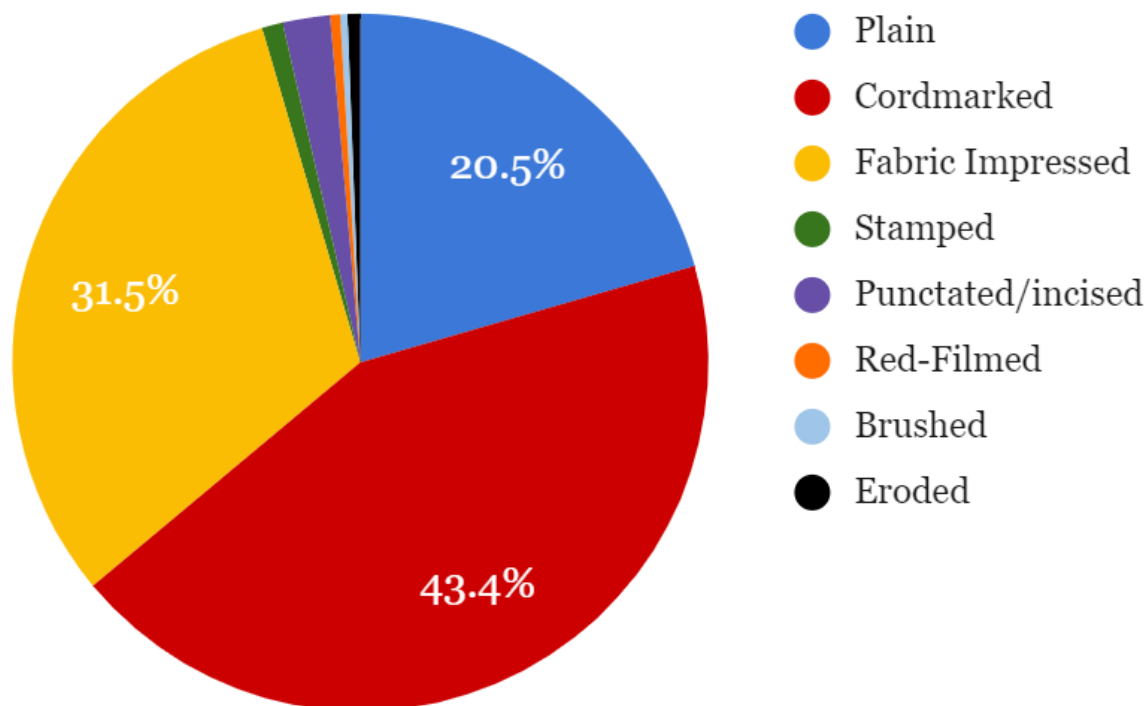
**Pinson Conclusion**



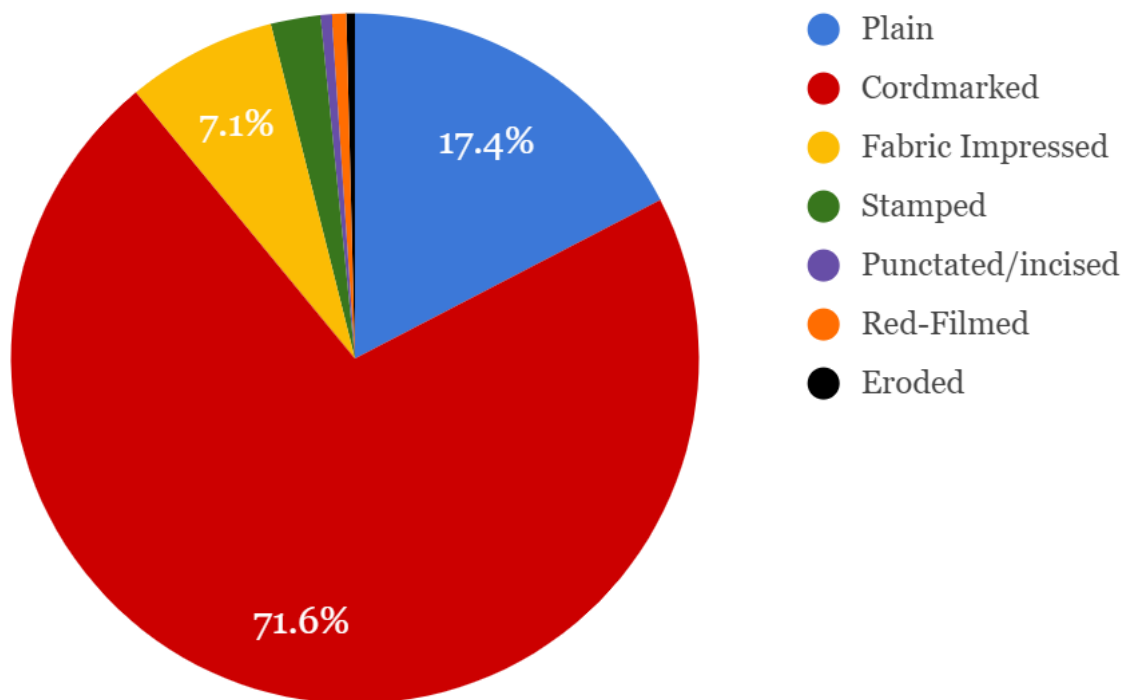
(Fig. 1) Percentage of temper types present within Earthworks at Pinson Mounds (40MD1).



(Fig. 2) Percentage of temper types present within Non-Earthworks at Pinson Mounds (40MD1).



(Fig. 3) Percentage of surface treatments recorded from Earthworks at Pinson Mounds (40MD1).



(Fig. 4) Percentage of surface treatments recorded from Non-earthwork sites at Pinson Mounds (40MD1).

### **Earthworks**

In terms of overall ceramic trends, it appears that the majority of diversity of temper types and surface treatments are found within Mounds. This is surprising, as Mainfort suggests several times while discussing ceramics that those pulled from mounds appear “utilitarian” or lack ritualistic expectations. When looking at the percentages (Fig. 1), especially compared to non-earthwork numbers (Fig. 2), at least a fourth of the ceramics contain different tempers than the most commonly used type: sand.

Much like the tempers, there is a noticeable amount of diversity in surface treatment used. There is even an additional surface treatment which does not appear in the non-earthwork context, which is the brushed treatment (Fig. 3).

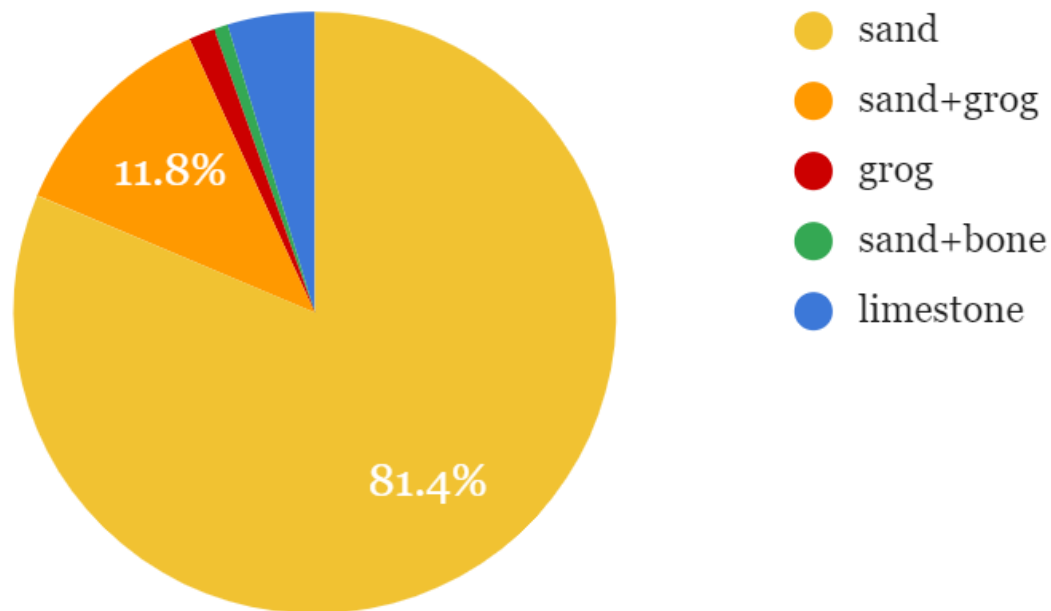
### **Non-Earthworks**

Many of the non-earthwork portions of the great Pinson site have been interpreted as permanent or semi-permanent habitation areas, which seems to fit with the higher percentage of local ceramics in these areas. Many of these sites are described by Mainfort as habitation areas that hold little connection to the earthworks they are situated near. These sites contain various features such as post-holes, fire pits, and craft production areas which are not present on earthwork sites.

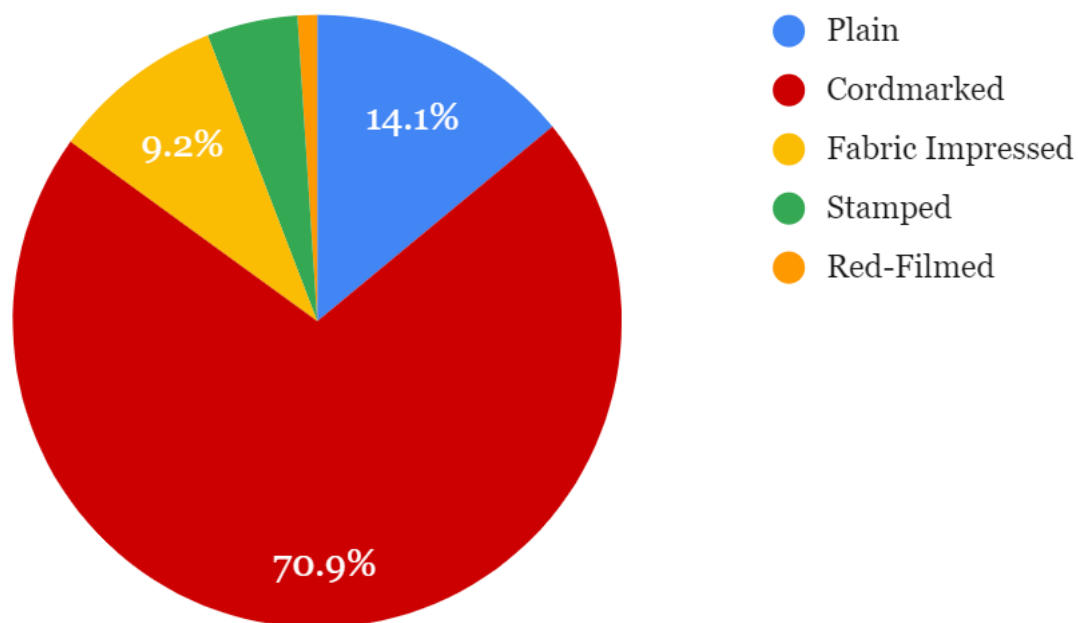
The tempers found within non-earthwork areas are intensely out-shone by the use of sand, with nearly four-fifths of the sherds being sand tempered (Fig. 3). The same can be said about surface treatments. As when earthwork ceramics appear to have a more even percentage

between plain, cord-marked, and fabric impressed treatments (Fig. 2), non-earthwork ceramics are comprised of approximately three-fourths of cord-marked treatment sherds (Fig.4) Arguably, these differences in percentages within the temper and surface treatment types may even be purely local if the Duck Nest Sector is removed from this context.

Noted by Mainfort in his book on Pinson, the Duck's Nest Sector is one of the more packed sites in Pinson when it comes to artifact counts. This is due to the simple fact that it is an ancient trash can, and with all the activity that occurred, there was bound to be a lot of trash! Interestingly enough, Duck's Nest is the only identified midden at Pinson. It is important to pull this information from the entirety of the Pinson assemblage as the data could shed more light on the meaning behind Johnston's localities, communities of practice, and diversity. Both Duck's Nest Sector and The Johnston assemblage are middens, so they are more likely to collect similar items. However, not all middens are created equal, either. What you find in a residential waste bin will not be the same thing you find in a dumpster of a factory or the garbage after a wedding. The similarities and differences between the Duck's Nest and Johnston Midden can tell us just how alike these two sites were used, at least for the specific events they may represent. Unlike earlier discussions on Johnston, these ideas are beginning to dip into broader theoretical ideas. We want to try and acknowledge how the landscape at SFFDR is connected, if at all.



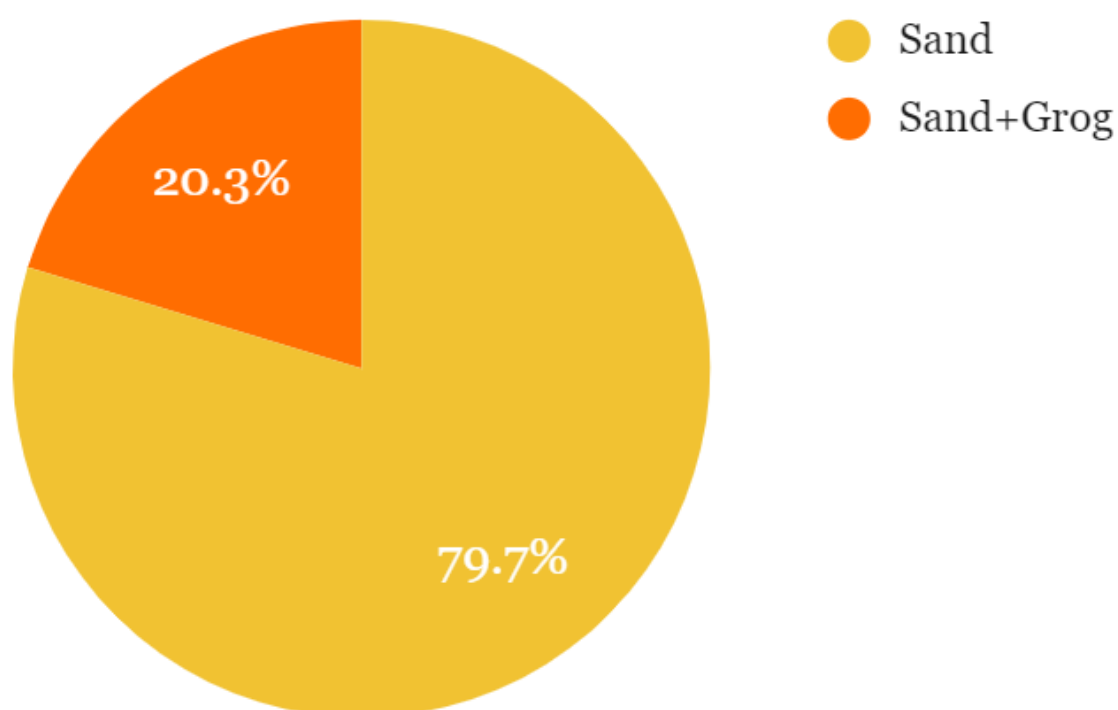
(Fig. 5) Duck's Nest Sector temper types by percentage.



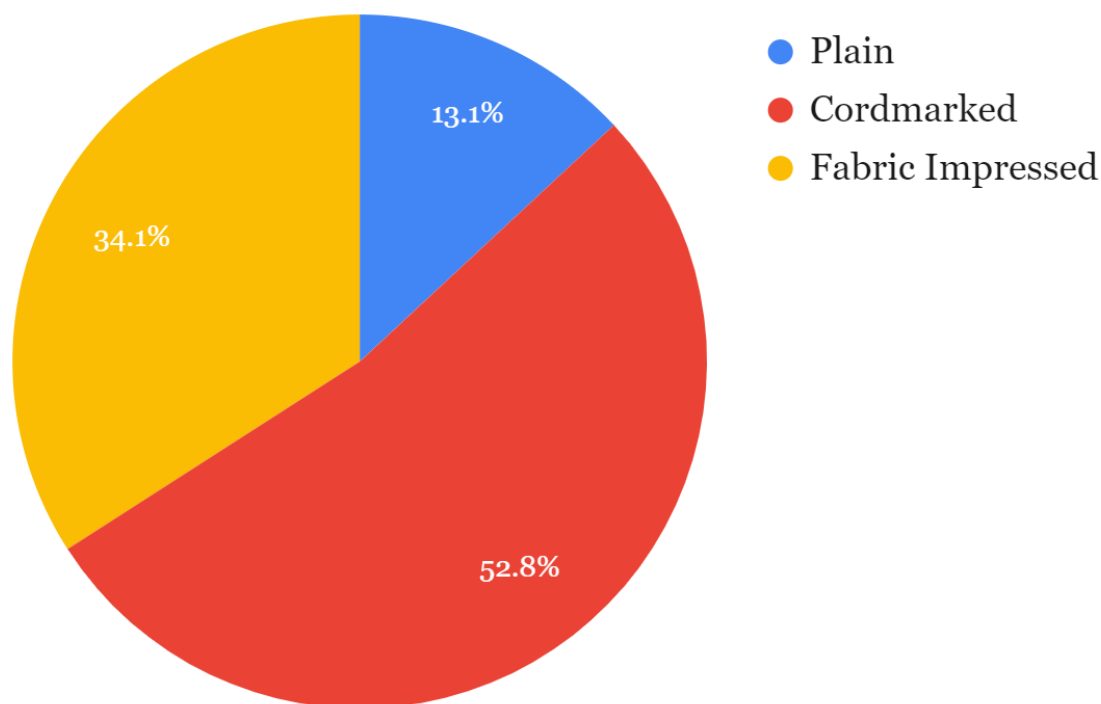
(Fig. 6) Duck's Nest Sector surface treatment types by percentages

Another site worthwhile to distinctly describe from the non-earthwork sites is the

Cochran site. During excavation, this site showed distinct archaeological evidence of being a habitation zone (Mainfort, 2013). As mentioned above the actual function of the site is still in debate, as much of all the site functions at Pinson are. However, it is distinct enough to consider as a separate context from the earthworks and Duck's Nest. The small ceramic assemblage is also relatively unified in temper and surface treatment types, yielding two temper types and three surface treatment types (Fig. 7-8).



(Fig.7) Tempers by percentage at Cochran site.



(Fig.8) Surface treatments by percentage at Cochran site.

Looking further into the characteristics of each area within Pinson Mounds (40MD1) has demonstrated that certain ceramic assemblages have a correlation with site function. Though these are still debated and tweaked, it is a solid wealth of research which is comparable to less studied areas, such as the Johnston Site (40MD3). It is clear that ceramics hold some form of significance, as non-local styles are characteristically made out of local pastes, and vice versa. This shows social power within the pottery, though it appears in relatively low numbers across Pinson Mounds (40MD1). Overall, each context certainly contains a unique assemblage of ceramics. Connecting these assemblages with their site function will be integral in interpreting ceramic assemblages from other Woodland Period sites, such as the Johnston Site (40MD3). Most importantly I find it worthwhile to repeat that though the Pinson assemblage is published, the ceramics are heavily overlooked. Much of what I pulled from Mainfort's work is relative



speculation on his part, as his research has primarily emphasized the site's monumental architecture. This may mean that some of the interpretations above may be challenged when the ceramics data is actually manipulated and discussed further in this paper.

## **Ceramic Analysis of Johnston**

### **Johnston Site (40MD3) Background**

The focus of this project is The Johnston Site (40MD3) which is located Northeast of a larger complex of mounds known as the Pinson Mounds (40MD1) and the Elijah Bray Mounds (40CS95) along the SFFDR. It has been suggested that these sites represent various pilgrimage sites during the Middle Woodland Period (BC 200 - AD 500) (Mainfort, 2013). Despite having a mound larger than most of those located at the Pinson Site, the Johnston Site (40MD3) has lived in the latter's shadow. Beginning in 2014, Sherwood and Wright developed a study of the area through a mixture of Historic Analysis, GIS & LiDAR collection, as well as excavation. The focus of this article specifically pulls any ceramic analysis from Johnston that was excavated during the 2017 Field Season under Sherwood & Wright. Unlike data from the Pinson Mounds (40MD1), this assemblage is not published. Since excavation, these ceramics have actually laid dormant until the beginning of this project. It is for the previously stated hypothesis that the ceramics were organized and documented. Further explanation of the handling process of the Johnston 2017 ceramics is discussed in the methods section.

Mapped in the early 1900s, the Johnston Site (40MD3) has been selectively studied over the past century with a majority of the work occurring in the late 1900s (Mainfort 2013). A majority of recent research, as mentioned above, has been conducted under Sherwood and Wright. Though much of the research has included non-intrusive techniques, the ceramics used in this project were obtained from excavation work which sought to understand anomalies in the

previous geophysical surveys. The area is interpreted as a possible midden, as the test units are located off of nearby mounds. Within this unit, the midden is separated into arbitrary levels within dark loamy soil. Alongside the studied ceramics, other artifacts such as hardened clays, stone flakes, patches of charcoal, and dark stains are found. This leads to the distinction of several features, including possible potholes.

Though Johnston is historically under-researched, it shows promise to reveal much more information about the area. Its data added to previously published work from Pinson Mounds (40MD1) may help shed light on why this area was chosen to house ritually significant meeting grounds and become home to the largest Ceremonial Mound complex in the southeast (Sherwood & Wright 2017).



(Fig.9) Johnston Site (40MD3) with 2017 excavation unit noted. Focus is on midden TU14.

## **Methods**

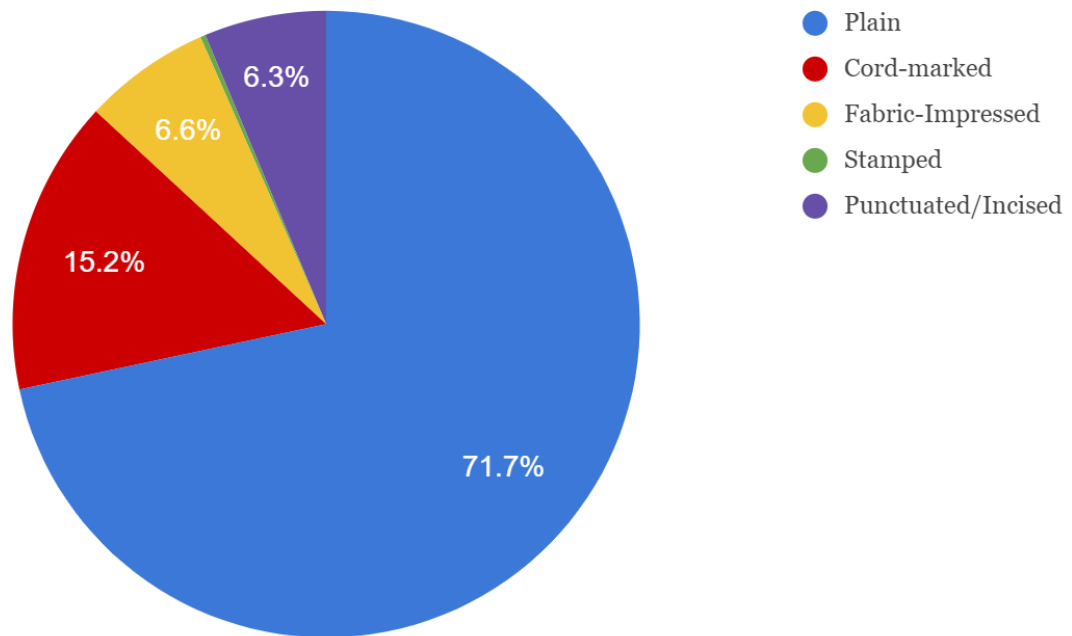
Following this, I worked one bag, one sherd at a time. For each sherd, I would measure its thickness and widest point. Then the sherds anatomy, temper, color, surface treatments, decoration, and erosion levels were recorded. If the anatomy was anything other than a body shard, further measurements and characteristics were recorded. Afterwards, I used the handwritten records to create an excel sheet of the data. This allowed me to look for errors and double-check shared interpretations.

## **Data**

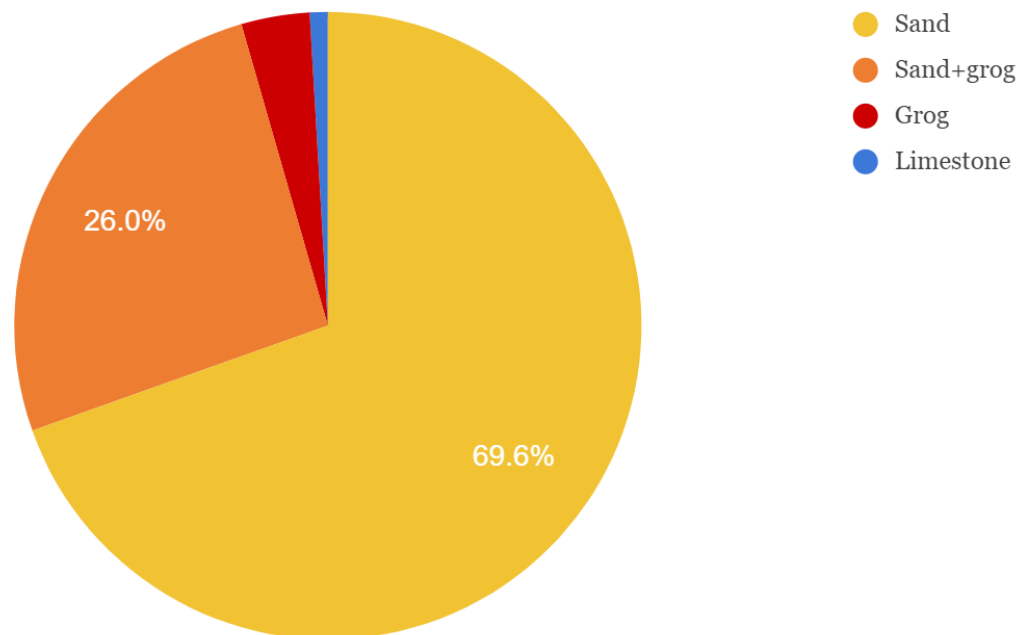
The Johnston data set comprises a total of 542 sherds. Out of these, there are 539 with distinct tempers and 381 with distinct surface treatments. Any exclusion of sherds from these data sets is due to an excessive amount of erosion prohibiting any reliable classifications. These eroded sherds do not lack significance, however, as they can indicate formation processes at the site through wear and tear or weather damage. They simply are not functional in providing information towards my proposed hypotheses, especially since I do not have access to any eroded/indeterminate ceramics from the Pinson collection.

A majority of the sherds were considered body sherds, with a small sum being pieces of rims. Due to their small size, however, they cannot be used to calculate ceramic size. The most common surface treatment was plain with the most common temper being sand. Mica was also highly present throughout the majority of the ceramic sherds. Despite this, a little under a third of the analysis of the ceramic demonstrated tempers and surface treatments present aside from the most commonly used type. Some of the largest and best-preserved sherds from the collection not only demonstrated two of the rarest surface treatments (incising and stamping) but also were found alongside pieces which formed several re-fits.

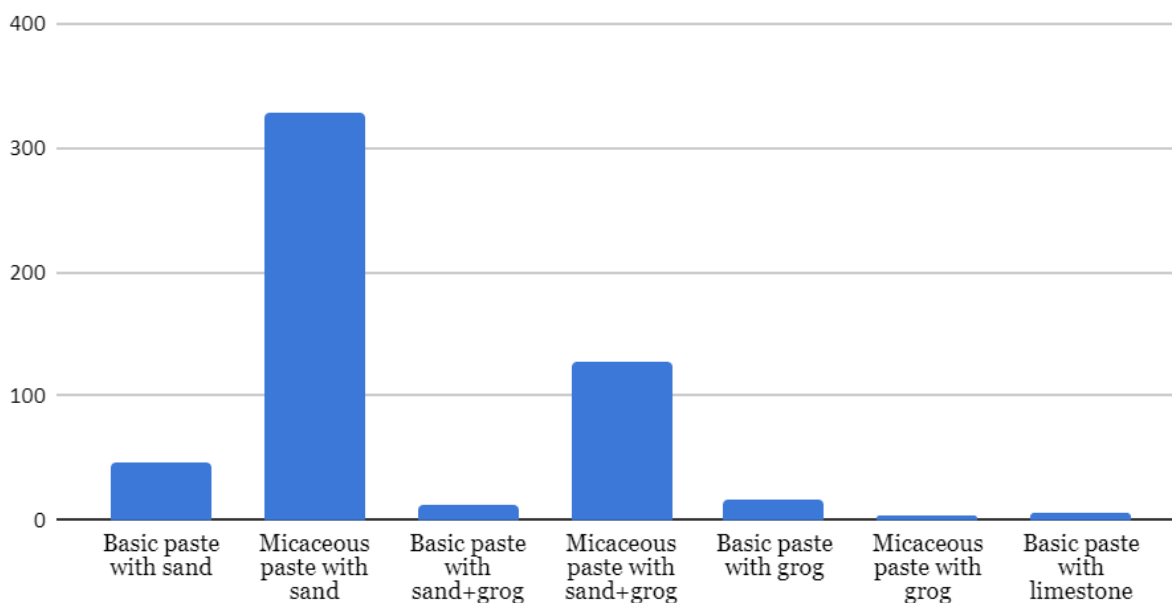
When compared to the project's hypotheses Johnston shows non-local communities, at least seven communities of practice, and stylistic diversity. Though some of these percentages are relatively small, they are significant. What do the numbers have to say in regards to locally produced vs. non-locally produced ceramics? It has been determined that “local” tempers include sand and sand/grog combinations. Non-local tempers are sand/bone as well as limestone, while grog is debatable to its locality and is thus deemed to be an indeterminate section (Mainfort, 2013). In terms of locality, roughly 5% of Johnston’s tempers are considered to be non-local by earlier explained definitions. This indicates that the site indeed had some sort of exposure to other groups. One aspect also unique to Johnston is the ability to analyze mica presence in the paste – a variable that was not available in the published records from Pinson. The presence or absence of mica, coupled with the tempers, then creates a specific recipe for the ceramics. There are a total of seven different combinations, suggesting there are at least that many, if not more, communities of practice at play (Fig.10). Lastly, the number of surface treatments present suggests five different means of stylization, which may have functional intentions through use or ceremony. By functional, I mean stylistic representation. Though it is not currently clear what the exact representations and intentions are, the styles could be spiritually functional. The designs may represent something further than simply making a pot easier to hold or heat more effectively. The function goes beyond physical use, perhaps making the ceramic more powerful. Here craft skill and enchantment play an important role in my third hypothesis. More treatments not only mean increased non-local interaction but says something more about the ideas and plans of the site. Why have an enchanted item when an area is meant for a secular pit-stop? Thus we can infer the presence of five distinct styles at Johnston to confirm multiple functional purposes.



(Fig.10) Surface treatments at Johnston with percentages



(Fig.11) Temper percentages in Johnston assemblage with percentages



(Fig.12) mica and temper combinations at Johnston, demonstrating hyp. 1 to Q2

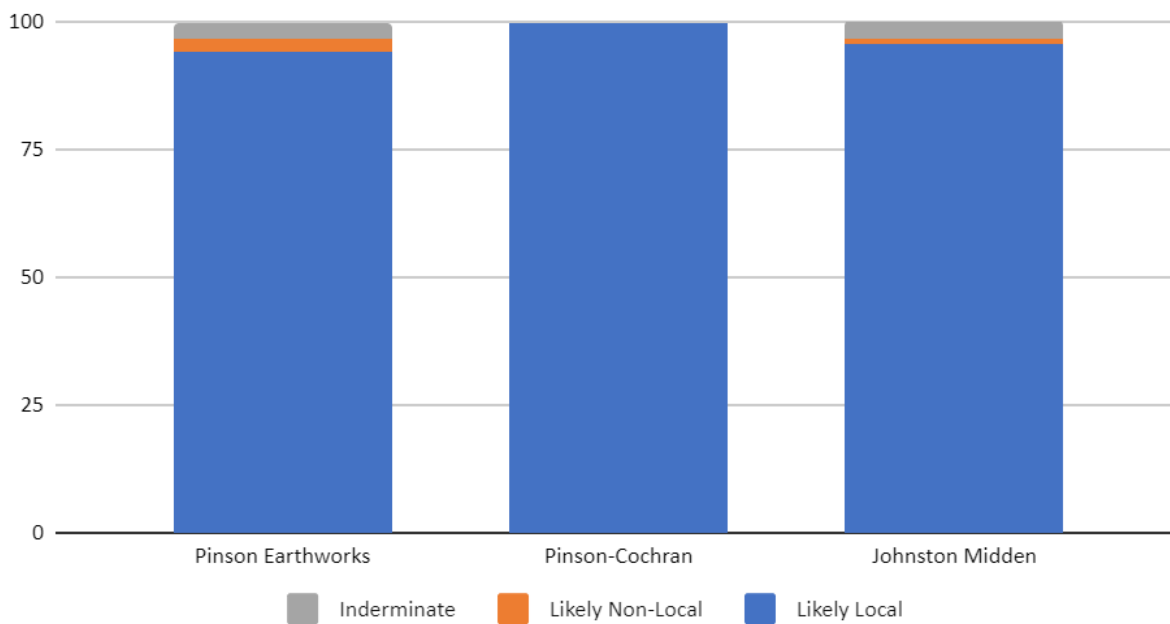
The data above has demonstrated Johnston's answers to my presented questions above. 1) Non-local ceramics suggest non-local origin. Johnston demonstrates a majority of local ceramics with some non-local influence or objects. 2) More recipes mean more communities of practice contributing to the assemblage. There are several recipes at Johnston, making it a site where several communities of practice are at work. 3) various styles suggest different functional intentions. The diversity of surface treatments alludes to the possibility of distinct intentions, suggesting purposes behind the treatments' meanings. A different style communicates that something is different about that ceramic. Perhaps the surface treatment holds sacred power and meaning, or even can just mean it is to only be used for specific activities. A finely decorated bowl is more likely to only be used for important holidays while a plain bowl can be tossed around in daily life. With what information I hold I cannot attest to the specific intentions behind brushed ceramicware, but I can indicate its rarity and correlation to more ritualized activities. But how does all of this come into play across the landscape? To understand higher-level theory

between both SFFDR sites, both Pinson and Johnston assemblages need to be compared.

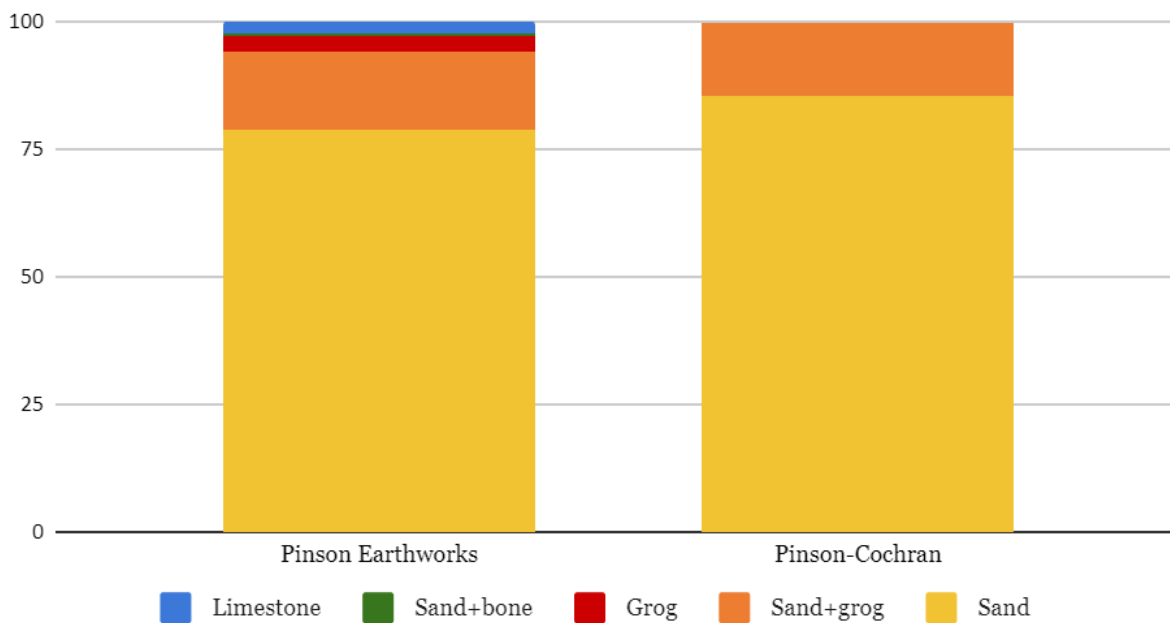
### **Discussion**

What we currently know about The Johnston assemblage is that it is more than likely a midden. Evidence of local and non-local interaction is present, as well as multiple communities of practice. What we do not know is how connected the Johnston midden is to ritual and/or secular activities. To build more context for the Johnston midden, we can compare the site to an array of contexts at Pinson Mounds (40MD1). A good start may be looking at the Johnston midden compared to Pinson earthworks and the Pinson Cochran area. This compares the Johnston midden to known ritualistic mounds to a known non-ritualistic habitation site. Between the two Pinson contexts, the Johnston midden is more similar to the ritualistic earthworks (Fig. 13-16). This is an interesting find, as the Johnston Midden (a non-earthwork site) appears more to all Pinson Earthworks than to an off-mound site. Pinson earthworks and the Johnston midden all lean towards more non-local, stylistically diverse, and multiple communities centered evidence.

Though this is outstanding information to identify the significance of Johnston, which has been overlooked for years, we are comparing apples and oranges here. You have three different possible site functions: ritual areas, a habitation site, and a midden which may be the result of ritual or domestic activity. All are archaeologically distinct. Luckily, Pinson Mounds (40MD1) have one midden to offer: The Duck's Nest. As described previously, this site is packed with ceramics. It holds a probable connection to ritualistic mounds at Pinson, therefore providing us with a more fair context in which to compare Johnston midden (Mainfort, 2013).

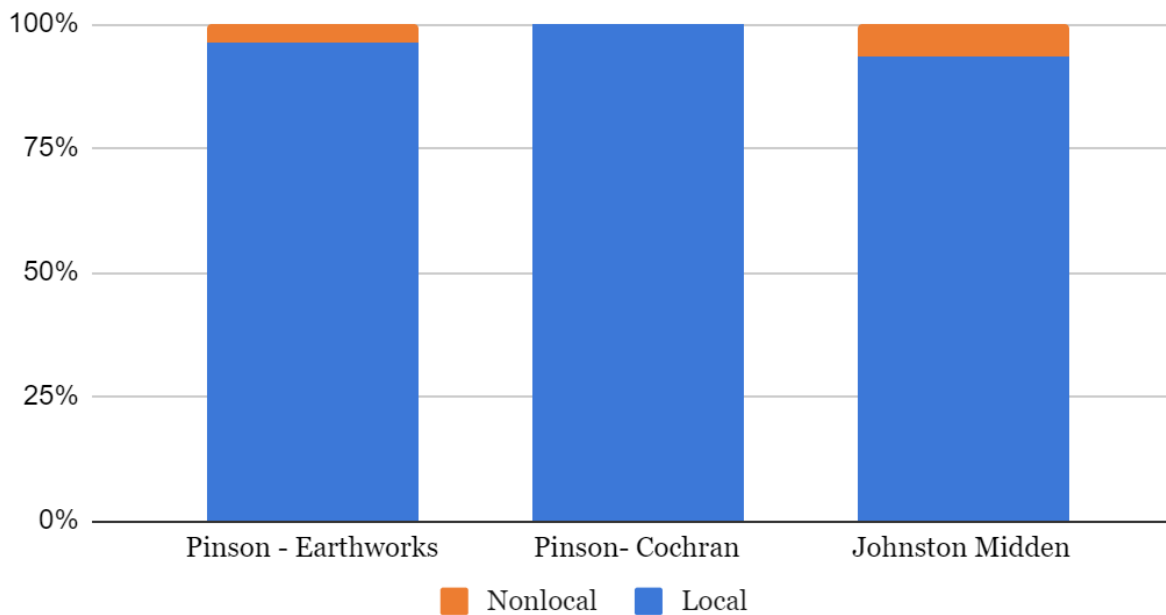


(Fig.13) Inter-site temper origin diversity [Q1, Hyp.1]

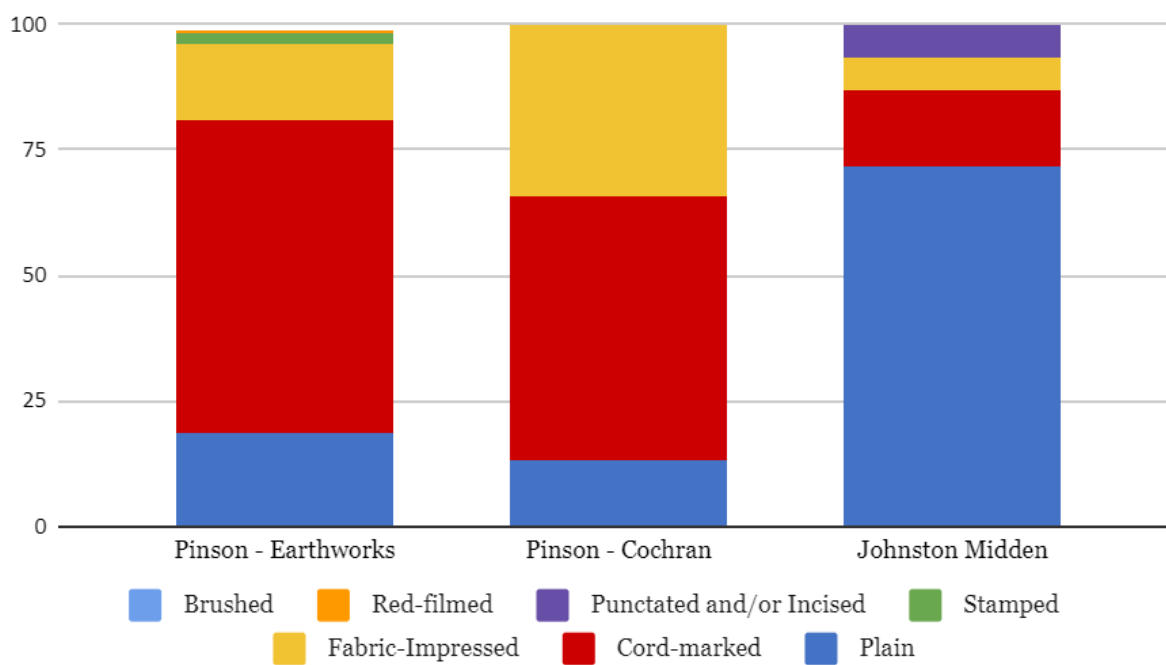


(Fig.14) Inter-site temper material diversity. [Q2 CoP]





(Fig.15) Inter-site surface treatment origin diversity. [Q3, Hyp.1]



(Fig.16) Inter-site surface treatment type diversity. [Q3, Hyp.1]

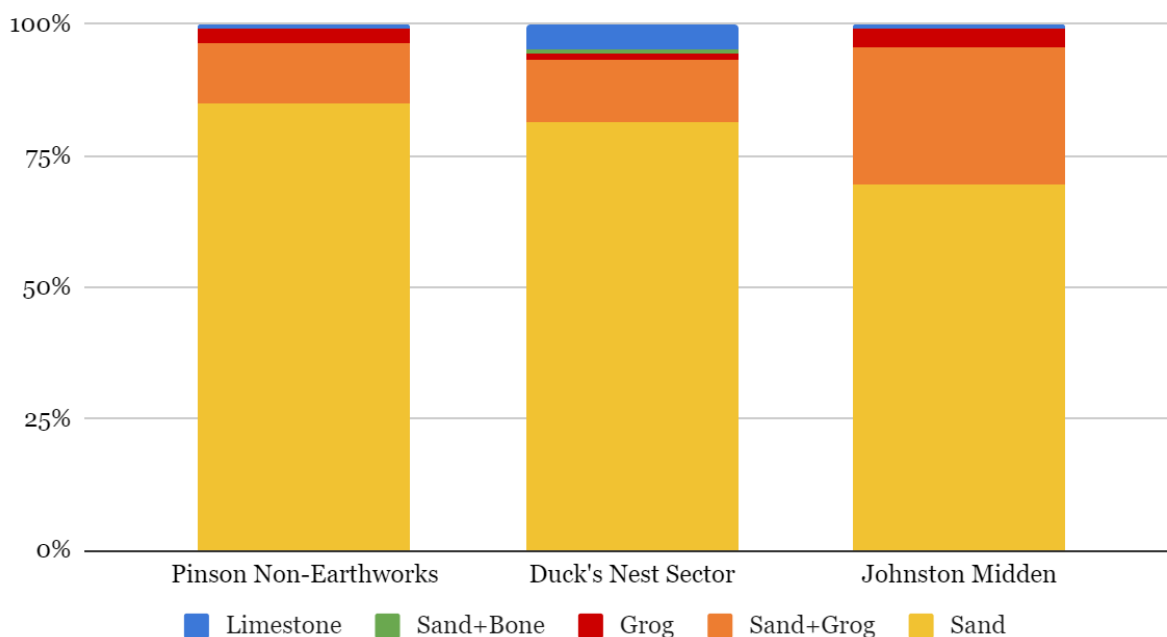
Unlike Johnston, Duck's Nest's majority treatment style is cord-marked. Even though the majority of tempering is sand, much like Johnston, there is also a considerable amount of

limestone tempering which appears at Duck's Nest (Fig. 17-18). One thing that must be taken into account here is preservation bias. Many of Johnston's ceramics were too eroded and trampled to be properly incorporated into the data set. This could drastically affect the percentages of ceramic types, especially since limestone tempering is easily dissolved throughout time. It is important to remember preservation bias, though we still must accept the data we have at hand, right now. There are certainly distinct differences between the two middens. It would be poor science to expect them to be exactly the same, but even worse science to expect anything at all. The next step is to compare how local and non-local either site is. The following graphs (Fig. 17-20) compare the Johnston Midden with Duck's Nest as well as all non-earthwork Pinson sites. This allows us to look intra-site with Pinson as well as inter-site between Johnston and Pinson. What we currently know about The Johnston assemblage is that it is more than likely a midden. Evidence of local and non-local interaction is present, as well as multiple communities of practice. What we do not know is how connected the Johnston midden is to ritual and/or secular activities. To build more context for the Johnston midden, we can compare the site to an array of contexts at Pinson Mounds (40MD1). A good start may be looking at the Johnston midden compared to Pinson earthworks and the Pinson Cochran area. This compares the Johnston midden to known ritualistic mounds to a known non-ritualistic habitation site.

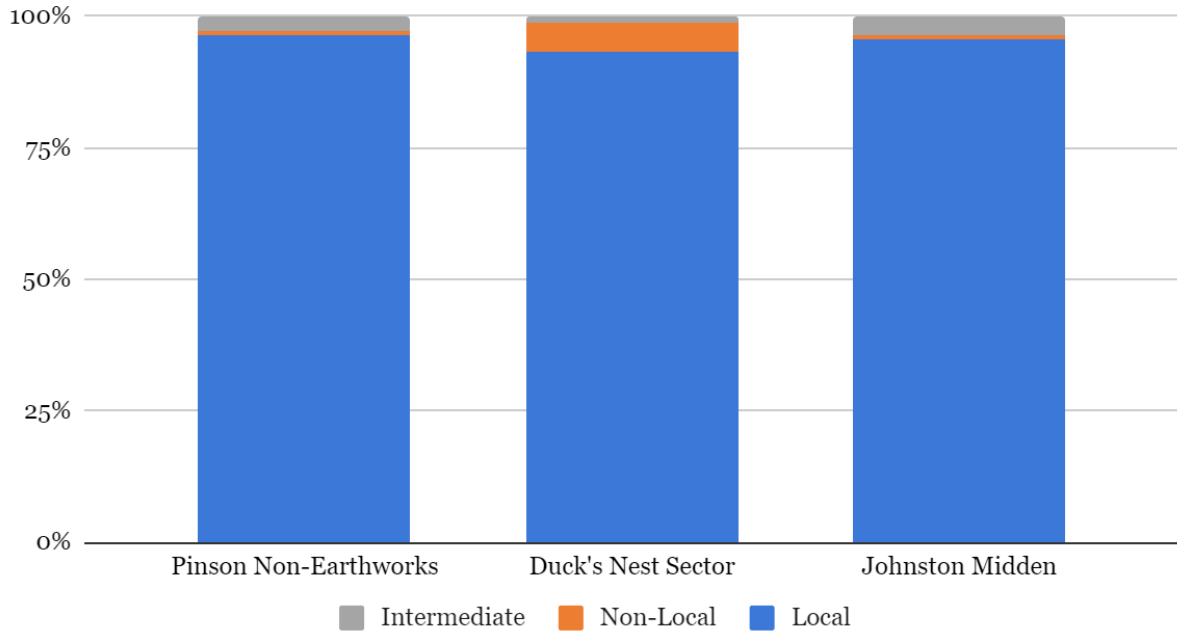
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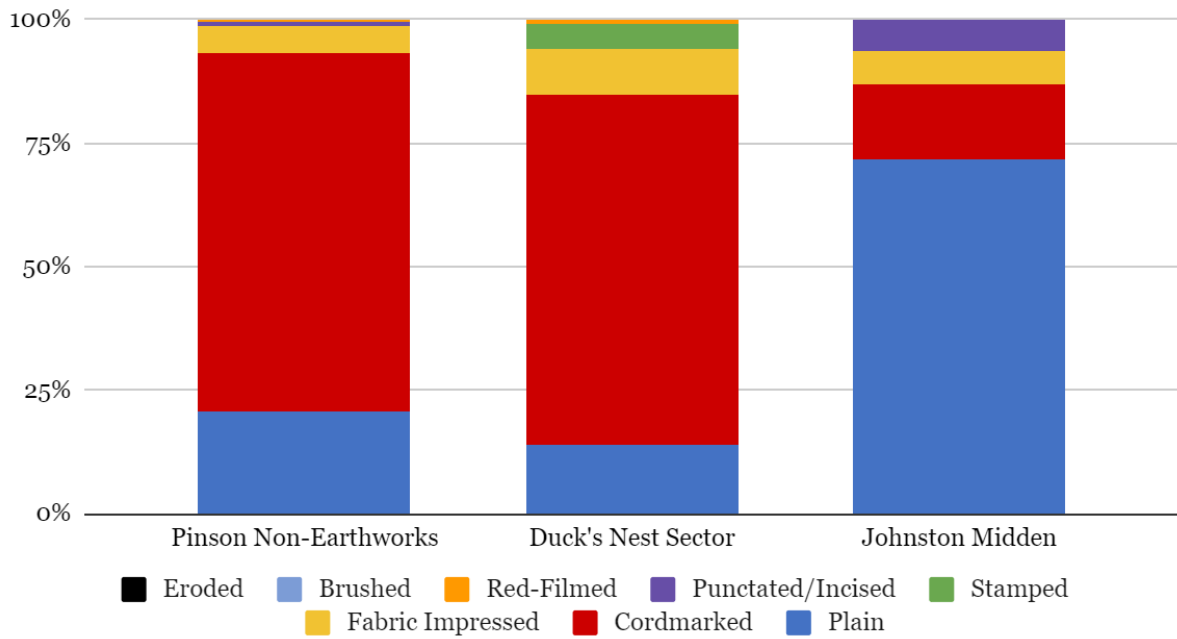
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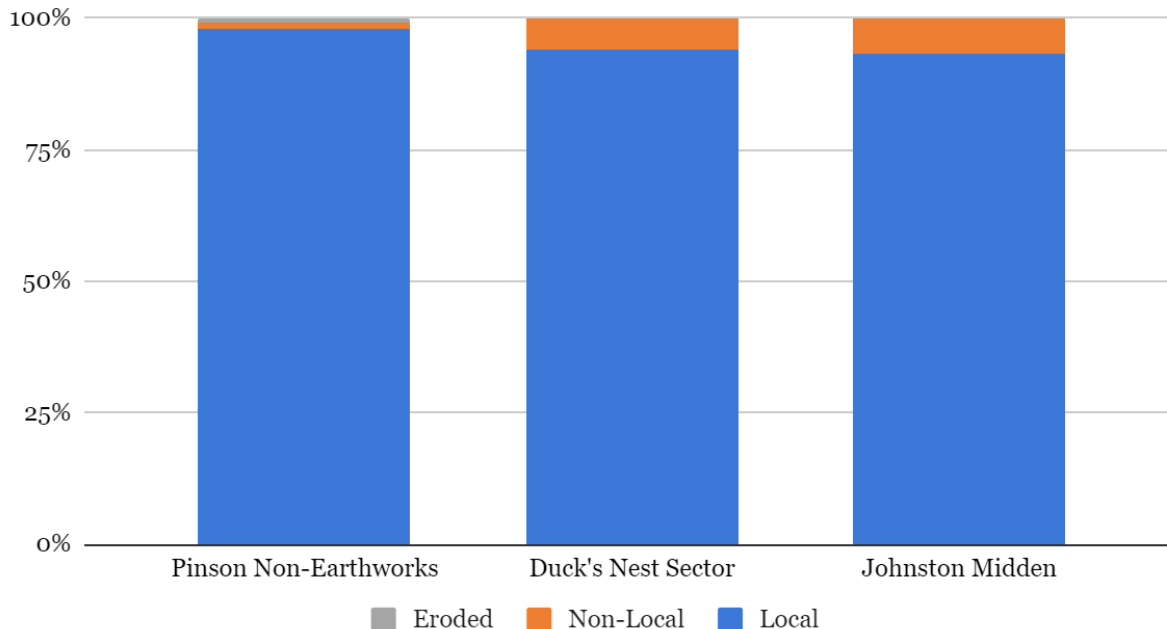
(Fig.17) Midden and non-earthwork temper material diversity. [Q1]



(Fig.18) Midden and non-earthwork temper origin diversity. [Q1]



(Fig.19) Midden and non-earthwork surface treatment type diversity. [Q3]



(Fig.20) Midden and non-earthwork surface treatment origin diversity. [Q3]

The results show a thought-provoking combination of similarities and differences between the three data sets. Based upon expectations regarding temper locality within hypothesis one, Duck's Nest has more evidence for non-local materials than the Johnston midden. Despite the more minimal presence of non-local tempers at Johnston, the mica/paste analysis (Fig.7) indicates some form of outside interaction with the site. What can be gathered from this is that non-local mingling at the Johnston Midden and Pinson Mounds (40MD1) occurred in different ways. Though Duck's Nest and Johnston are both middens, it seems more likely that they formed due to different activities. Otherwise, the Johnston midden would not hold such similarity in temper origin as other non-earthwork sites at Pinson (Fig.18). The specifics of Duck's Nest temper presence may be unknown, but it is clear that non-local tempers hold more significance for the ritualistic activities it represents.

In terms of surface treatment diversity origin, Johnston midden and Duck's Nest Sector hold similarities (Fig.20). When looking at the diversity of surface treatment types, Duck's Nest

appears to lack any comparison to Johnston midden. Cord marked surface treatments appear far more common between Duck's Nest and other non-earthwork sites at Pinson compared to Johnston (Fig.18). This demonstrates a difference in the significance of surface treatments on the inter-site scale. What this means is that there is a clear difference between Johnston and Pinson in terms of functional purposes behind individual surface treatments, as Johnston favors plain treatment instead of cord-marked. However, this is not to diminish the similarity of the locality. Both Duck's Nest Sector and Johnston midden are products of activities which perpetuated more non-local interaction than non-earthwork sites at Pinson.

What does all of this have to say about Johnston's context? Out of the four purposes sites (Pinson earthworks, Pinson non-earthworks, Cochran, and Duck's Nest), Johnston Midden shows the greatest similarity to Duck's Nest Sector. As they both are likely middens, this appears the most logical. When questioning ritual and non-ritual components, Johnston Midden demonstrates a middle ground of ritualistic connection between Pinson ritual contexts and Cochran. There is certainly non-local significance to Johnston, giving the possibility that the midden is the product of an event(s) which had sacred significance. Yet, Duck's Nest and Pinson earthwork contexts show higher numbers of surface and temper diversity origins, implying they are products of activities which contain more ritual context than Johnston.

What this exactly means is that including these sites together in further research creates a stronger foundation for understanding Middle Woodland interaction spheres. Questions of exploration can begin to be asked. Were any rituals or activities conducted in tandem at either site? Did populations move between said sites? Did either population conduct trade with the same peoples? If Johnston and Pinson share more similarities than a section within Pinson itself (Cochran), it may be possible.

## Conclusion

Middle Woodland sites in the Southeast are often considered to be outside of the Hopewellian interaction sphere, yet demonstrate a clear influence from the network of cultural exchange. Mounds, artifacts, and ceramics all demonstrate similar patterns across the United States. It is arbitrary for us to apply our modern boundaries (state lines and timezones) to past societies (Wright, 2017). Though the percentages of non-local ceramics may be small in the analysis data sets above, they demonstrate a connection to Ohio-Hopewellian culture. This says nothing, however, about the wealth of knowledge they can supply when considered in macro-scalar studies. Sites are connected, and thus are able to demonstrate aspects of cultures which span centuries (Speilman, 2008).

Future areas of exploration could include petrographic analysis of Johnston Midden ceramics much like Stoltman & Mainfort practiced in 2002 on Pinson Mounds (40MD1) ceramics. The results from this study concluded with non-local ceramics having chemically local pastes. These findings then raised further inquiries about the integrity of said testing strategies. It was noted that unlike other artefact types (such as metals), ceramics are more susceptible to contamination as well as chemical complexity (Stoltman & Mainfort 2002). Determining the locality of pastes and other materials are reliant on larger test sizes and better context. Trying to pinpoint data from a single vessel leads to “noisy” results, leaving distinct patterns unrecognizable. Future research could consist of looking at bulk samples from Johnston Midden, allowing for the comparison of large statistical patterns. The data I personally collected can also be explored further through various t-tests or other statistical methods. There may even be an element of the data that was not questioned in this analysis.

These sites located on the SFFDR have been overlooked and underappreciated due to a hierarchical significance applied to Middle Woodland sites by archaeologists over the past century. Yet it has been demonstrated that these sites show circumstantial relationships to one another. The argument here is not to diminish the significance of Hopewellian culture, but to do the exact opposite. Naturally, further questions will arise with his data as well as spread to the interpretation and analysis of other Middle Woodland sites which rim just outside what is considered to be the Hopewellian interaction sphere. Therefore the spread of Hopewellian values will exceed further beyond what it was previously considered, allowing it to be defined more loosely.

Overall there is more confidence in the connection of these sites not only between one another but within Hopewellian interaction as well. This is a prime example of how archaeological work is ongoing, constantly revising and adding to past discoveries. For too long have these sites gone underrepresented. It is time to utilize their context, as they can provide us with core information about what has driven the daily life of these peoples.



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