SNOW'S BEND (1TU2/3) AND THE LANDSCAPES OF THE MOUNDVILLE CHIEFDOM:

A MULTI-METHOD GEOPHYSICAL SURVEY

by

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ABSTRACT

Moundville's greater landscapes are vital to understanding the dynamics of social change and continuity during the Mississippian period over time and across space. These landscapes play essential roles in conceptualizing movement and changing relationships in the Black Warrior Valley, particularly during a period of regional reorganization, where communities built new villages and mounds while leaving Moundville. Here, I focus on one of these villages, named Snow's Bend. Snow's Bend (1TU2/3) is a Moundville III (1400-1520 CE) site containing a mound and cemetery in the Black Warrior River Valley. In this project, I ground a non-invasive and non-destructive geophysical and remote sensing survey in a practice-based approach to reveal notions of community, movement, and place-making within the Moundville Chiefdom's extended social landscapes in the Black Warrior River Valley. I use magnetic gradiometry and electrical resistance to discern the community's size, extent, and organization and determine the relationship between different features over time and across space. I identify three potential neighborhoods that show spatial continuity between the mound and cemetery. While potential houses appear in clusters, there are an abundance of pits throughout the site that might suggest an aggregated population. Considering the spatial organization of architecture, there might be subtle community acts of symbolic distancing, shown through the orientation of private spaces away from the mound. These findings call for a greater attention to the unique histories of mound centers, particularly as people moved from Moundville to the hinterlands.

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CHAPTER 1. INTRODUCTION

Extending along the riverbanks of the Black Warrior River in Tuscaloosa and Hale Counties, Alabama, earthen monuments stand today as important sites in the emergent Indigenous landscapes of the Mississippian period, circa AD 1000. For several centuries, communities lived on and moved throughout the riverbanks of the Black Warrior River Valley. Eventually, social groups began constructing earthen platform mounds and modified the landscape, ultimately creating Moundville, a large, multi-mound ceremonial center organized around a 23 ha plaza (Lacquement 2009). For nearly a century, the focal point of Mississippian life was on the ceremonial center. The Moundville chiefdom consisted of complicated social networks that extended from the ceremonial center to the single-mound and nonmound centers throughout Black Warrior River Valley. Single-mound and nonmound settlements comprise the "hinterlands" of the Moundville chiefdom and contain at least fourteen known single-mound centers and numerous nonmound sites (Hammerstedt et al. 2016; Maxham 2004; Welch 1998). Beginning circa AD 1300, those living at the ceremonial center began to reorganize into the valley as their relationship to social and political institutions changed.

Archaeological interpretations of settlement patterns in Moundville's hinterlands generally place sites within a network extending from Moundville. Single-mound sites served as intermediary nodes between the ceremonial center and domestic settlements in the valley. However, the relationship between these communities and Moundville is complicated. Evidence for ritual feasting and craft specialization in the Black Warrior River Valley suggests that communities in the hinterlands maintained social ties with Moundville that differed over time

and across space (Hammerstedt et al. 2016; Marcoux 2007; Scarry et al. 2016). Archaeologists are beginning to shift their focus towards the social landscapes in these "hinterlands." These sites provide a nuanced perspective on the realities of social life during the Mississippian period (Scarry and Steponaitis 2016b). With increasing interest in the hinterlands, Snow's Bend provides an exciting venue to evaluate new understandings of the Moundville Chiefdom's Late Mississippian landscape.

Snow's Bend (1TU2/3) is a single-mound and village site from the late Moundville II (AD 1300-1400) and Moundville III (AD 1400-1520) phases (Figure 1). The site is located several miles from downtown Northport and Tuscaloosa, Alabama. Snow's Bend is one of the few single-mound sites that emerged during the outmigration from Moundville to the Hinterlands in the 14th century.

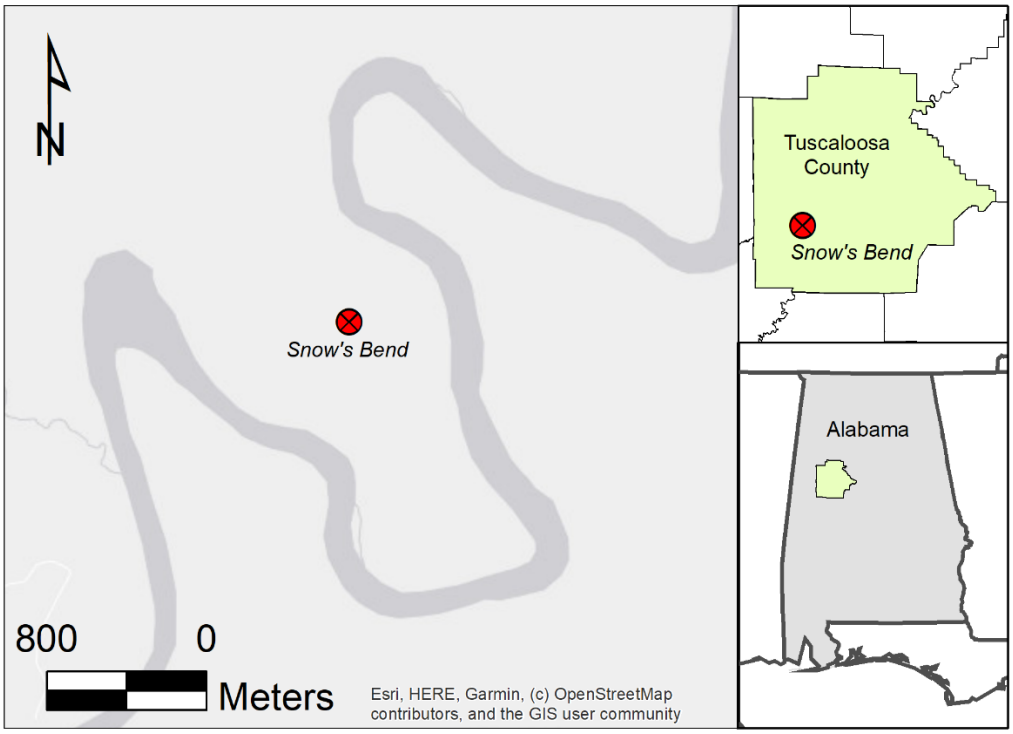

Figure 1. Location of Snow's Bend within Tuscaloosa County, Alabama

In this study, I use multiple geophysical techniques to investigate the Mississippian landscape of Snow's Bend. I use electrical resistance and magnetic gradiometry to map the village area. In total, the survey area outlined within this study is 2.56 ha, or 25,560 m^2. After integrating these geophysical datasets through an interpretive map, I then explore how relationships to space manifest throughout the landscape.

As there has only been minimal excavation at Snow's Bend, a non-invasive geophysical survey provides a tool for exploring the spatial organization of the village. Further, integrated remote sensing methods can answer anthropological questions concerning the intersection of space, place, and identity at multiple scales (Thompson et al. 2011). In this study, I employ a practice-based approach (Blair 2013) grounded in geophysical remote sensing to discern how community organization at various scales reflects social life at Snow's Bend. More specifically, this approach will aid in addressing the following objectives:

1. Determine the size, extent, and occupation of Snow's Bend. Is Snow's Bend a nucleated village or a small settlement centered around the mound? Given the nearby cemetery, how might discerning the nature of spatial organization elucidate the relationship between both sites? The use of integrated geophysical remote sensing methods will aid in evaluating subsurface archaeological features and patterns. Different remote sensing techniques are sensitive to historical anthropogenic activities, such as agriculture. The use of multiple methods can produce a detailed dataset to understand how residents created space and place at Snow's Bend.
2. Understand the relationship between the cemetery, village, and the mound. Depending on the relationship between different areas, how might this affect the relationship to Moundville, which was in the process of becoming a necropolis? To begin asking this

question, I must first evaluate how architecture and other anthropogenic features demonstrate any relationship between the mound and cemetery. The anthropogenic features between both may clearly outline how people construct paths to facilitate movement and interaction between the two sites. This might provide more nuance to the argument that residential group burials at Moundville are a clear example of how social memory evokes meaning to the basic social units in the ceremonial ground (see Wilson 2010).

3. Hammerstedt's (2000) settlement pattern model for Moundville's hinterlands suggests single-mound sites such as Snow's Bend are loosely aggregated communities of farmsteads. However, no study has evaluated this on a site-wide basis. Given the capabilities of geophysical surveying in examining the spatial organization of villages, I will be able to compare the validity of this settlement model. In identifying architecture throughout the landscape, I can evaluate whether these expectations are met at Snow's Bend.
4. On a larger scale, what might the presence of cemeteries and their relationship to nearby residential areas at Snow's Bend and the White site imply about the relationship between different towns in the hinterlands and Moundville's ceremonial ground? Given the nature of the occupation, what might this indicate considering other models of understanding Moundville's physical and social organization? With recent scholarship arguing that Moundville is a ceremonial ground (Scarry and Steponaitis 2016), single mound sites such as Snow's Bend are increasingly important for understanding the chiefdom's social networks. Remote sensing can clarify their role in regional organization, and as other research has shown, distant sites are generally stable over time and have significant

variability in their use (Scarry et al. 2016). Thus, geophysical remote sensing at Snow's Bend can help understand more nuanced variations of different settlements in the region.

Organization of Thesis

I contextualize Snow's Bend within the Moundville Chiefdom's social landscape in the following chapter. Drawing from archaeological literature pertaining to Moundville's social organization and history, I focus on the hinterlands of the chiefdom. After this review, I provide a record of archaeological research at Snow's Bend.

In the third chapter, I provide a theoretical discussion defining community, practice, space, and landscape to support my integration of geophysical methods with anthropological questions. Specifically, I draw upon several theoretical orientations to evaluate the landscapes of lived spaces and daily practices. I offer a closing section integrating theory and method to bridge the difference between anthropological perspectives and geophysical capabilities.

In Chapter 4, I provide a detailed overview of the geophysical methods used and outline my survey design. In Chapter 5, I discuss the results of each technique and integrate these data into interpretive maps. Using these interpretive maps, I contextualize potential Mississippian features to evaluate how the built environment addresses settlement organization, social landscapes, and the construction and maintenance of community. In the final chapter, I discuss how these data provide new insights into how the built environment of Snow's Bend reflects how the daily practices of its residents relate to the social construction of community in the Moundville chiefdom.

CHAPTER 2. SNOW'S BEND AND THE MOUNDVILLE CHIEFDOM

Snow's Bend is a Late Moundville II and Moundville III (AD 1300-1520) platform mound, village, and cemetery site in the northern reaches of the Moundville chiefdom. Snow's Bend served as one of the several single-mound subsidiary centers of Moundville communities during the Late Moundville II period (1300-1400) and the Moundville III period (1400-1520) (see Welch 1991, 1998). Understanding Snow's Bend and its relationship to the Moundville chiefdom over time requires contextualizing the role of social landscapes in its history. During the onset of the Mississippian Period in the Black Warrior River Valley of Central Alabama, these settlements played a vital role in the emergence of Moundville's social landscape beginning circa AD 1000. At Moundville, the population altered the immediate landscape creating a large, multi-mound ceremonial site enclosed in a palisade. However, Moundville's influence extended well beyond its palisade. The Moundville chiefdom grew its power and influence far and wide, utilizing various trade and exchange networks throughout the Eastern Woodlands. Moreover, as communities at Moundville began to move away from the center around AD 1300, the settlement of the valley took on new importance as communities reconfigured pre-existing settlements and created new mound-centers and non-mound settlements along the riverside. In this chapter, I provide a history of the Moundville Chiefdom, emphasizing sites in the hinterlands, and conclude with a review of Snow's Bend. The following timelines are divided into phases from Steponaitis and Scarry (2016) (Figure 2).

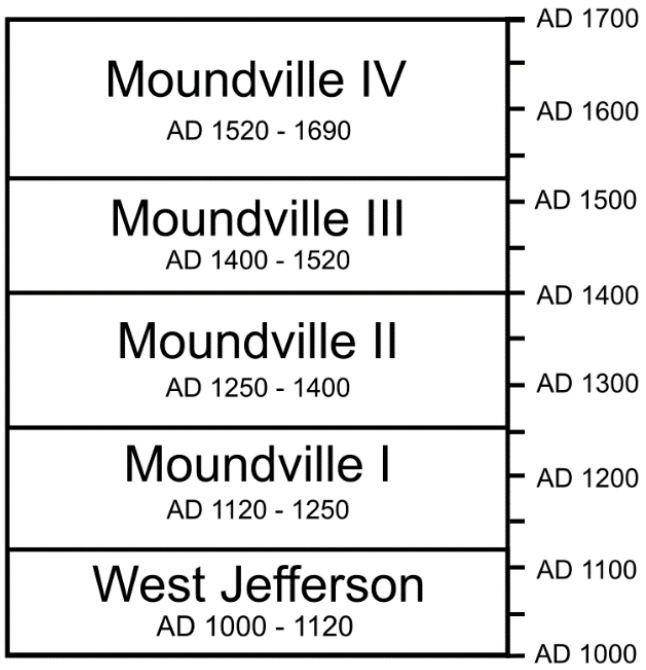

Figure 2. Moundville ceramic phases (Steponaitis and Scarry 2016:12).

Making Mississippian Communities

Before unpacking the history of the Moundville Chiefdom and its associated settlements, it is helpful to address the following question: what makes a Mississippian community? This requires explicitly addressing notions of how archaeologists define "community," a topic I address in further detail in the following chapter, and what defines a Mississippian community. While the issue is broad, I focus on Mississippian *spaces*, or the creation and maintenance of architecture and spatial organization.

Rogers (1995:7) argued for an approach that defines Mississippian communities through households, or a "coresidential group" that occupies an "enclosed space." Rogers foregrounded an entire edited volume with this definition (Rogers and Smith 1995), that Pluckhahn (2010:336) critiqued for its functionalist, behavioralist, and evolutionary arguments. Instead, archaeologists now envision Mississippian households and communities as the loci of daily negotiations of

social, political, religious, and economic practices (Watts Malouchos and Betzenhauser 2021a). Brennan (2021) defines Mississippian communities as social entities that emerge through practice, are promoted through relations that arise from historical experiences, and are reified by daily events and outcomes. In this sense, Mississippian communities were nested, entangled, and best understood through multi-scalar analysis (Brennan 2021; Ingold 1993; Yaeger and Canuto 2000).

The emphasis on architectural organization is a fundamental component of Mississippian towns. However, it is important to acknowledge the greater variations that exist at different scales. Steere (2021) distinguishes among three scales to understand variations in Mississippian architecture: microregional, regional, and macroregional. Microregional trends deal with details including post size and placement, house size and orientation, and size and placement of storage facilities (Steere 2017, 2021). Regional trends lack a formal definition, but would involve variations across an area, such as those defined by Lacquement (2007) for central Alabama. Macroregional trends consider several elements, including changes in shape, size, wall construction methods, segmentation in space, and rebuilding practices (Steere 2021).

From a macroregional perspective, there are several key elements to consider. While plazas and platform mounds predate the Mississippian period (Kassabaum 2019), plazas are relational spaces that are founding features to anchor, animate, and facilitate community activities (Cobb and Butler 2017). Surrounding these public centers are platform mounds that elevate various essential buildings, such as charnel houses, public buildings, porches, palisades, religious structures, or elite residences (Lewis et al. 1998; Lindauer and Blitz 1997). Throughout these spaces, architectural forms such as flexed-pole and rigid-pole houses exist, forming rectangular structures with wattle and daubed walls (Blanton and Gresham 2007; Brennan 2007;

Lacquement 2007) surrounding neighborhoods of households that serve as the loci for daily practice. In some cases, the palisades, or screens around specific structures or areas of a community and town, exist as palisades with gates to enclose an entire space (Lewis et al. 1998). For example, the palisade walls surrounding Moundville during the late 13th century was rebuilt three times, likely lasting a generation.

West Jefferson (AD 1000–1120) and Moundville I (AD 1120–1250)

During the Late Woodland West Jefferson phase (ca. AD 1000-1120), archaeologists characterize Indigenous lifeways in the Black Warrior River Valley by the large riverine settlements with extensive middens and intensifying maize production (Knight and Steponaitis 1998). Maxham (2004) suggests these riverine settlements consisted of single-family sites and nucleated villages during the West Jefferson phase. Bozeman (1982) and Welch (1990) posit that West Jefferson villages in the Black Warrior River Valley were likely small and seasonally occupied. However, it is often difficult to assess the extent of West Jefferson occupations. Many of the large sites could be overlapping small settlements that also contain small areas of later Moundville-related occupations (Hammerstedt 2000; Hammerstedt et al. 2016; Scarry and Scarry 1997).

Technological changes in ceramic manufacturing mark a pivotal transition in local Indigenous history during the West Jefferson phase. Potters in the valley during the West Jefferson phase produced grog-tempered ceramics, which shell-tempered pots eventually replaced during the Moundville I phase (AD 1120-1250) (Steponaitis 1980). West Jefferson ceramic manufacturing practices likely extend into the Moundville I phase, given the co-occurrence of both types of material culture at Moundville (Knight 2010; Knight and Steponaitis

1998). Changes in ceramic manufacturing might suggest that the start of shell-tempering for ceramic manufacturing is a nonlocal introduction, marking the peripheralization of West Jefferson peoples (Blitz and Lorenz 2002; Jackson 2004; Jenkins 2003). However, the suggested nonlocal origins of Mississippian developments in the Black Warrior River Valley lack substantive evidence, and archaeologists should be careful not to use ceramics as a proxy for people.

Concurrent with the transformations in material culture that mark Mississippian beginnings in the Black Warrior Valley, earthen platform monuments began at Moundville with two small mounds during the early Moundville I phase (Blitz 2016; Knight and Steponaitis 1998; Steponaitis 1992). The construction of these monuments follows the emergence of changing social and political institutions that supported Moundville's growth. Population trends also changed in the valley as communities abandoned West Jefferson villages. At the same time, the population grew at Moundville. Population growth is evident from the widespread distribution of early Moundville I architecture, which is a style that combines elements of West Jefferson sunken floors and Mississippian wall trench construction (Blitz 2016; Lacquement 2007; Wilson 2008).

As monumental construction efforts at Moundville increased during the late Moundville I phase, ca. AD 1200, groups also began to construct monumental earthen platforms elsewhere in the valley. For instance, near Snow's Bend in the northern reaches of Moundville's countryside, people built Hog's Pen Mound (1TU56), which was occupied from the late Moundville I and early Moundville II phases (ca. AD 1200 to AD 1300) (Jackson et al. 2016; Maxham 2000, 2004; Myer 2002; Welch 1998).

MOUNDVILLE II (AD 1250–1400)

During the late Moundville I and early Moundville II phases (ca. AD 1200 -1300), the communities in the region began to consolidate at Moundville and modified and leveled the terrace, creating a large, 23 ha plaza (Lacquement 2009, 2020). The creation of the plaza atop earlier living spaces counters the dominant archaeological narrative that plazas mark a founding event for a town (Cobb and Butler 2017; Lewis and Stout 1998). At Moundville, Lacquement (2020) argues plaza modification might mark the establishment of Moundville's collective identity (Lacquement 2020). The establishment of this identity shown through spatial modification emerged alongside increased uniformity of ceramic manufacturing (Steponaitis 1980). The implications of this event to settlements in the surrounding valley are unclear. However, people abandoned older mounds at Moundville, like 1TU50, while also demolishing Mound X (Blitz 2016), and eventually built at least 29 mounds enclosed within a palisade during this phase (Knight and Steponaitis 1998).

After the construction of the plaza, people built at least 29 mounds organized in pairs carefully around the plaza. Knight (1998) argues that this organization is a sociogram─a visual representation of the relational networks that compose the social organization within the chiefdom. Archaeologists still debate what the organization of mounds represent, whether they relate to ranked kin (Knight 2016; Wilson 2008, 2010; Wilson et al. 2010), temporarily coalesced town chiefs, possibly from the single-mound centers (Blitz 1999, 2008; Knight 2016), or religious sodalities (Byers 2013). A common thread through these different scenarios is that archaeologists place great importance on the creation and maintenance of earthen monuments. Yet, it is not clear how these understandings correspond with the concurrent construction and subsequent maintenance of mound-centers in the hinterlands.

Communities in the hinterlands of the valley built new mound sites outside of Moundville, including Jones Ferry, Poellnitz, and Hog Pen during the Moundville II phase (Welch 1998). Archaeologists suggest these single-mound sites were administrative nodes that facilitated social and economic activities, and community beyond the household (Hammerstedt 2000; Hammerstedt et al. 2016; Maxham 2004; Myer 2002), with minor off-mound habitation with fewer than a dozen dwellings (Welch 1991). Shortly after AD 1300, communities vacated Moundville's ceremonial center and expanded these settlements. There are at least three possible reasons for this population movement. In one view, rapid population growth might have contributed to an exhaustion of resources such as wood, which is suggested through the decrease in post size in late architecture (Lacquement 2007). In another view, the removal of the palisade walls might suggest a lessened nearby threat (Knight and Steponaitis 1998; Scarry 1993; Steponaitis 2007). Alternatively, the movement of people away from Moundville might be an act of symbolic distance (Knight 2016; Porth 2017). Regardless, the out-migration resulted in an increasing population in the valley. At this time, people at Moundville reconfigured former communal living spaces as cemeteries (Wilson et al. 2010).

During the late Moundville II phase (ca. AD 1200-1300), those who moved from Moundville began to establish new settlements. During this period, communities in the valley built new single-mound sites while ultimately abandoning Hog Pen and Jones Ferry. These new mound centers included Snow's Bend, Fosters Landing, Cook, Tousons Lake, and Gray's Landing (Hammerstedt and Myer 2001; Myer 2002; Welch 1998). The shifting focus from regional consolidation to increasing settlement around single-mound sites marked a dramatic shift in the valley. People created new homes in the hinterlands. For example, Bozeman (1982)

argues that the construction of the Snow's Bend mound marks a shift in a local focus of social, political, and religious activities from the Hog's Pen Mound.

MOUNDVILLE III (AD 1400–1520)

By AD 1400, people were dispersed throughout in the Black Warrior River Valley. Many groups continued to live at the single-mound centers that emerged during the late Moundville II period. Communities also built new mounds in the region, such as White, Stephens Bluff, and Minter Creek (Hayward et al. 1995; Welch 1998). Rees (2001) suggests the organization of single-mound centers during the Moundville II phase might indicate the development of central locations that elite from Moundville used to integrate communities. However, this view seemingly changed by AD 1400, during the outmigration from Moundville, and changing settlement patterns either represented attempts to utilize single-mound centers as the means to serve the increasingly decentralized population, or an attempt for communities to distance themselves from the elite (Rees 2001). These sites contained mostly small villages around the mound. The White site exemplifies this, as artifacts generally clustered in the area around the base of the mound (Welch 1991). Foster's Landing, for example, provides contrasting evidence, suggesting the site is a large, reoccupied village, as artifacts and structural features extend several hundred meters from the mound to the edge of the riverside terrace (Rees 2001). At Moundville, people continued to live on several of the mounds. However, by this time, people used former living spaces to bury their ancestors (Wilson 2010; Wilson et al. 2010).

During this time, mound construction practices began to change. Those building the monuments began to construct terraced platforms on the mound summits at several of the mounds at Moundville (B, E, P) and in the hinterlands at sites such as White and Minter Creek

(Porth 2017). Porth (2017:291) questions whether this marks a change in the meaning of mounds, acknowledging that some monuments appeared this way throughout their history. While a notable feature of these later mounds, terraces, or secondary mounds on the summit (Benchley 1974) might originate during the construction of late Moundville II centers. For example, this practice appears throughout the construction history at Snow's Bend (Filoromo et al. 2022; Plattner et al. 2022). Regardless, terraced mounds are common during the Moundville III phase.

While many people in the hinterlands returned to Moundville to bury their ancestors, groups also began to use new cemeteries at Snow's Bend and White, which were the first burials outside the Moundville's immediate center (DeJarnette and Peebles 1970; Welch 1991). Rees (2001) suggests that since Snow's Bend and White are much further separated from Moundville than other single-mound centers, this change might have emerged because of proximity.

The development of single-mound centers, particularly during the movement from Moundville to the countryside beginning circa AD 1300, marked a pivotal social movement in the region. However, the subsidiary single-mound centers and associated villages such as Snow's Bend are little understood. There are contrasting views on the settlement patterns associated with these centers. On one hand, Welch (1998) argues that single-mound centers and villages supported a densely nucleated population that continued to grow over time. In contrast, Hammerstedt (2000) suggests that single-mound centers supported dispersed clusters of farmsteads, where the mounds merely provided a nearby means to engage with religious or political activities (Hammerstedt et al. 2016; Myer 2002). In the latter view, mound centers support a loosely aggregated, but dispersed population (Hammerstedt 2000; Maxham 2000, 2004; Myer 2002).

MOUNDVILLE IV (AD 1520–1690)

The population in the Black Warrior Valley decreased over time, into the Moundville IV phase (AD 1520-1690). Settlement patterns continued to change, where people mostly moved away from the mound centers to live in other nucleated towns. The exception to this pattern are Hills Gin Landing and Fosters Landing, both single-mound centers that supported continued occupation (Curren 1984; Rees 2001). At Moundville, evidence for occupation is largely restricted to several mounds near the riverside terrace (Knight and Steponaitis 1998). Moreover, there is an overall halt in mound-building, and burial practices changed as people interred their ancestors in burial urns at cemeteries in the valley (Curren 1984; Knight 2010).

As for the decrease in population during the Moundville IV phase, there are various interpretations that vary between internal and external pressures. Hernando de Soto's entrada traveled through west-central Alabama during the late fall and winter of AD 1540. Some archaeologists suggest the entrada traveled through the Black Warrior River Valley, encountering Moundville and its surrounding towns along the way (Curren 1984; Hudson 1997; Hudson et al. 1990b; Little and Curren 1990, 1995; Peebles 1986). Smith (1987) and Curren (1984) attribute decreasing population to the introduction of epidemic diseases such as smallpox. However, the results of these encounters vary. The structural violence introduced by Europeans, particularly in the wake of the Battle of Mabila in central Alabama, left many Indigenous communities vulnerable to disease (Hudson 1997). But other factors such as suffering from physical and mental trauma and nutritional stress might also explain demographic changes (Jones 2015).

During this period, communities living in the Black Warrior Valley may have also dealt with internal stressors that predated European intervention. For example, there may have been a

loss of soil productivity (Schoeninger and Schurr 1998), thus contributing to internal stress from food insecurity. Moreover, political and economic instability could originate during the critical transitional period of outmigration in the 15th century (Anderson 1994; Blitz 1999; Peebles 1987; Rees 2001). The decentralization of economic networks might correspond with the apparent changes in settlement patterns (Bozeman 1982:307). Therefore, the reasons for the continued movement and dispersal of communities in the Black Warrior Valley are complicated, requiring further research.

During the Moundville IV phase, historical records from Spanish accounts might provide descriptions of the region. A report by Rodrigo Rangel might suggest the Black Warrior River Valley region is the district of Apafalaya, consisting of smaller villages around a principal town of the same name (Hudson et al. 1990a; Oviedo y Valdés 1993; Shuck-Hall 2009). Based on distance calculations from historical accounts, Hudson (1997) identifies Snow's Bend as the principal town of Apafalaya. If Snow's Bend is Apafalaya, Shuck-Hall (2009) argues for some form of political centralization, as Chief Apafalaya would have overseen an abundance of goods and the fortified nuclear settlements in the Black Warrior Valley. Meaning, Snow's Bend was the center of administrative power in the region. Ethridge (2010) characterizes Apafalaya as a simple chiefdom run by a mico, or an elite leader. The brief account of Apafalaya in de Soto-era accounts provides little in the way of site-specific details about the community or its built environment. Yet, at the regional scale, such political centralization at Snow's Bend might suggest it supported a considerable nucleated population. Given how the Rangel account describes these small vacant corridors between towns in the Black Warrior Valley, settlement patterns around the river then consisted of nucleated towns (Oviedo y Valdés 1993). However, if Hernando de Soto's entrada visited Snow's Bend, the Spanish encountered Moundville III sites

rather than the Moundville IV sites suggested by the current regional chronology, which is more or less supported by the transitional ceramics from Moundville III emigration along the Alabama River (see Dumas and Knight 2021; Regnier 2014).

Previous Investigations at Snow's Bend

Previous archaeological investigations at Snow's Bend occurred during two periods: initial identification by the Alabama Museum of Natural History (AMNH) (1930-1932), and the University of Michigan Museum of Anthropology (UMMA) (1979) survey. Archaeologists at the Alabama Museum of Natural History excavated portions of the Snow's Bend cemetery in 1930 and 1932 to delineate the extent of the Moundville chiefdom's influence (University News 1932). Additional research at Snow's Bend continued in the late 1970s, with the UMMA conducting a systematic surface collection of a 0.96-ha portion of the site adjacent to the cemetery. These UMMA investigations included brief excavations at the mound, including a 1-x-2-m test unit at the base, a 1-x-1-m unit on the summit, and two 1-m wide profiles on the summit (Bozeman 1982; Welch 1998). While this research focuses on off-mound occupations between the mound and cemetery, continued geophysical research has provided a detailed look at the mound (Filoromo et al. 2022; Plattner et al. 2021). In the following sections, I synthesize and contextualize the history of archaeological investigations at Snow's Bend, organized around the two sites, the cemetery and village (1TU2) and the platform mound (1TU3).

Snow's Bend Cemetery and Village (1TU2)

Early investigations at Snow's Bend focused on the riverside include cemetery excavations in 1930 and 1932, two test units on the mound (DeJarnette and Peebles 1970), and

controlled surface collections of an associated village area in 1979 (Bozeman 1982). It is not clear from the reporting of the 1930 and 1932 excavations the exact location of the cemetery and mound excavations. Locating the cemetery is especially difficult, as nearly 2 ha of surface area has eroded on the river-side terraces since the 1930s cemetery excavation, based on differences in aerial imagery from 1938. Using drawings from a field journal, it is possible to locate the approximate survey area from the 1979 investigations (Welch 1979). I have identified the location of these features based on the available data and present these locations in Figure 3.

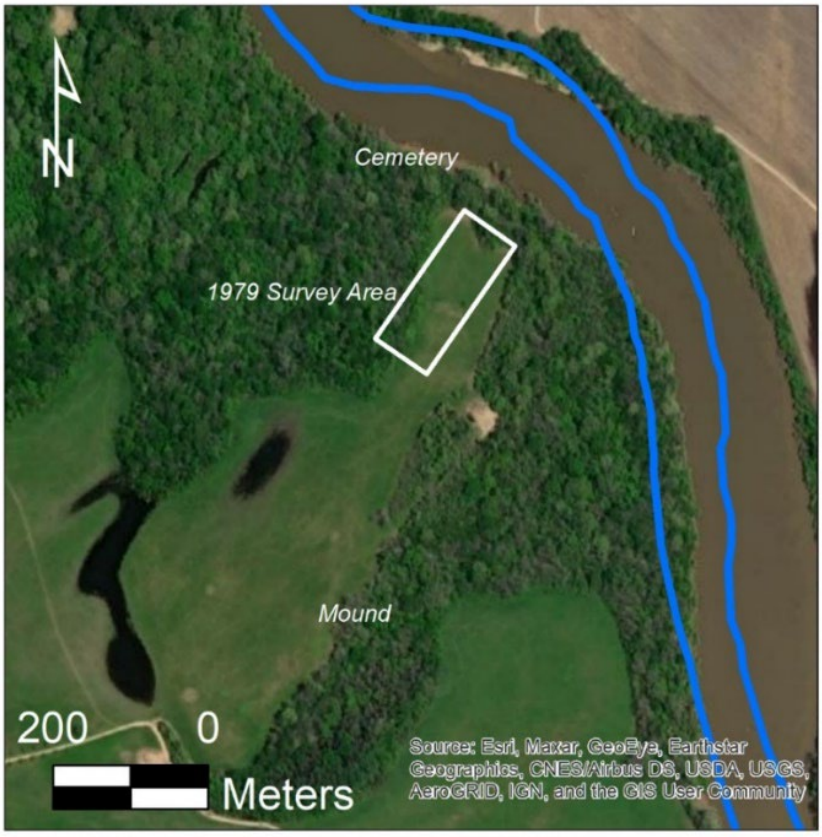

Figure 3. Areas of previous investigation at Snow's Bend Village (1TU2) with overlay of the path of the Black Warrior River (blue) in 1938 based on historic aerial photographs.

Investigations in the cemetery provided the initial diagnostic evidence that the site dates to the Late Moundville II and Moundville III periods. Chronologically specific ceramic styles,

including Carthage Incised var. *Carthage*, Moundville Engraved var. *UID*, and ceramic features, including beaded rims, effigy forms, and simple base subglobular bottles, among others, help confirm this date range. The presence of varying motifs that date the site to Late Moundville II and Moundville III include the winged serpent, paired tails, and the hand and eye designs in cemetery ceramics (Bozeman 1982; DeJarnette and Peebles 1970).

Through the systematic surface survey of a 0.96-hectare area of the village adjacent to the cemetery along the riverbank, Bozeman (1982) identified both West Jefferson and Moundville components. The presence of Carthage var. *Carthage* ceramics supports the Moundville III dates. Among the collections from the surface survey, there is a considerable amount of West Jefferson (AD 1000-1120) ceramics (n = 436) compared to Moundville phase ceramics (n = 314) (Figure 4).

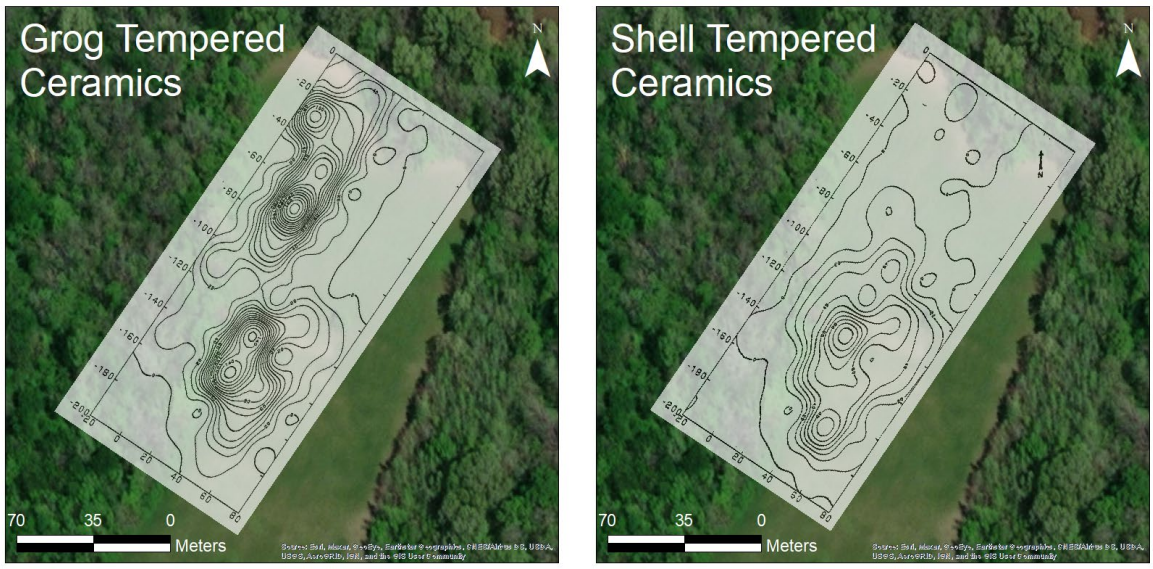

Figure 4. Bozeman's (1982) contour maps for ceramics with updated georeferencing. Contour interval = 10 grams.

Beyond the distribution of ceramics, surface collections in the village area include architectural daub—a key feature of Mississippian construction practices. Based on Bozeman's

(1982:109) contour maps of the distribution of architectural daub fragments, three discrete clusters in the surface collection potentially relate to village architecture (Figure 5). These clusters of architectural daub might be the remnants of the three Mississippian houses impacted by historic plowing. The presence of daub is significant given knowledge of how Moundville architectural practices change over time. As construction practice changed during the Moundville I phase, locals began to utilize local clays for their walls. By the Moundville III period, many used a large amount of clay (Lacquement 2007). Remnants of clay, called "daub," are distinct evidence for Moundville construction practices at Snow's Bend. Therefore, the abundance of daub in the village area provides significant evidence for architecture. Moreover, the three clusters of daub fit within an overall distinct area that likely relates to an individual neighborhood at the site. While grog-tempered ceramics do appear within the same area, the overlap of shell-tempered ceramics further corroborates that the surface concentrations of daub correspond with a former Mississippian residential area.

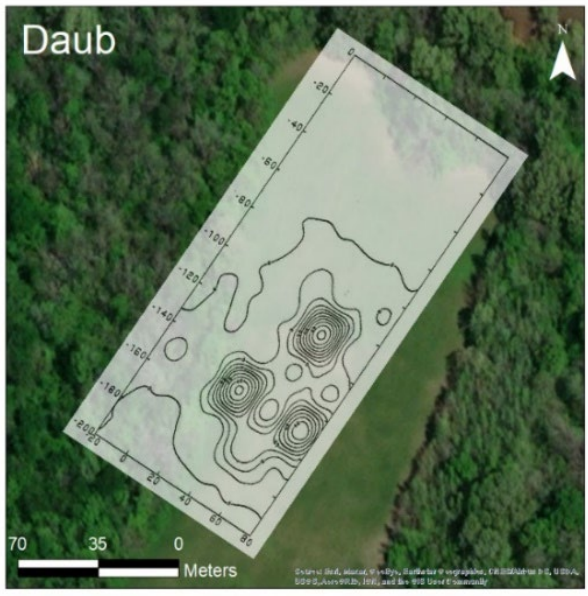

Figure 5. Daub contour map from Bozeman (1982) with updated georeferencing. Contour interval = 5 grams.

Snow's Bend Mound (1TU3)

During the earliest investigations at Snow's Bend, the research team led by Walter Jones, William Halton, and David DeJarnette identified the large platform mound 600 meters away from the cemetery (DeJarnette and Peebles 1970). However, the early investigations at the mound are unclear due to missing records. During subsequent research in the 1970s, the UMMA team returned to the mound and excavated two test units and two profiles in a bulldozed road cut on the summit (Bozeman 1982). Snow's Bend mound measures 4-m tall, 42 x 42 m at the base and 26 x 27 m at the summit. Ceramics from the upper mound fill date to the Moundville III period, consistent with the ceramics found in the village and cemetery (Bozeman 1982). The earliest investigations suggest that people built the mound no earlier than the Late Moundville II period. In a test unit at the base of the mound in the late 1970s, archaeologists encountered a large 30 cm wide individually set post-mold extending 107 to 140 cm below the surface (Bozeman 1982). This post-mold, along with the concentrations of daub identified during the systematic surface survey, provides the only Mississippian architectural evidence at Snow's Bend from these early investigations.

During the mound investigation in 1979, the UMMA research team attempted to recover a radiocarbon sample to clarify the occupation of the mound. The research team recovered charcoal samples from the late-stage fill during the mound excavations and reported a ^{14}C date of "AD 1050," though this date was dismissed as too early (Bozeman 1982:95). Recalibrating the date using the OxCal 4.4 program (Bronk Ramsey 2021) with the IntCal20 Calibration Curve (Reimer et al. 2020) provides a date range of cal AD 970-1270, at the 2σ range (Table 1). While this predates the expected occupation period based on ceramic diagnostics, the date does extend into the early Moundville II phase. Therefore, this date is not entirely unreasonable since the

local community likely began mound construction around this period or slightly later. Although, mound fill often contains materials that predate construction.

Table 1. Snow's Bend radiocarbon date from Knight et al (1999) and Welch (1998:141, table 7.1), calibrated in OxCal 4.4 with IntCal20 calibration curve

Lab Number	**Context**	**Uncorrected ^{14}C Age**	**^{13}C-adjusted age**	**$\delta^{13}C$ ‰**	**Calibrated Range (cal AD 95%)**
Beta 1111	Late-Stage Mound Fill	945±85	940±85	-25.39	AD 900-920 (1.2%) AD 970-1270 (94.3%)

Given the limited archaeological research of the mound, several colleagues and I recently conducted geophysical investigations of the mound to explore the site's construction history and architectural organization. During this work, our goal was to examine a profile of the mound to identify construction phases and map any potential geophysical features on the summit. Based on our observations, we identified two construction phases. Moreover, we observed continuity in the use of summit space, as we identified two structures on top of another, each associated with both construction phases (Filoromo et al. 2022; Plattner et al. 2021). Therefore, the calibrated ^{14}C date suggests the local community likely built the mound during the Late Moundville II period, with old carbonized material incorporated into the fill of the late stage, Moundville III, construction.

Snow's Bend in Context

Snow's Bend is crucial to understanding the Moundville Chiefdom for several reasons. First, it might contain some of the earliest evidence for terraced mound construction outside of Moundville, which is a practice common during later phases. Second, it is one of the two sites

where there are late cemeteries. Lastly, it might be an important site of political centralization during the Spanish encounters with the region. Were residents not supporting political authority? Is the connection between the mound, the domestic spaces, and the cemetery even clear, or could the cemetery exist in isolation from a mound-base settlement? Using geophysical and remote sensing techniques, I will address this question by identifying the presence, absence, or lack of structures from the mound and cemetery. If Hammerstedt's (2000) settlement model is accurate, the geophysical and remote sensing data should either validate or refute a farmstead cluster organization at Snow's Bend.

Chapter Summary

Throughout this chapter, I provided a brief review of how archaeologists define Mississippian communities while also providing a history of Moundville communities over time to help contextualize Snow's Bend in time and space. Archaeologists mark the emergence of Mississippian communities over time and across space by the remarkable changes in public architecture and spatial organization, among many other forms. The Mississippian period is distinct in how communities built new public works, as shown through landscape modification for plaza construction, platform earthen mounds, and new housing styles. While these changes throughout the Southeastern US vary over time, Mississippian towns are unique. They consist of special public planning efforts, including public and private plazas, platform mounds, and courtyards, among other features.

During the Mississippian beginnings in the Black Warrior River Valley, the local communities began constructing mounds and modifying the landscape. This act made Moundville a focal point for the new pluralistic communities coalesced at the ceremonial

grounds. Through these acts of landscape construction and modification and changes in the use and manufacturing of other material culture, residents asserted a new collective identity (Lacquement 2020; Steponaitis 2009). At the same time, communities residing in the valley began building single-mound centers. Archaeologists interpret these single-mound centers as intermediary nodes in administrative networks for the Moundville chiefdom. However, by AD 1300, major population movements occurred as communities reorganized into the surrounding valley, concurrent with the construction of new single-mound centers (Knight and Steponaitis 1998). Regardless of the notable movement of people throughout the Black Warrior River Valley, single-mound centers are focal points to understanding changes in the Moundville chiefdom's social landscapes over time and across space.

Throughout the history of the Moundville chiefdom, Snow's Bend has been an important place. From the West Jefferson period through the reorganization into the countryside, Indigenous populations lived at and used the site for centuries. While archaeological investigations are sparse, researchers have identified several key features, including a Moundville III cemetery, a village occupation with West Jefferson and Moundville phase material culture, and a platform mound. With contrasting notions of settlement patterns, where single-mound sites such as Snow's Bend support loosely aggregated neighborhoods (Hammerstedt 2000), or where Moundville III mound centers contain nucleated communities (Welch 1998), it is clear these sites are complicated. Therefore, their histories should be investigated, not assumed.

CHAPTER 3. CONSTRUCTING LANDSCAPES AND COMMUNITIES

Archaeologists identify the construction and maintenance of Moundville's single mound centers as the means to provide communal access to social, religious, or political activity without directly traveling to the ceremonial center (Hammerstedt et al. 2016; Maxham 2004; Myer 2002). Moreover, throughout the Black Warrior River Valley, changes in ceramic manufacturing and landscape modification during the Mississippian period contributed to a physical expression of emergent collective identity. These developments contribute to the emergence of an imagined community (sensu Anderson 2016). However, focusing on this imagined form of communal identity does little to elucidate the actions of face-to-face communities who regularly interact with one another. To provide greater nuance to the construction and maintenance of face-to-face communities, such as those who presumably lived at Snow's Bend, it is helpful to assess how people actively altered their surroundings through the placement features such as architecture and middens. More specifically, physical alterations to landscapes are often visible in geophysical data; therefore, geophysical surveys can facilitate the investigations of community organization. In this chapter, I outline my theoretical approach to this research. I begin by discussing archaeological and anthropological perspectives on both local and imagined communities and provide a working definition that mediates both perspectives.

Defining Community

Broadly defined, communities represent the intersection between "place, people, and premise" (Watanabe 1992:16). This definition emphasizes that communities continuously emerge as a product of personal or communal pursuits. The ever-emergent nature of communities as a social institution both structures and is structured beyond household interactions organized within a specific place and time (Yaeger and Canuto 2000:5). Because of this, Yaeger and Canuto (2000) argue that archaeological research can reveal *instances* of communities. However, rather than their snapshots in time, the evaluation of the relationships that define archaeological assemblages on multiple scales can contribute to a synchronic and diachronic view regarding the daily practices where individuals develop shared social understandings that can contribute to the reformation of identity (Yaeger and Canuto 2000) and collective actions (Blitz 2016). Yet the relationship between community and identity is complicated. Communities always consist of multiple identities (e.g., social groups, ethnic groups), and the identity *of* a community might not fully articulate the multidimensional nature of identity *within* communities (Isbell 2000; Lightfoot 2006; Roosens 1994; Yaeger and Canuto 2000). According to this line of thinking, a community is merely an instance of an experiential landscape defined by the embodied experiences of those who live within it. It *could* fit within a neat bound; however, communities crosscut social networks.

A community can index a shared space, experience, or understanding (Isbell 2000). However, the dynamic, cross-cutting nature of social boundaries problematizes the physical bounds of a community. Instead, defined as an imagined community, a community is not constrained by the physical bounds of space. People construct imagined communities from their social networks and shared experiences (Anderson 2016; Isbell 2000) from which one can

discern a wide range of multi-scalar practice. By focusing on imagined forms of community, this de-emphasizes and complicates local practices, such as construction and spatial organization. However, it is crucial to envision archaeological materials such as buildings and landscapes as the precondition, place, and product of social reproductions of habitus across space (sensu Richard 2018; Soja 2010:129). Face-to-face communities are certainly not divorced from the larger social spheres (in this case, the imagined community), and individual reproductions of social structure depend on the persistence of behavior over time. Architecture promotes persistent activities by providing a context for social action, while also validating social practices (Ryan 2008; Sewell 1992). Moreover, architectural organization can reify a broader collective identity, exemplified by a larger sense of sameness within an immediate landscape (Brubaker and Cooper 2000; Ryan 2008).

Archaeologists are only left with a minimal glimpse into the social realities of past peoples. The relationships between different individuals and social groups accumulate as plural social landscapes that reflect socially constructed communities. Archaeologists seeking to reconstruct past communities often grapple between the immediate local community and the "imaginary" community that supersedes face-to-face interaction. Before reviewing these forms of communities, it is important to underscore that the approach in this study contends that the appropriateness of either community form reconstructed is merely a matter of scale, data, and the scope of one's research question. The archaeological correlates for reconstructing different communities vary. Communities are nested, and the local, face-to-face community may exist within another form of an imaginary community.

In one view, the community is made of face-to-face, coresidential association with regular interaction and serves as a source of focus for social identity maintenance (Murdock

1949; Murdock and Wilson 1972). Such criteria do not suffer from the strictures of economic, political, or social caps related to socio-cultural development (i.e., group size is not restrictive) (Murdock and Wilson 1972). Conceptualizing the community based on regular coresidential face-to-face interaction is the first definition that formally acknowledges the structured, repetitive nature of group structures that emerge from social practice. However, limiting communities to face-to-face interaction unrealistically restricts the manner in which people create and maintain social networks (Arensberg 1961). Moreover, coresidential communities contain elements of imagined communities, particularly as people migrate and become incorporated in other towns (Pluckhahn et al. 2018).

As a counterpoint to local communities, anthropologists increasingly recognize that face-to-face interaction is not fully necessary for understanding the way groups create or maintain themselves (e.g., Anderson 2016; Arensberg 1961; Isbell 2000). Communities in the "imaginary" sense at one point can reflect the network of interactions among different social groupings but often exist as a sense of understanding among peoples that do not regularly interact with each other (Anderson 2016). For instance, members of the same community can share different forms of self-understanding, either tied to place, cultural practice, politics, or religion. Such communities are maintained through the dissemination of information, such as shown in Anderson's (2016) use of the newspaper as the medium of facilitating social understanding.

Archaeologies of communities illustrate how complex assemblages of material culture relate to past social organization. Kolb and Snead (1997) contend that social reproduction, self-identification, and subsistence production should form the basis in which one examines the local, coresidential community (Kolb and Snead 1997). Such an approach is overtly functionalist and succumbs to the pitfalls of structural-functionalist orientations in community studies where

creation and maintenance are virtually ignored. The socially constructed community exists as an institution that structures social practice and emerges through the modification of such interactions, thus placing greater emphasis on daily interaction (Yaeger and Canuto 2000:5-6). Another approach that aligns well with the "imagined" community appear when archaeologists attempt to reconstruct cognitive schemas through the use of symbolic material culture, be it from architecture to pottery (Isbell 2000).

The dichotomy between both the local and the imagined community is not straightforward. An imagined community's reliance on communication mediums as the loci of disseminating information presents something problematic for archaeology. What archaeological materials are appropriate and what is the historicity of such materials for serving as those referential objects? Material culture ranging from pottery to architecture can often communicate certain messages in contextually specific situations (e.g., Marshall 2008; Preucel 2006; Preucel and Bauer 2001), yet communities are far more complex, composed of interwoven neighborhoods with social networks forming communities nested at multiple scales. For instance, Yaeger (2000) demonstrates how the three levels of communities in the Classic Maya countryside, the local, the polity, and the elite interlock with each other. Local community practices reflected local elite political economic structures the elite (Yaeger 2000). Over time, the continuous reproduction of social practices in the local community contributed to the practices of affiliation that wove together the local community with the greater socio-political system.

Daily Practice

Practice theory (Bourdieu 1977, 1990) and structuration (Giddens 1984) serve as the theoretical foundation for this study. Architecture reflects a group's shared habitus in that it requires knowledge of what a house is and should be (Rapoport 1969). Therefore, the reproduction of certain architectural elements can reveal greater understandings of social organization at multiple scales. Both practice and structuration highlight the relationship between agency and social structure, specifically emphasizing the power in even the most mundane daily practices. Individuals are not merely cogs in a wheel reacting to external change, but rather they play a pivotal role in the formation and perpetuation of social practices (Dornan 2002).

The foundations of practice lies in "anything people do," and significant practices appear with intentional and unintentional political implications (Ortner 1984:149-154). People reproduce social practice in the repetition of their behaviors, essentially re-endorsing the social structures that shape their organizational principles. The concept of habitus helps provide the context for understanding the social interactions that occur in the context of practice theory. Habitus is an individual's unconscious disposition ingrained through their social lives and serves a central role in the reproduction of social structure (Bourdieu 1977, 1990, 2013). People accumulate these life experiences that contribute to the construction of habitus, all of which may stem from aspects of their lived experience be it through class, politics, etc. (Bourdieu 1990). Such dispositions condition how individuals perceive and act within their world, thus contributing to how they structure and are structured by social systems.

Structuration accounts the way people reproduce and transform social structures. People can enact change in this dialectical system is the guiding principle behind structuration. An uncritical use of practice theory can result in defining habitus through external forces, therefore

structuration provides a vital component for understanding individual agency (Dornan 2002). Human creativity and innovation are always capable of being incorporated into social systems. It is critical to understand though that this does not account for intentionality, but rather capability (Giddens 1984). People can continuously reproduce forms, such as architectural construction, through habitual practice, with the concept remaining unquestioned, yet people contain the capability to subvert the overarching social structure.

Doxa generally refers the unquestioned, unacknowledged presumably shared landscape of given views that inform social interactions and discourse (Bourdieu 1990, 2013). While structuration explicitly only accounts for a person's capability to act out complex motivations, doxa refers to unintentional practices (see Giddens 1984:8). Silliman (2001) contrasts doxa with the concept of practical politics, questioning whether practices can truly be unintentional. In this concept, he is referring to the intentional actions beyond the realm of doxic practices that shape social interaction. Smith (2001) is also critical of doxa. Doxa's limitation being that individuals exercising agency need to recognize their obstacles. But, Smith (2001) aptly argues that these limitations are the product of complex sets of continuously emerging practices, not pre-existing conditions. Practical politics play out in daily life, for example, in how people cope with tumultuous conditions. However, Silliman (2001) also notes that while some practices exhibit doxic qualities, he understands that acts of residence can be an intentional act of resistance (Silliman 2001). Indeed, in another example, acts of residence and construction can be vital for identity construction and expressing belonging (Melly 2017; Pauketat and Alt 2005). Potentially, practical politics could have played an important role for how communities organized in the wake of community outmigration into Moundville's hinterlands during the 15th century. The

emphasis of either places daily life and practice in a central role, as daily practice can play out in either doxic or practical political actions.

A focus on practice can reveal several important social dynamics. Here, it is possible to view how public architecture can influence certain forms of behavior based on people's collective understanding. With this in mind, some suggest the construction of certain monuments or much smaller features, like hearths, can also shape behavior and influence bodily dispositions as people move through spaces (see Nelson 2014; Peeples 2018; Watts Malouchos and Betzenhauser 2021b). Pauketat and Alt (2005) show how the act of constructing domestic architecture in Cahokia's foundation became an integral part to forming social identities. Post-settings become an extension of culture-making in a turbulent period of negotiation and contestation (Pauketat and Alt 2005). Construction also serves as an act of making claims to space and cultivating a sense of belonging. Architecture need not to just consist of a lived space, either. When taken in broader cultural context, architecture references a multitude of contesting attitudes about identity, belonging, and agency (Melly 2017). The social nature of spaces demonstrates the need to critically evaluate whether material culture, both large and small, may signal certain forms of social understandings. Understanding how different aspects of the material world shape and constrain behavior are important for discerning how individuals interact within the world, which in turn contributes to self-understanding.

It is important to recognize the fluidity of identity, in that it is situationally constructed within varying social frames of reference (Cohen 1994; Goffman 1959). Such ideas about identity make the correlation to community problematic. Communities are socially constructed (Anderson 2016; Cohen 1985). Shared understandings of one's identity may contribute to community membership. However, not all community members will share similar ideas about

what constitutes their community. A strong approach to community studies emerges when scholars seek to understand the patterns that inform social practices through the creation and maintenance culture (Bourdieu 1977, 1990; Giddens 1984). Research grounded in practice theory recognizes the forms of identity that constitute parts of the socially constructed community, while also emphasizing the role in spatial organization and material culture as a reflection of the structured interactions of socio-cultural reproduction.

Constructing Space, Constructing Landscapes

Landscapes contain a multitude of socially constructed spaces in which individuals enact daily practices, exert agency, and engage with both the human and nonhuman world. The consideration that space is the product of social activities extends from the philosophical underpinnings of Lefebvre (1991) and earlier work by Erving Goffman (1959, 1986). Lefebvre repositions space as a complex socially constructed product of human activity that influences how people understand certain spatial practices or perceive their immediate surroundings. To reiterate previous concerns in how archaeological interpretations may belie reality and implicate peoples in an unrecognizable past, I wish to emphasize one key point in space that problematizes the interpretation of landscape: the manner in which people reference and understand space is contingent upon a variety of historical and contemporary factors that weave together human and nonhuman agency, linguistic relativity, and materiality. Landscapes are constantly reconfigured and never complete, with meanings that may change depending on perceptions of space and place (sensu Ingold 1993; Richard 2018).

The differential understandings of a landscape underscore that landscapes contain contested or negotiated spaces. Governments and wealthy elite often attempt to alter a landscape

to influence certain actions as they manufacture specific kinds of spaces that subject others to their hegemony (Wolf 1982). Additionally, shared identities and worldview not only comprise these spaces, but the space itself is often crafted from the cleaving of power and politics (Melly 2017; Richard 2018). In an archaeological example, the creation of space from power and politics could, in some instances, relate to the construction of earthen mound monuments. Indigenous communities imbued these monuments with a variety of meanings, uses, and functions (Kassabaum 2021). In some instances, some contend that platform mounds provide elevated space for religious specialists (Byers 2013), while others suggest mounds as accentuating social distinction in ceremonial precincts (Lindauer and Blitz 1997). In another view, groups construct and manipulate platform mounds to communicate long-standing impressions through daily interaction (Brennan 2021). While platform mounds provide an example of these negotiated spaces, the diversity of meaning found in this brief review underline the need for investigating the relationship between social meaning and architecture, rather than being presumed.

Viewing landscapes and spaces as the product of human activities often relegates the role of the nonhuman to an inferior rank. Invoking the concept of "terroir," Richard (2018) traces how the Seerer project social relations through space, as demonstrated not just through human activity but through qualities of geographic identity expressed from a multitude of factors. Ecology, weather patterns, agricultural systems, and farming technologies all contribute to terroir. However, other invisible agencies play an important role. Landscapes can be mercurial, and the role of invisible agencies demonstrated through cultural understandings of those who have passed on and other spirits can dictate how one perceives or interacts with certain spaces (Richard 2018). In Richard's work, particularly for the Siin, the nexus of livelihood and

landscape cannot be understood without acknowledging the role of the nonhuman. Granted, this is culturally specific to groups living in Senegal. The role nonhuman agents play in one's understanding of landscape contribute to complex understandings of an animistic ontology that is deeply embedded in sociocultural and historical circumstances of the culture in question (e.g., Nielsen et al. 2017).

Beyond the complex constructions of space and landscape contingent upon human and nonhuman agency, and referential practices, landscapes and spaces become a palimpsest, the product of the accretion of history. To extend "referential practices" archaeologically, physical structures such as homes, mounds, and other public works, movement between structures, and other landscape features are this locus of engagement. I view space, people, land, and spatial practices as bound together into assemblages continuously created and remade from society. Richard (2018) argues these "recombinant assemblages" are what compose the landscape. Differential change occurs throughout the landscape, often leading spaces to inhabit several historical situations at once. It becomes clear that landscapes are always under construction, and that the issue of landscapes being palimpsests is unavoidable. However, with a clear understanding of socio-spatial practices and their change over time, it becomes possible to trace relations of people with the landscape over space and time. It is possible to integrate geophysical prospection with anthropological knowledge and reconstruct a landscape and the communities within that space.

Integrating Theory and Method

Practice-based approaches to archaeological research provide the means to identify daily practices and their relationships within greater social activities that produce those patterns.

Understanding daily practices in the archaeological record helps demonstrate how space is structured. Evidence of architectural planning, placement of refuse deposits, and more all contribute independent lines of evidence of the organizational principles by which individuals and groups structure their lives (Lightfoot et al. 1998). Spatial organization in the household and the broader social landscape can serve as a reflection of the broader habitus of society. However, Bourdieu argues that it distorts reality to reduce these lines of evidence to universal rules (Bourdieu 1990; Moore 2019). While these rules are not necessarily universal, Bourdieu's study demonstrates how social practice, and the broader cultural world influences the nature in which men and women act within the household and landscape. For instance, the organization of space indexes different cultural and gender-specific attitudes towards different activities (Bourdieu 1990). Similar concepts appear within archaeological research focused on the social construction of communities.

Comprehensive spatial data covering wide areas, such as through geophysical surveys, supports practice-based archaeologies as they present how past groups organize their communities, while subsequently allowing for the exploration of interactions amongst and within neighborhoods, households, and more (Blair 2013). Moreover, the nondestructive and minimally invasive nature of geophysics provide ethical ways in which fieldwork can be conducted to provide data of the past (see Spivey-Faulkner 2021). Geophysical surveys provide a unique lens for which one can utilize these methods within ethical archaeology.

Archaeological geophysics is moving beyond just the mere recognition of "anomalies." Geophysical applications hold the potential to provide information about large areas, rather than through excavation which merely provides limited glimpses into the past through test units. Of course, a strong link between archaeological geophysics and anthropological inquiry lies in

thorough understanding of archaeological literature and the limitations of geophysical techniques. For instance, if one were to examine whether or not structural changes occur at a site during political reorganization, specifically looking at architectural organization, shallow geophysics offer one path in which such hypotheses are testable (Thompson et al. 2011:197). Thompson et al. (2011:198) outline three basic categories through which archaeological geophysics can support anthropological research: (1) variation in construction throughout the built environment, (2) discerning the continuity or discontinuity in how individuals use space, and (3) natural or cultural landscape modifications. Each is well-aligned, and geophysics has proven to be an effective method for collecting such data.

By integrating archaeological geophysics with the intersections of community and identity the methods then provide more than a method for prospection (see Skousen and Friberg 2021 for overview). Friberg et al. (2021) utilized magnetic gradiometers to survey sites associated with a turbulent period of social upheaval in Cahokia's countryside, looking at architectural organization. In their study, extensive survey work revealed the construction of Mississippian spaces indicates the central role religion played in orienting communities. Another study in the Yazoo Basin of Mississippi using a magnetic gradiometer identified several discrete residential group clusters (Nelson 2014). Data revealed how architectural organization, through the placement of homes, courtyards, and the plaza, facilitated how individuals move throughout and interact with others within the community. Moreover, Nelson (2014) suggests that the spatial organization of the community materializes social distance through the reconfiguration of their homes away from the mound. By shifting focus towards the pathways between the built environment, it is possible to understand how movement facilitates certain forms of social interaction (Wernke 2019; Wernke et al. 2017). Space constrains and enables social practice—

the spatial organization of material remains need not only contribute to understanding components of community (i.e., neighborhoods). Rather, particularly through the lens of social practice, political negotiation, and community organization, considering space as interwoven with movement and material remains (Wernke 2013, 2019; Wernke et al. 2017) allows geophysical data to be used for a range of anthropological purposes. Architectural organization provides one line of evidence to better understand how people embody social reality within a spatial context.

While integrating geophysics with social theory, I hope to provide a deeper understanding of landscape use, and thereby community identities, in the Moundville III period by examining architectural organization and refuse patterns. Specifically, I use geophysics to investigate how Indigenous groups organized Moundville's greater landscape to test the single-mound center model, such as Snow's Bend, in which the mound serves as the loci of socio-political activities with loosely aggregated hamlets surrounding it (Hammerstedt 2000). Given the capabilities of integrated geophysical datasets in mapping architectural features and refuse pits, among other features, this study can both test this settlement model while subsequently providing a comprehensive map of a Moundville III (1400-1520 CE) community. Geophysical investigations can aid in discerning how architectural organization r social understanding and movement through the community.

CHAPTER 4. METHODS

At the end of the previous chapter, I outlined the suitability of shallow geophysics for anthropological research. In this chapter, I discuss the shallow geophysical methods I use to evaluate the spatial organization of archaeological features at Snow's Bend. Specifically, I describe my use of electrical resistance mapping to identify lateral changes in subsurface resistance and magnetic gradiometry to locate magnetic anomalies. I also outline my research design, processing techniques, and integration methodology. Multi-method geophysics illustrate the need for an integrated approach, as various techniques measure very different subsurface properties in different ways (Kvamme 2003b, 2007b, 2017).

The geophysical methods I use in this survey evaluate different physical properties of the earth. Generally speaking, electrical resistance mapping is a way to evaluate spatial changes in the electrical resistance beneath the subsurface. The depth of investigation is limited by electrode configuration on the mobile platform. Alternatively, magnetometry is a passive technique that detects subtle changes in the magnetic properties of the Earth's magnetic field. When combined, it is possible to investigate archaeological features that are sensitive to either technique.

The survey area in Snow's Bend village was organized into 31 30-m-x-30-m grids that total an area of 25,560 m^2, or 2.56 ha hectares. The survey area was chosen to avoid the lower lying area in the field that are generally wet or flooded, and to extend along an elevated ridge between wooded areas. The gridded area is visible in Figure 6. Each grid corner was placed using an EMLID Reach RS+ RTK GPS system.

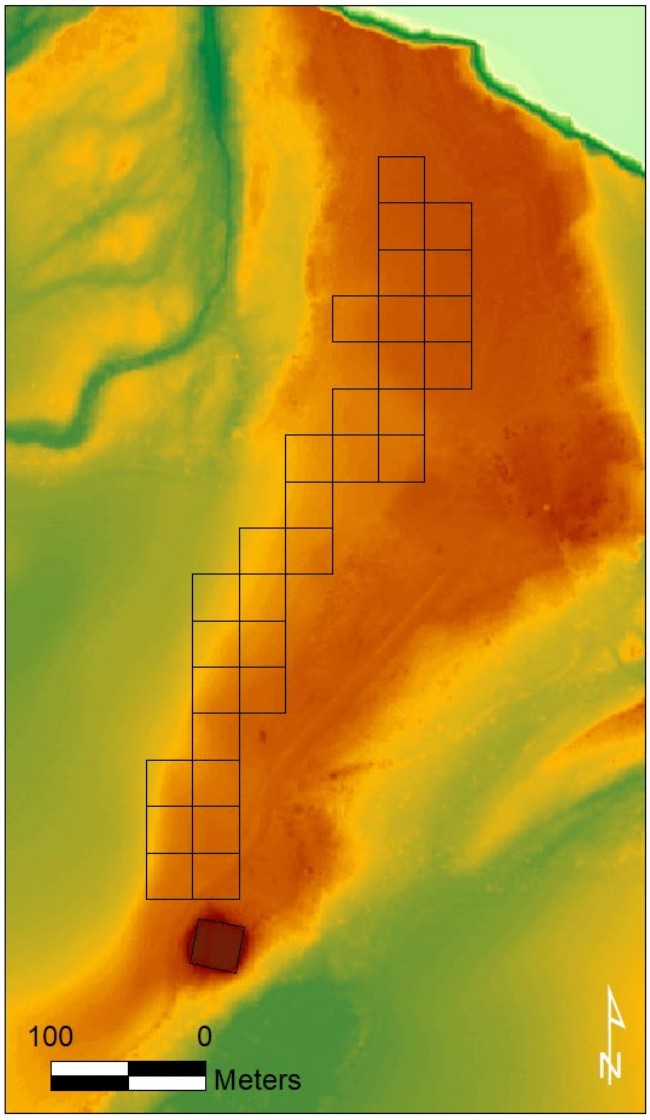

Figure 6. Map of survey area with grids outlined over a LiDAR base map. Grids are defined in WGS 1984 in ArcMap 10.7.1.

Electrical Resistance

Lateral changes in the resistivity of soils aid archaeologist in identifying subsurface anthropogenic features such as ditches, pits, foundations, and hearths. Electrical resistance is a common technique in archaeological prospection, as it maps lateral changes in resistance values across a surface indicating the presence of both natural and anthropogenic anomalies. Resistance

results depend on several key factors including soil structure, moisture, and salinity. These factors determine both how the flow of electrical current moves throughout the subsurface and the contrast between different resistive features. In this section, I review the basic principles of electrical resistivity that are important for a successful archaeological survey and outline the methods I used. As a note, resistance is proportional, but not equal to resistivity. But to understand resistance surveying, I must refer to the principles of electrical resistivity.

Electrical resistivity primarily concerns the movement of electrical current through a material measured in amperes (amps, or *I*). Amperes, or amps, refer the amount of electrical charge that passes through a circuit in a single second. To allow for the flow of the charge, potential difference (p.d.) is needed. Most often electrical current is proportionate to potential difference. This proportion is Ohm's Law, where voltage divided by amps results in resistance (*R*), measured in ohms. However, resistance depends on the property, or geometry of the material transmitting the current, in contrast to resistivity (*p*) which characterizes the physical property of a material independent of its geometry, measured in ohm-m (Binley and Slater 2020; Milsom and Eriksen 2011; Mussett and Khan 2000; Oswin 2009). Given the basic tenets outlined here, soil structure is important in resistance surveying, as is the presence of groundwater given its ability to facilitate the movement of electrical current through the subsurface.

In resistance mapping, the grain size and porous space between the grain, and the availability of groundwater determine values across a lateral surface. Different materials have different resistivity ranges. However, these ranges vary depending on climatic conditions and the availability of groundwater and its subsequent salinity. Thus, depending on changes in groundwater, salinity, and the structure of different soil types, many materials can have overlapping resistivity ranges, especially in tropical environments where sea water has high

NaCl values (Mussett and Khan 2000). In some cases temperature can effect resistance and resistivity but usually these changes are unimportant (see Mussett and Khan 2000; Schmidt 2009). Groundwater is particularly important given that dry conditions make detecting lateral variations problematic as only certain ores and graphite's are natural conductors.

Resistivity variations in the subsurface are measured using electrodes inserted into the ground. In archaeological resistance surveying, most often technicians use two current electrodes that introduce a current and two potential electrodes that measure local potential difference. When moving potential electrodes along a traverse, equipment such as a resistance meter measure lateral variation in resistance values. Often these mobile electrodes are attached to a frame. When inserting the electrodes into the ground, it is important understand that some materials are anisotropic—the axes of measurement from the electrodes are affected by the direction in which materials are measured. Schists, slates, and shales are prime examples (Mussett and Khan 2000). However, the depth of penetration where such subsurface deposits are detectable depends primarily on the array used and spacing of electrodes. Different arrays provide results depending on the probe spacing which can be changed to increase depth of penetration at the cost of resolution. Only 30% of the electrical current emitted from the electrodes penetrates beneath the depth equal to the separation of the mobile electrodes. Thus, 0.5-meter electrode spacing provides images of the surface around the same distance between the electrodes. These arrays are covered elsewhere (see Milsom and Eriksen 2011; Mussett and Khan 2000), and provide different benefits depending on the analysis one seeks to perform.

Resistance mapping provides important insights in surveying archaeological sites. Kvamme (2003b) utilized resistance mapping alongside a gradiometer survey at four prehistoric and historic sites in the Great Plains with some great success. With different array configurations

providing imagery for features as small as a half-meter in diameter, resistivity methods helped archaeologists define features such as an intervillage trail system, overlapping house foundations and even a potential compact second village (Kvamme 2003b). However, differences in soil compaction and decreased resolution when target depth increased concurrent with probe spacing problematized the prospection of potential archaeological features. Thus, using resistance alongside other geophysical and remote sensing methods that detect different subsurface properties builds a more holistic composite of the archaeological subsurface.

Electrical Resistance Survey Design

To map the lateral variation in electrical resistance in the village, I used a Geoscan RM15D resistance meter, with an MPX15 multiplexer on a PA5 frame connected to two remote probes. I used a multiplexed parallel twin array to map the subsurface up to a half-meter in depth. The multiplexed parallel twin array includes two remote probes and three mobile electrodes, each spaced a half meter apart on the mobile frame to detect archaeological anomalies in the subsurface up to around a half meter beneath the topsoil. Data were collected in 31 30x30 meter grids with zig-zag traverses. In several areas, it was not possible to reach the full extent of the grid; therefore, the total survey area is approximately 2.56 ha. All data were imported into Archaeofusion for processing, and then georeferenced using ArcMap.

MAGNETIC GRADIOMETRY

Magnetometry is a common method in contemporary archaeological geophysical surveying. Magnetometry measures magnetism in the in the subsoil, mapping different anomalies that either relate to natural or anthropogenic processes. This technique is a passive

form of geophysics that measures changes in the Earth's magnetic field. Here, I briefly outline potential sources of magnetic anomalies, followed by an outline of the technique used in this survey.

Evaluating magnetic features requires understanding differences in the source and physical properties of subsurface anomalies. While changes in the magnetic field can be from both natural and cultural activities, remanent magnetism and magnetic susceptibility describe these materials. Remanent magnetism refers to the permanent magnetic properties of the subsurface and other geological bodies. whereas magnetic susceptibility relates to the ability for material to be magnetized by an external field. Magnetic anomalies can be the product of remnant magnetism in natural material deposits or soils, magnetically enriched topsoil (due to weathering and biogenic processes), and natural fires (Kvamme 2006c). Natural sources of magnetic variation might result from microbial mediation or magnetically enriched bacteria. Microbes and bacteria in rich organic deposits may often alter weak magnetic iron oxides. Other natural sources where iron content in the soil alters the magnetic susceptibility of the subsurface largely depends on pedogenesis, or the soil formation processes (Aspinall et al. 2008; Schmidt 2009). Cultural activities can impact the magnetic properties of the surrounding soil, particularly through hearths, pits and ditches, and fired construction materials. These features are dipoles. However, in some cases archaeologically significant features *appear* as monopoles. Monopoles do not exist. Rather, features such as small hearths and small pits appear monopolar as the negative halo surrounding the feature is below the limit of detection (Aspinall et al. 2008:71). In general, depending on the features one is looking for, they will need to have contrasting magnetic susceptibility greater than other surrounding materials and their remanent magnetism (Aspinall et al. 2008; Cajigas 2017; Kvamme 2003a; Weymouth 1986).

Different instrumentation provides different sensitivities, and the scale of archaeological geophysics requires looking for subsurface remains at a smaller scale than geological anomalies. The resolution of the resulting data generally depends on the samples per meter and transect separation. Magnetometers can record variation in the magnetic field up to a meter below surface (sometimes deeper). Common field instruments include fluxgate, cesium vapor, alkali-vapor, and proton precession magnetometers and gradiometers (Aspinall et al. 2008; Kvamme 2006c; Mahar 2010; Silliman et al. 2000). In this survey, I used a fluxgate magnetic gradiometer. Fluxgate gradiometers consist of two fluxgate magnetometers, and the difference in measurements between the two magnetometers produces the vertical gradient in the magnetic field (Aspinall et al. 2008; Kvamme 2006c). Measuring the gradient corrects for diurnal variation, whereas other total field systems account for diurnal variation in different ways.

Geophysical studies on Mississippian sites in the American Southeast increasingly use magnetometry with great success. Using sources of knowledge such as architecture and spatial organization, archaeologists are able to produce detailed geophysical maps to identify the built environments of settlements (e.g., Birch 2016; Blair 2015; Davis et al. 2015; Friberg et al. 2021; King et al. 2021; King et al. 2011; Patch et al. 2017; Spivey-Faulkner 2021; Thompson et al. 2016; Watts Malouchos et al. 2021). Magnetometry also provides a method that can help identify levelled mounds (Green et al. 2021). Archaeologists at Moundville have also utilized magnetometry to identify mound summit architecture (Porth 2011, 2017), and the spatial organization of architecture around the plaza (Davis 2014; Davis et al. 2015).

Magnetic Gradiometer Survey Design

Most of the magnetic data in this study were collected by Christina Friberg, Elliot Blair, and Claiborne Sea in the winter of 2019 using a Bartington 601-2 fluxgate gradiometer. This survey totaled in 29 grids. To capture the additional grids, I also used a Bartington 601-2 Fluxgate Gradiometer. In total, the magnetic data consists of a total of 31 grids that comprise the same 2.56 ha area of the electrical resistance survey. Data were collected with a resolution of 0.1 nT and with a 0.125-m sample interval with 50 cm transect separation. All collected data was downloaded using Barrington's Grad601 software and raw files were imported into ArchaeoFusion for processing and georeferencing in ArcMap 10.8.1.

Data Processing, Integration, and Analysis

Following data download, all data were processed in ArchaeoFusion. For electrical electrical resistance data, all grids were despiked, and then edge-matched and balanced. Magnetic gradiometry data was also processed in ArchaeoFusion. The zero-mean traverse tool was used to normalize the data, then a 1D fourier filter was used to attempt to remove plow scars. Before this, I examined the unprocessed data for features of interest and subsequently removed the range below which it is not possible to statistically distinguish features from noise introduced from the site's underlying geology and sensor or operator error. I determined the appropriate range to remove to be -2.5 and +2.5 nT. While this may eliminate potential archaeological features, this is a more replicable, consistent, and objective approach than purely standard graphical inspection (Green et al. 2021). All data, once processed, was georeferenced over a LiDAR basemap of the site in ArcMap 10.8.1.

When using geophysical and remote sensing data to map archaeological sites, there are several different methods for how one can integrate data sets to analyze for anthropogenic features, such as automated vectorization, manual vectorization, K-means cluster analysis, and translucent overlays (Boles and McCullough 2018; Ernenwein 2009; Green et al. 2021; Kvamme 2006a, 2006b, 2007b; Kvamme et al. 2019). Vectorization is the process of tracing anthropogenic anomalies from a continuous geophysical raster dataset to discrete points, lines, and areas that correspond with potential archaeological features (Kvamme 2007a). Integrating datasets aids in correlating different features and their subsequent distribution across the site. To integrate these data, I use a combination of both automated and manual vectorization for magnetic data, and K-means cluster analysis for electrical resistance. The remainder of this section will outline these integration methods.

For magnetometry data, I utilize a combination of approaches to identify potential features. Since magnetic anomalies can include a range of features, including burnt structures, hearths, pits, and middens, it is important identify the range of their associated magnetic properties (Aspinall et al. 2008). Background noise from the operator, sensors, or natural magnetic properties can obscure low-magnitude results. Therefore, I follow Green et al. (2021), who eliminated low magnitude anomalies to isolate areas of positive and negative magnetism to identify potential archaeological features. Using the isolated anomalies, I then vectorized data in ArcMap 10.8.1 (Kvamme 2006a, 2006b, 2007b). There are several ways to represent these data. Conger and Birch (2019) and Birch (2016) identified Iroquoian longhouses by locating linear hearths (dipolar) and pits (monopolar positive). Similarly, Boles and McCullough (2018) traced potential features, specifically separating those such as monopolar positive pits. At Moundville, Davis et al. (2015) adopts a similar approach, using a classification system to strictly define

structures. Here, I use a combination of these approaches after isolating anomalies to define all features at Snow's Bend. With the magnetic data, I use several classifications. I distinguish between metallic scatter and non-metallic dipoles, and use "pseudo-monopole (monopolar positive)" to describe the small positive features that appear monopolar.

For electrical resistance data, after processing I transformed the data using K-means cluster analysis. Following Kvamme (2006b); Kvamme et al. (2019), and Ernenwein (2009), I use K-means cluster analysis in ArchaeoFusion, using 6 classifications, (k=6), to reduce data to identify anomalies. In this survey, K-means cluster analysis is a form of unsupervised classification to define natural groupings in large bodies of continuous data (Ernenwein 2009; Kvamme 2006b). In simple terms, this method uses an algorithm to find natural clusters of features from a continuous set of data. Generally, the continuous set of measurements is subject to algorithms that define the best solution for dividing the data in a set number of categories, "best" being determined by the minimizing of the total sum-squared error (SSE). Essentially the SSE measures the distance of each value from its category's mean and sums these squared distances across all measurements, helping to determine how natural these clusters are. Unfortunately, ArchaeoFusion does not provide these calculations within the software, therefore the classification I use here, where k = 6, is arbitrary, determined largely by the visibility of specific features in the raw data. In exploring the data, 6 classifications were useful in explaining variation in electrical resistance at the site. While difficult to interpret, comparing the results to the raw data show the location of subtle high and low resistance features. Following these methods, I overlaid the vectorized magnetic data on both the processed electrical resistance data and the "reduced" K-Means cluster electrical resistance data to explore the relationships between different features.

Lastly, Kvamme (2006a; 2007) points out that the use of the 'interpretive' data integration and analysis approach requires expertise in local archaeology and knowledge of how features appear in geophysical datasets. Thus, I primarily draw from Lacquement (2007), Knight (2010), and Steere (2017, 2021), to define Mississippian features. Knowledge of both regional and Mississippian archaeology provides robust background knowledge that aid in addressing the aims of this proposed research as the distribution of features across the site will reflect the nature of its occupation.

CHAPTER 5. RESULTS AND DISCUSSION

Given the diversity of population dynamics over time and across space in the Moundville chiefdom, social landscapes play a fundamental role in understanding the social and political histories. Following Blair (2015:56), who adapts Cusick's (1995) community-study approach to identify neighborhoods at Mission Santa Catalina de Guale in Georgia, the integration of the data presented in this chapter reveals the community that lived at Snow's Bend. In this chapter, I compile the results of the geophysical surveys to show the Indigenous landscape at Snow's Bend. Using both archaeological literature and historical sources, I then contextualize these features within both intra- and inter-site organizations. Compiling all these varying sources makes it possible to distinguish different archaeological and geological features appearing in other sources. Therefore, it is possible to identify the spatial organization of the landscapes of lived spaces at Snow's Bend.

MAGNETOMETRY SURVEY

The magnetic gradiometry survey provides an expansive map that relate to anthropogenic features. The base results of the magnetometry survey are presented in Figure 7. Following Green et al. (2021), I eliminated background noise associated with sensor or operator error, or soil-related anomalies (Figure 8). After this process, I used several classifications, including dipoles (non-metallic), pseudo-monopoles (monopolar positive), and metallic scatter (Figure 9), with enhanced visuals for both the North (Figure 10), and South village areas (Figure 11).

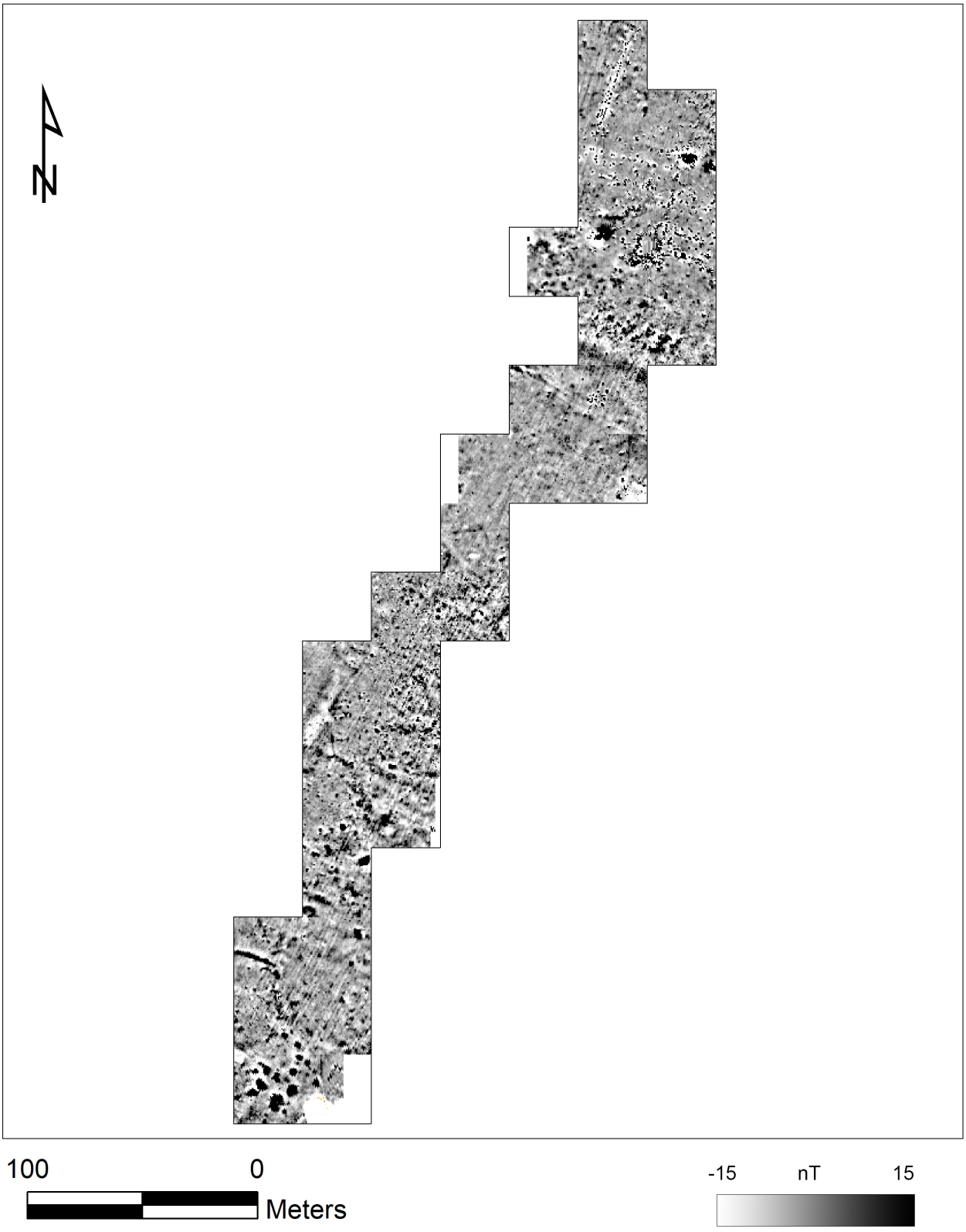

Figure 7. Processed magnetic gradiometer results.

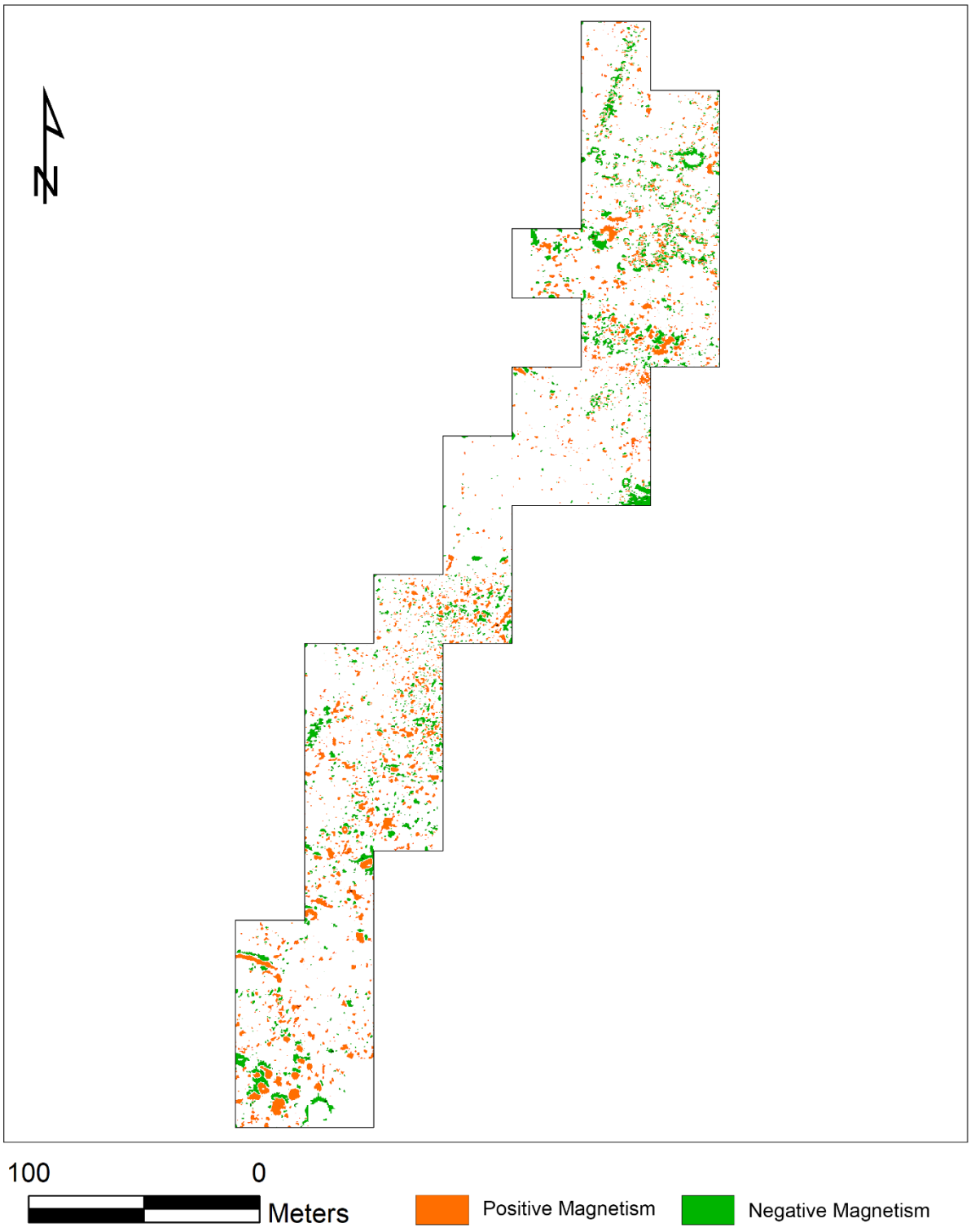

Figure 8. Magnetic gradiometer results after eliminating background noise.

Figure 9. Interpretive map of magnetic gradiometer results.

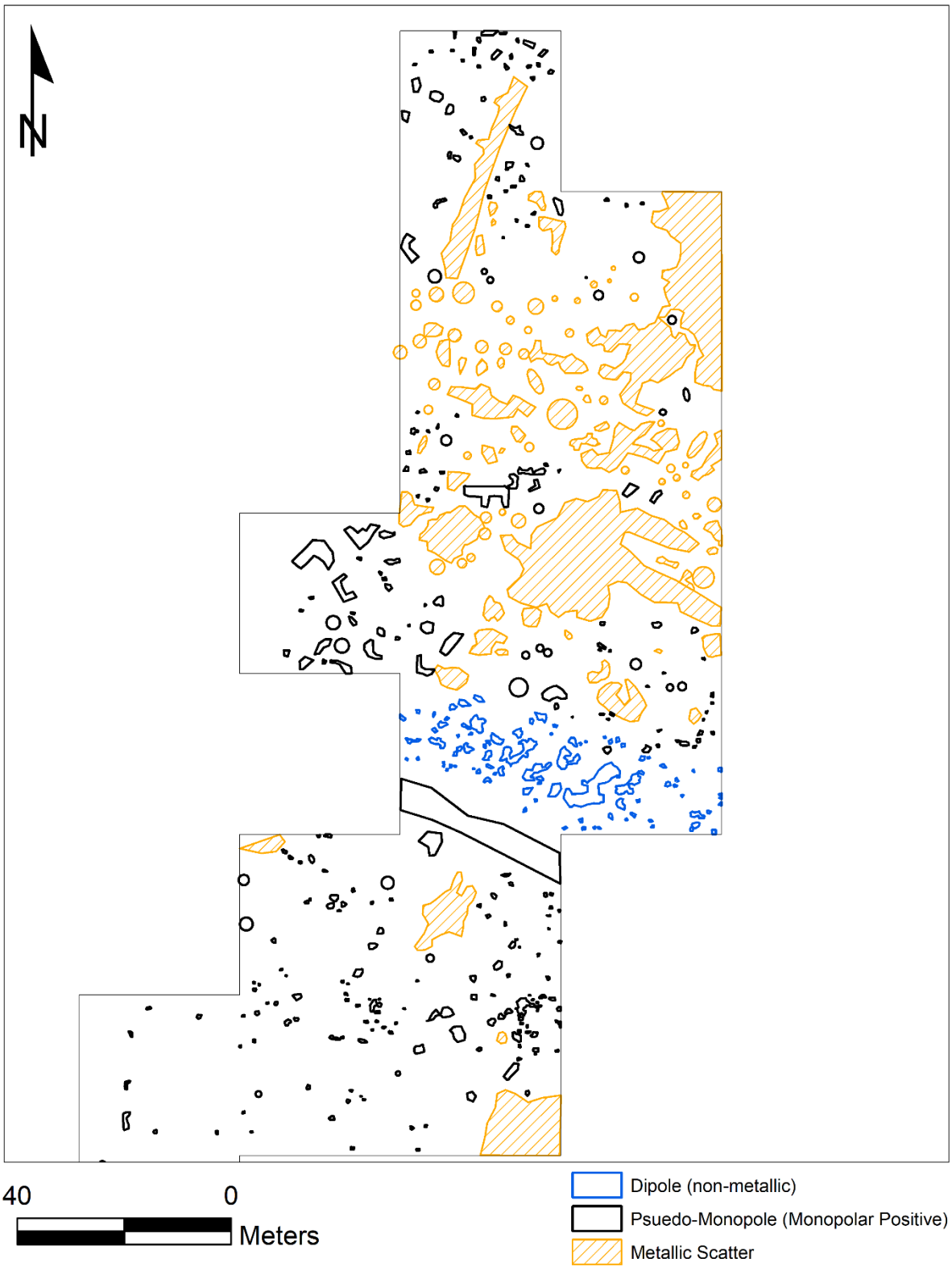

Figure 10. Interpretive map of magnetic gradiometer results for the North Village.

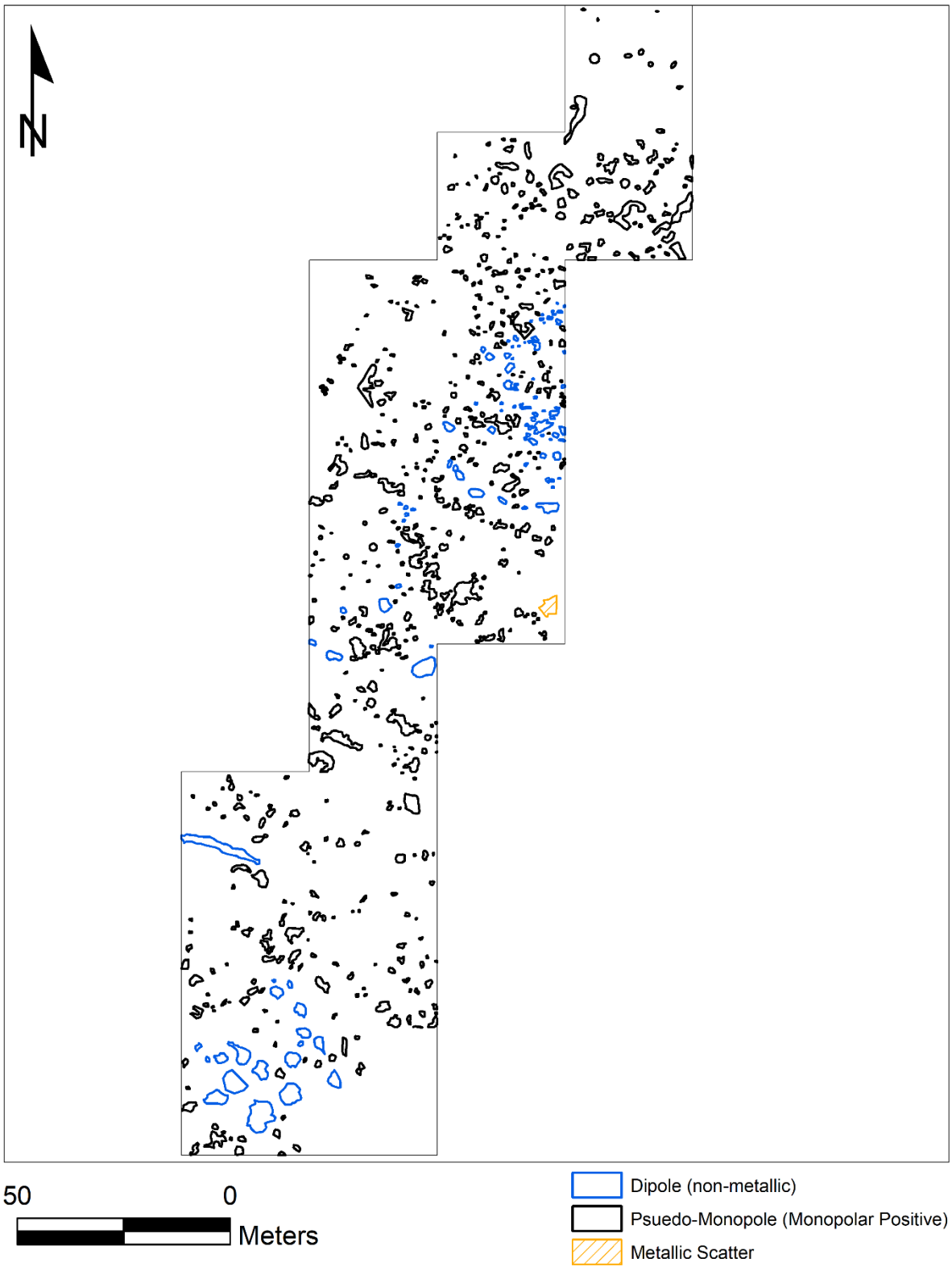

Figure 11. Interpretive map of magnetic gradiometer results for the South Village.

The magnetic anomalies at Snow's Bend include a range of likely findings, such as potential burnt architecture, hearths, and middens. As previously stated, the identification of magnetic anomalies requires familiarity with the potential features one might find and their associated magnetic properties (Aspinall et al. 2008; Kvamme 2006a, 2006c). In the interpretive maps, the metallic scatter is drawn as a contiguous area characterized by negative magnetism that surrounded positive magnetic features above 15 nT. They are drawn contiguous because of the proximity of similar features, and because during the electrical resistance survey, I regularly encountered tin roofing debris that was covered by overgrown grass. Moreover, I provide the 'feature' category to show areas that are characterized by intense magnetic noise

In the interpretive map of magnetic anomalies, I primarily outline the metallic scatter, pseudo-monopoles (monopolar positive) anomalies, non-metallic dipolar anomalies, and the organization of non-metallic positive anomalies within large dipolar area (Figure 9). Several of the non-metallic dipolar anomalies provide values like those expected for burnt clay architecture and hearths (see Birch 2016; Blair 2015; Conger and Birch 2019; Davis et al. 2015; Hammerstedt et al. 2017; Lockhart 2010). Moreover, positive monopolar anomalies often correspond with potential pits and architecture (see Blair 2015; Boles and McCullough 2018; Green et al. 2021; Lockhart 2010). Throughout the site, there are a combination of circular and amorphous pseudo-monopoler (monopolar positive) features that might indicate the presence of dozens of pits. In the North Village, there is an abundance of metallic scatter organized in a uniform manner, as well as several clusters of rectangular pseudo-monopole (monopolar positive) features (Figure 10). Additionally, a unique non-metallic dipolar anomaly with positive linear features appears in the North village, immediately abutted by a wide linear positive anomaly. In the South Village, there is very little metallic scatter, and an abundance of pseudo-

monopoles, however, there are two areas of nonmetallic dipolar anomalies that include several clusters of rectangular positive features, likely remnants of former architecture (Figure 11). Psuedo-monopoles (monopolar positive) and non-metallic dipolar anomalies cluster on the north end towards the riverside and in the previously identified village area and the south towards the mound.

Resistance Survey

Through surveying Snow's Bend, resistance mapping provides a valuable look at how electrical resistance to the subsurface relates to archaeological features. The base results of the electrical resistance survey are presented in Figure 12. The processed electrical resistance data provides detailed imagery of broad changes across the survey area. Potential impacts to changes in electrical resistance can include cultural features, such as structures, ditches, roads, pathways, and middens. However, considering the agricultural history of the farm, plow scarring and the historic orchard can impact the ability to discern cultural features. To identify different features, I followed data integration procedures outlined by Kvamme (2003a, 2006b) and transformed the data in ArchaeoFusion using K-Means with 6 classifications (k=6) to show variations in resistance (Figure 13). The K-Means analysis helps identify noticeable cultural features, such as the rectangular low resistance and linear high resistance features in the North Village (Figure 14). Electrical resistance in the South Village provides the greatest range, and the K-Means cluster analysis further confirms noticeable contrasting features throughout the area (Figure 15).

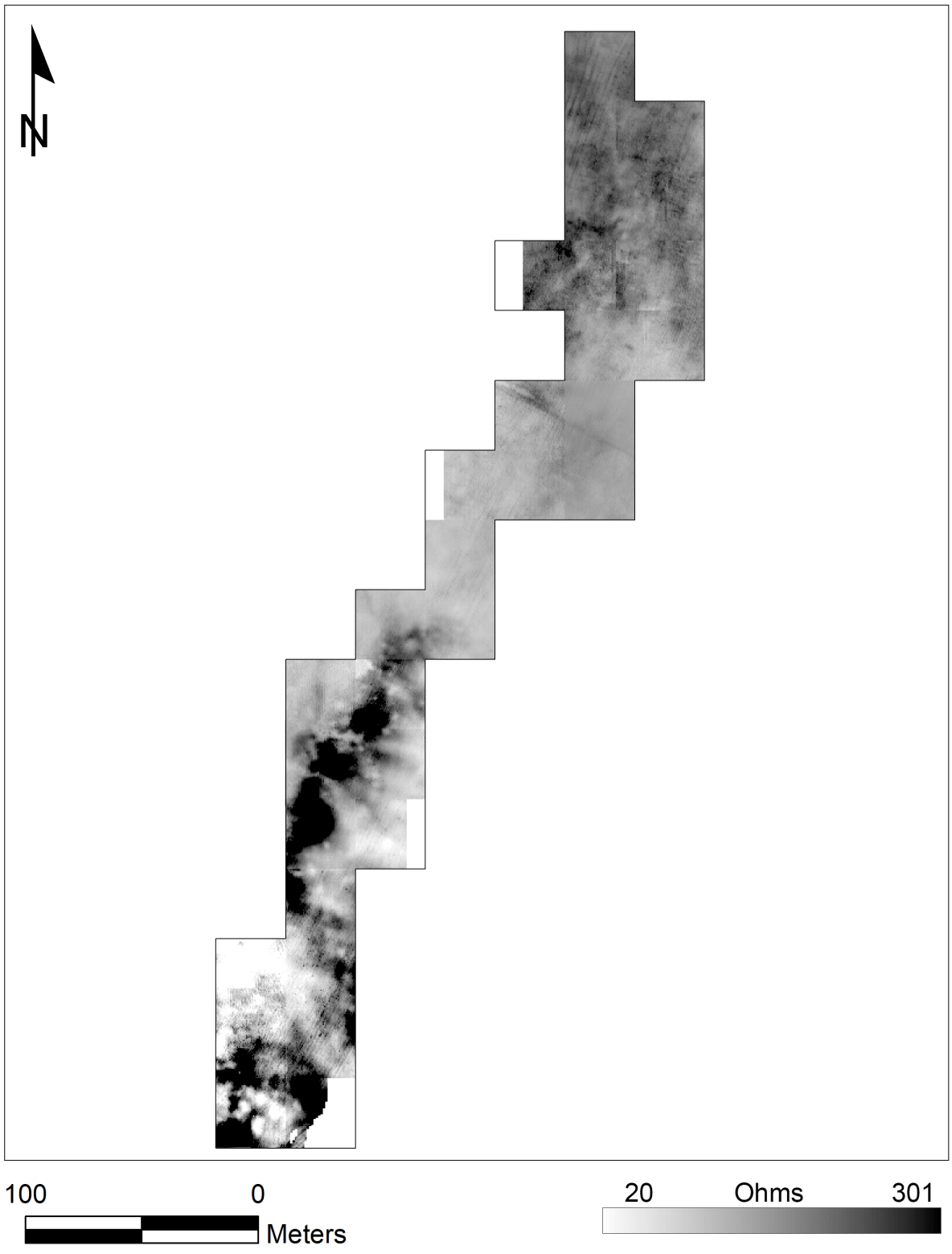

Figure 12. Electrical resistance survey results.

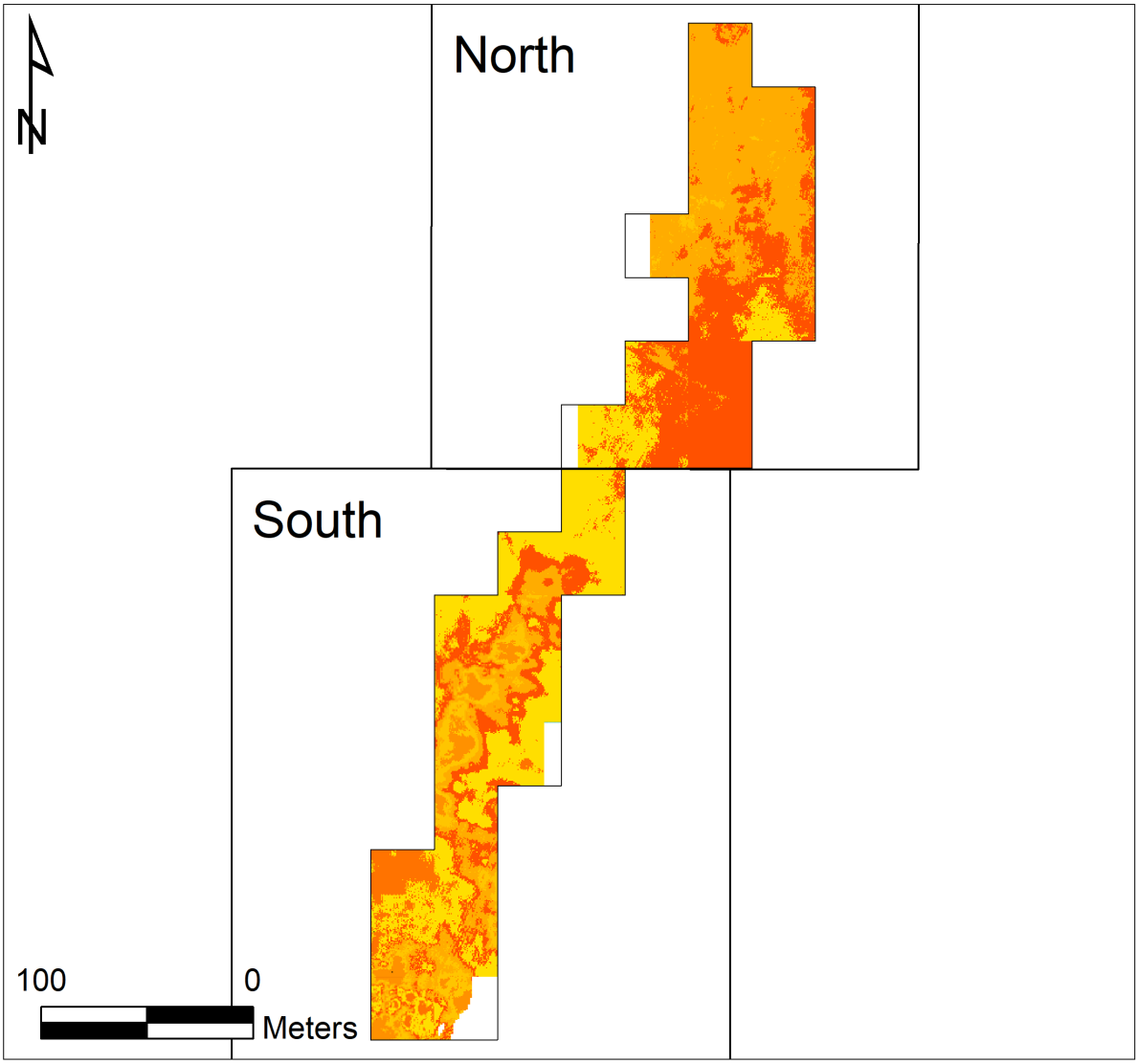

Figure 13. K-means results for electrical resistance survey, k=6.

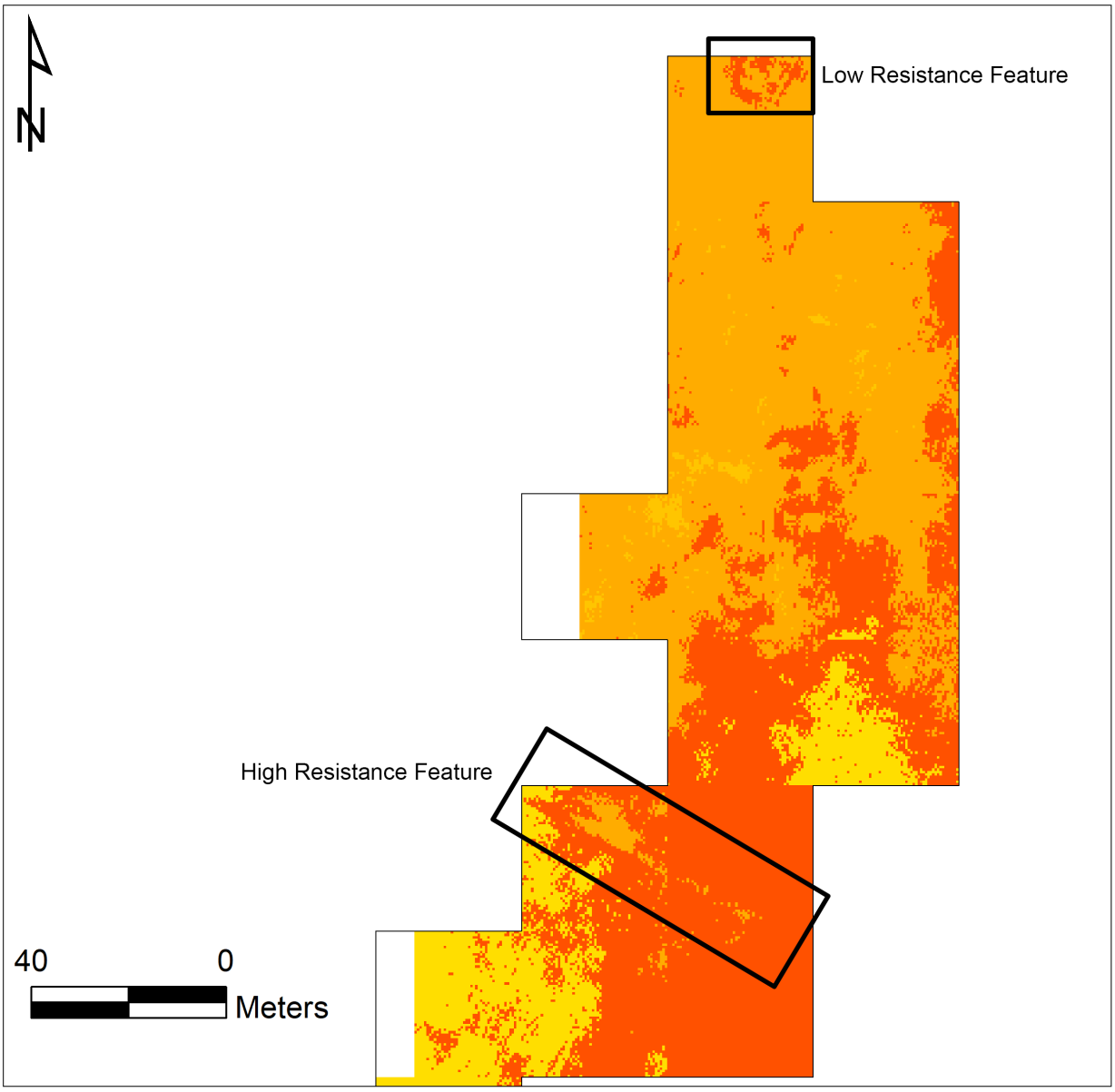

Figure 14. K-means results for electrical resistance survey in the North Village, k=6.

In the North Village, there is a rectangular feature that is characterized by low resistance like that of Mississippian architecture, while there is also a linear high resistance feature that is likely a road (Figure 14). Variations in resistance likely resemble larger landscape trends. However, several circular features that are low resistance in the raw data are likely middens.

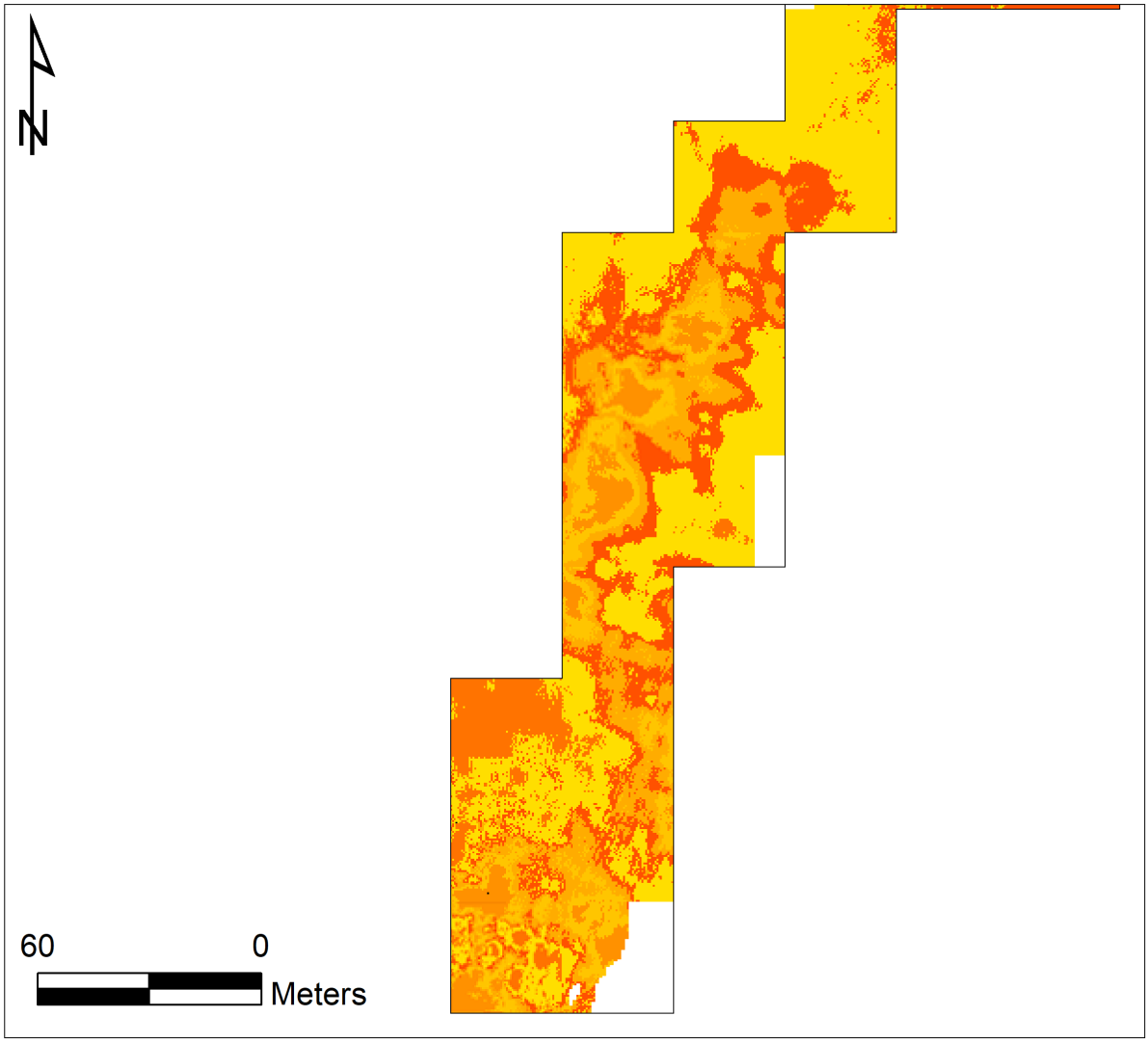

Figure 15. K-means results for electrical resistance survey in South Village, k=6.

In the South Village, there is more variation in electrical resistance (Figure 15). Like the North Village, circular low resistance anomalies are likely middens. However, in the southernmost area, the linear and circular arrangement of non-metallic dipolar features identified in the magnetic data (Figure 7, 8, 11) appear as low resistance features. Therefore, beyond the natural variation in soil resistance, there are several potential archaeological anomalies. Integrating the resistance and magnetic data can provide further clarity.

INTEGRATION

The basic goal of geophysical survey is to provide graphical representations that combine data to identify anthropogenic features (Kvamme 2003a, 2006a, 2006b, 2007b; Kvamme et al. 2019). Historic agricultural activities can impact the ability to distinguish cultural features (see Green et al. 2021; Patch et al. 2017). To remove these features, primarily the plow scars that appear with low magnetism (ranging between -2.5 nT and +2.5 nT), I followed Green et al. (2021). However, rather than removing noise from metallic scatter, I consider these part of a historical archaeological site. Moreover, the integration of the magnetic and electrical resistance data present a more holistic perspective on the organization of archaeological features.The ability to detect features such as architecture vary between different geophysical methods, based on underlying geology and how each method measures different physical properties (Lockhart 2010). As the electrical resistance data shows larger scale variation, I integrate the vectorized magnetic data with both the electrical resistance data and the K-means cluster (k = 6) of electrical resistance data. To provide a closer look at the results of these integrated data, I provide a side by side comparison of magnetic features over electrical resistance and the K-means cluster electrical resistance data for the North Village and South Village (Figure 16, 17). Using these data, I trace the relationships between different features to define potential Mississippian architectural features, organized in three areas throughout the site (Figure 18, 19, 20, 21, 22). In the magnetic data, Mississippian architectural features at Snow's Bend generally have positive ranges from 4 nT to 8 nT. In areas where there are nonmetallic dipolar architectural features, these range from as low as 4 nT, but generally 8 nT to 15 nT. Psuedo-monopoles (monopolar positive), interpreted as potential pits, generally have weaker signatures and range

from 2.5 nT to 4 nT. Lastly, the metallic scatters are generally characaterized by positive spikes over 15 nT with negative magnetism.

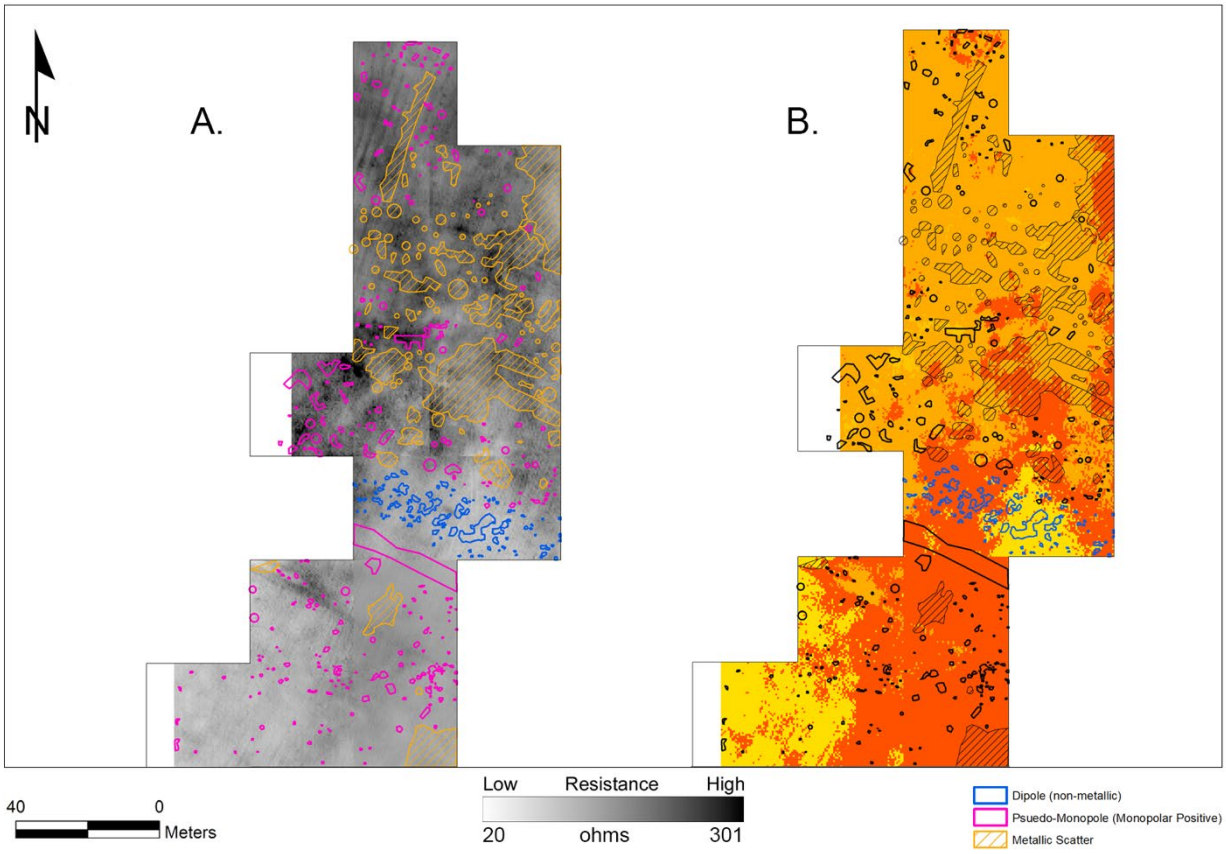

Figure 16. Comparison of interpretive magnetic anomalies in North Village over (A) electrical resistance, and (B) k-means electrical resistance, k=6.

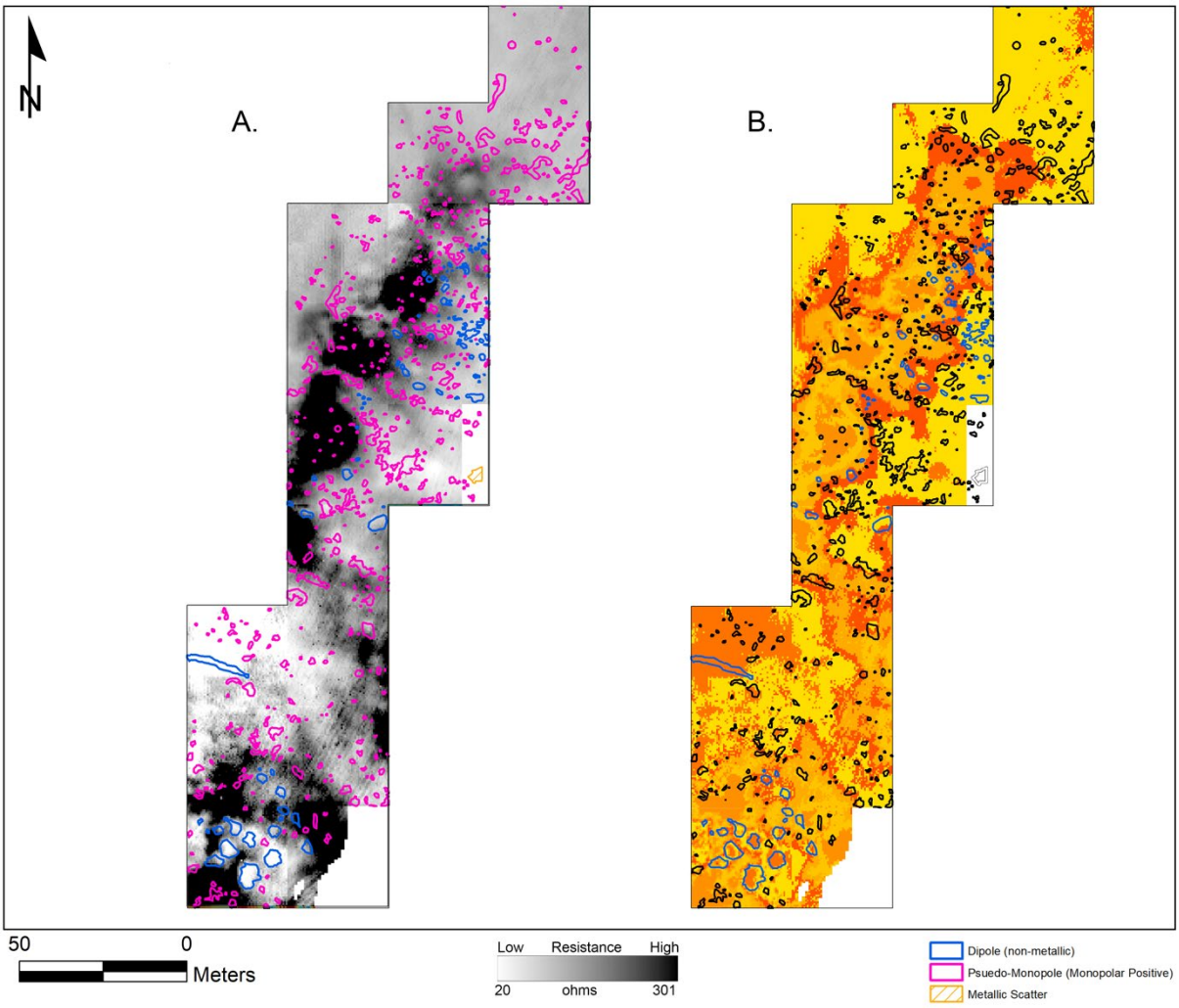

Figure 17. Comparison of interpretive magnetic anomalies in South Village over (A) electrical resistance, and (B) k-means electrical resistance, k=6.

Few of the magnetic anomalies of interest correspond with a stark change in resistance. In the North Village, there are subtle variations; however, only one rectangular low resistance features appear, and corresponds with a similar arrangement of positive magnetic anomalies (Figure 16). In the South Village, there is greater range in resistance, and several areas of low resistance, particularly towards the southern end, appear to correspond with other large magnetic anomalies (Figure 17). There are three areas of archaeological interest (Figure 18). Moreover, the North Village overlaps with a portion of previous surface collection (Figure 19, 20).

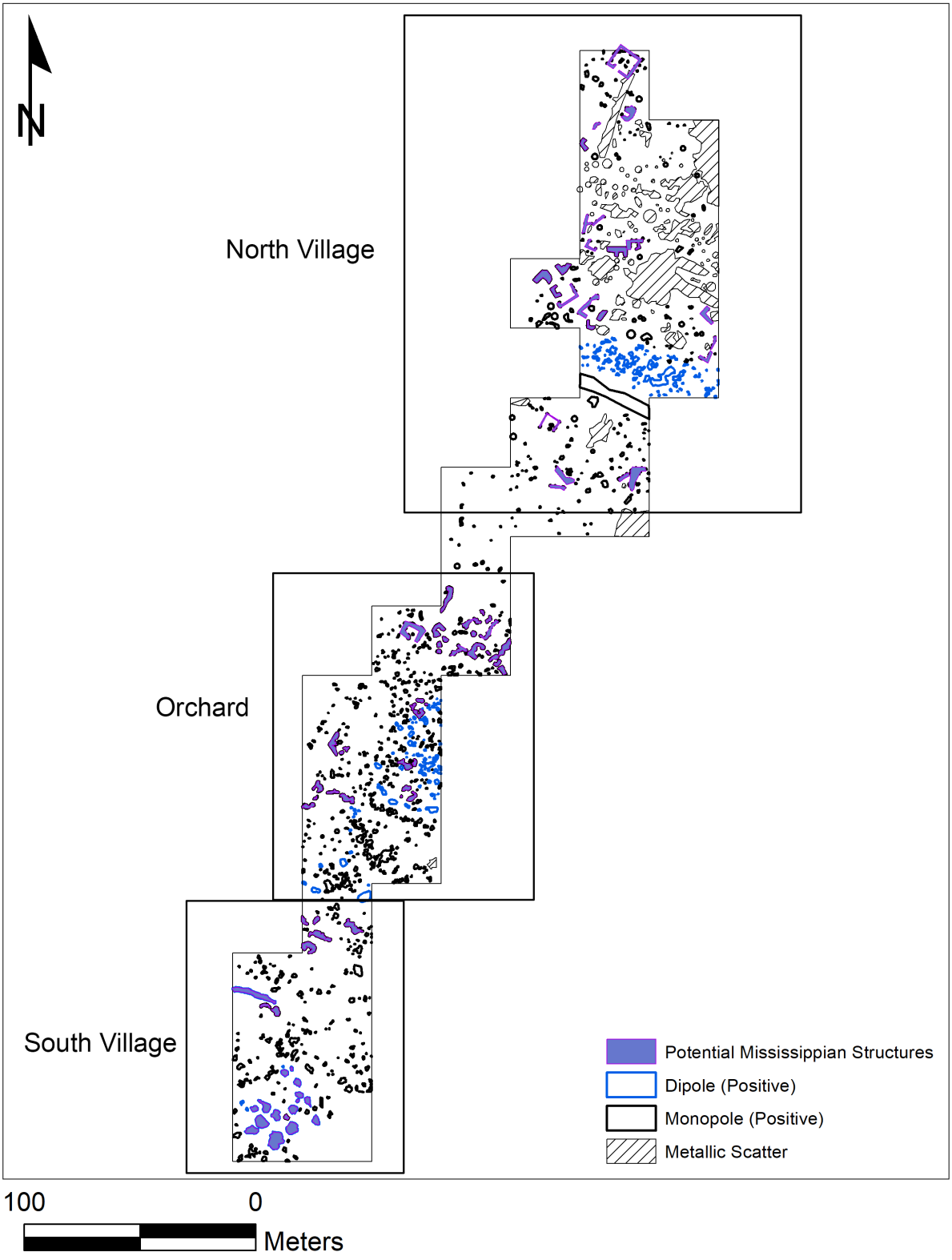

Figure 18. Primary areas of archaeological interest outlined over magnetic features and defined potential Mississippian architecture.

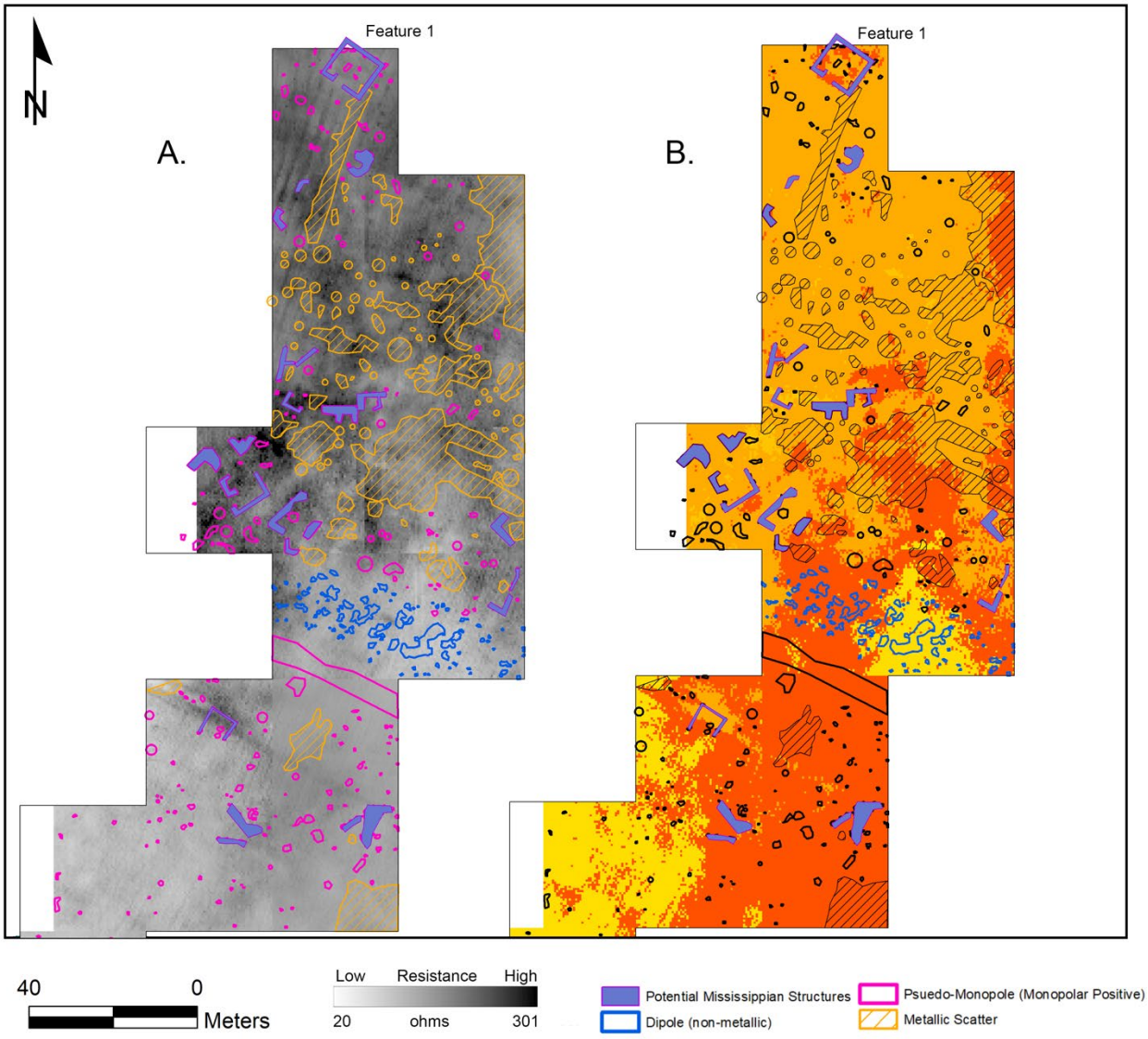

Figure 19. Interpretive map of the North Village, showing potential Mississippian architectural features.

As previously mentioned, the electrical resistance magnetic data overlap in a rectangular feature in the northernmost portion of the North Village (Feature 1, Figure 19). Throughout the magnetic data, there are a series of pseudo-monopoles (monopolar positive) that form rectangular features that potentially correspond with former architecture. Again, this is speculative, yet these areas overlap with dense concentrations of architectural daub and ceramics

identified during the UMMA survey in 1979 (Figure 20). While these clusters primarily overlap with grog-tempered pottery, a ceramic indicative of West Jefferson and Moundville I ceramic traditions (Knight 2010), these should not be read as direct correlations. Given the history of agricultural disturbance, the UMMA collected materials that had only made it to the surface. Moreover, rather than marking the exact location of each artifact, surveyors cluster together objects at 20-m by 20-m intervals (Welch 1979). Moreover, while these materials are neatly clustered in the survey area, Bozeman (1982) relegates the earlier Moundville I occupations to a very minor status. Considering the concentrations of daub are a primary indicator of former architecture, particularly during the later Moundville phases, it is highly probable the structures identified in the survey are Mississippian. The area of non-metallic dipolar anomalies with a positive linear feature also corresponds with an area of low resistance, a correlation that might indicate architectural debris or middens. Again, the North Village is difficult to interpret, but the features may represent a burnt, collapsed, palisade, or heavily disturbed cluster of architectural features.

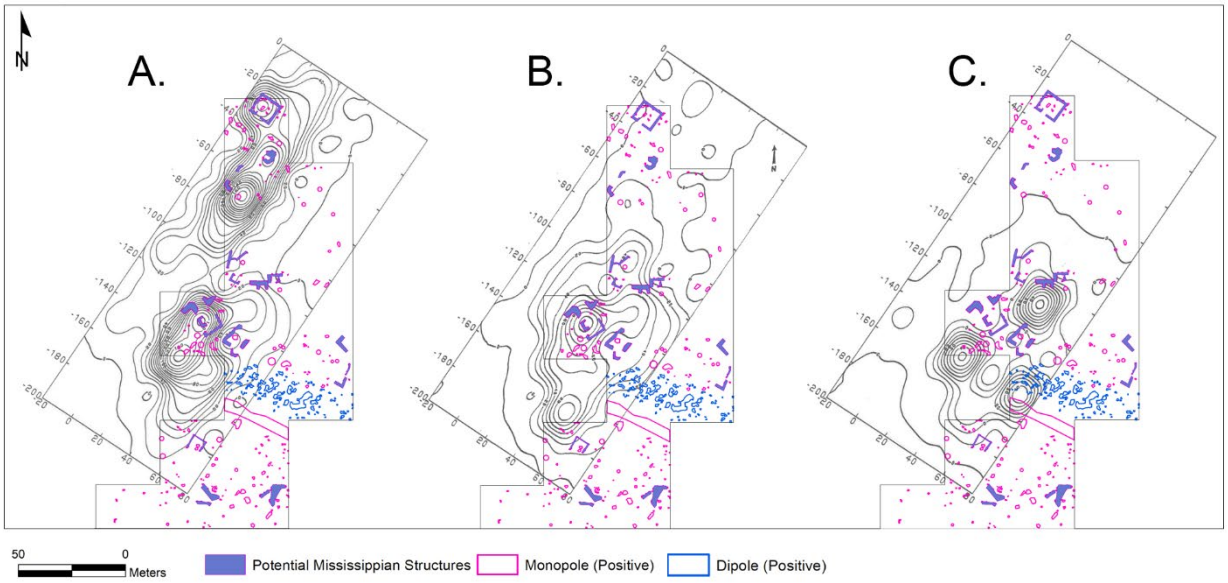

Figure 20. Interpretive map of the North Village, showing how features align with distributions of (A) Grog-tempered pottery, (B) Shell-tempered pottery, and (C) Architectural daub from the UMMA survey

Separating the North Village and the Orchard is an area that is "quiet" in the geophysical data. Few small positive monopolar features exist in this quiet area, and there is little variation in resistance. In the Orchard, there is another cluster of potential architectural features organized within a cluster of non-metallic dipolar anomalies and an area of low resistance (Figure 21). Throughout this area there are large zones of high resistance that are generally absent of pseudo-monopoles (monopolar positive) and non-metallic dipolar anomalies. Moreover, this area overlaps with a former pecan orchard that was in use for several decades, further complicating the identification of different electrical or magnetic anomalies. Regardless, the features outlined here form a small neighborhood that generally exhibits similar magnetic properties as those in the North Village. This area is generally disturbed, and the removal of the orchard in the 1970s likely presents another issue to consider in interpreting this data. Further research can clarify and correctly identify these anomalies.

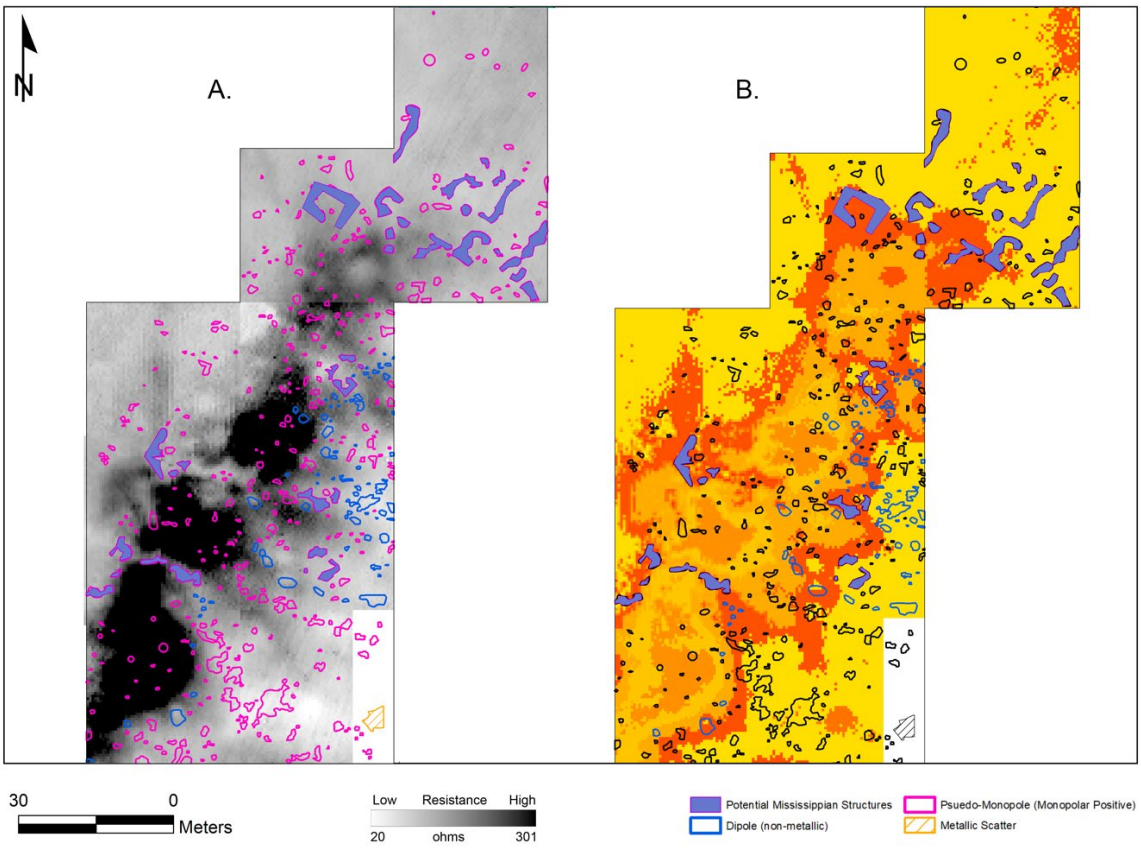

Figure 21. Interpretive map of the Orchard, showing potential Mississippian structures.

Lastly, in the South Village, there is a cluster of large non-metallic dipolar anomalies and a linear non-metallic dipolar feature over areas of low resistance. Both areas of which are likely remnants of a burnt, collapsed screen or blind and structures (Figure 22). The potential features in this area are the closest to the platform mound. Like the Orchard, heavy scarring appears in the electrical resistance data from historic agricultural activities, thus problematizing interpretation. The structures perhaps provide the clearest evidence for organization. However, it is notable to point out that these features vary in size and have no discernable original shape. With this in mind, these are similar to ephemeral low-magnitude positive structures associated with mound-building at Spiro (Hammerstedt et al. 2017), and might represent burnt structures associated with mound construction.

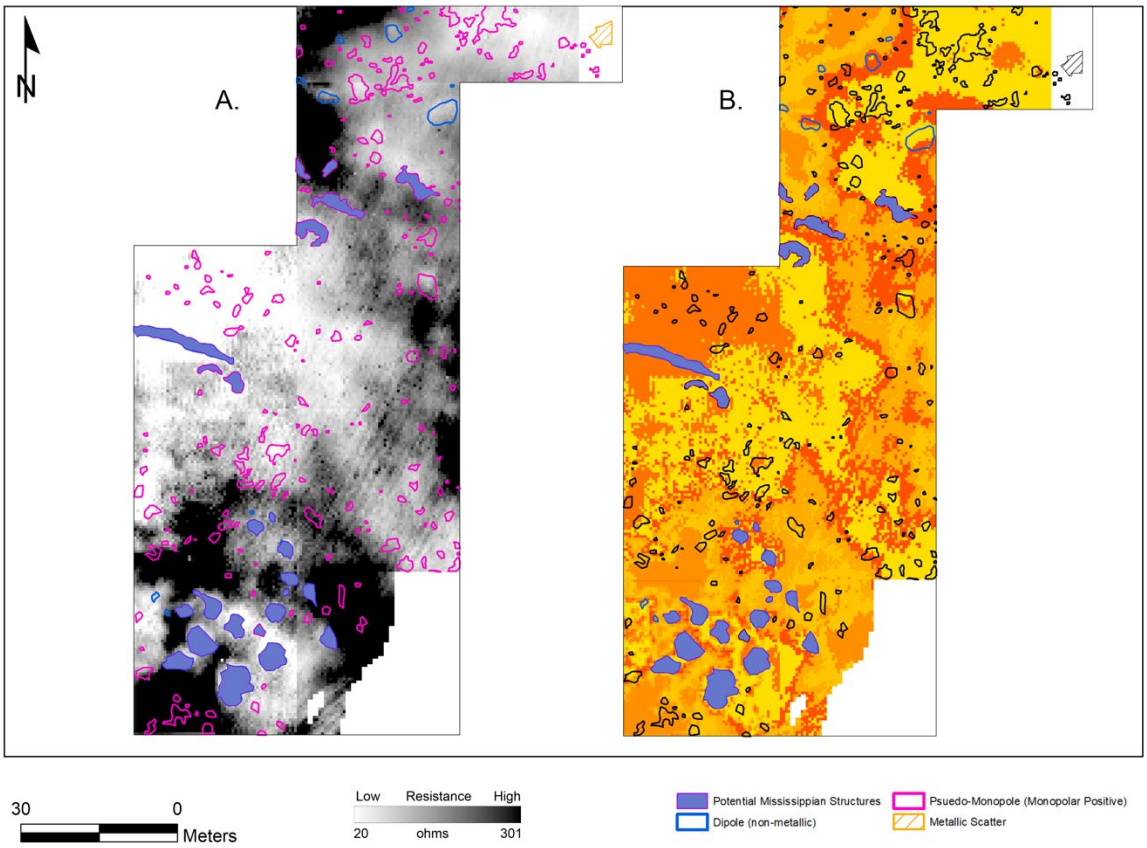

Figure 22. Interpretive map of the South Village, in the South Village, showing potential Mississippian structures.

DISCUSSION

Through linking archaeological geophysics with anthropological concepts, Thompson et al. (2011) argue for an "inquiry-based geophysics," in that the these methods appropriately address one's research questions. Addressing anthropological questions with shallow geophysics (e.g., Kvamme 2003a; Thomas 1987:64-67), I use an "inquiry-based" approach to understand community-making and maintenance at Snow's Bend. To briefly reiterate, there are four goals to this study:

1. Determine the size, extent, and organization of Snow's Bend.
2. Evaluate how potential features reveal the immediate social landscape.
3. Assess how results align with expected settlement patterns for Moundville.

4. Contextualize Snow's Bend within Moundville's social landscape.

Identifying Mississippian Settlement at Snow's Bend

While geophysical methods provide powerful tools to evaluate archaeological landscapes, their results are a palimpsest where archaeological features from different periods often overlap. Therefore, to identify the Mississippian settlement at Snow's Bend, it is necessary to consider what constitutes a Mississippian town. Therefore, to address the size, extent, and organization of Snow's Bend, it is essential to evaluate the various features evident in the geophysical results.

Considering how Mississippian communities created and maintained spaces, vital features beyond the mound and plaza generally include residential architecture. It would not be easy to identify the specific use of particular structures without ground-truthing. However, additional features that would appear in geophysical data would include large scale architecture such as palisade walls, or screens (Lewis et al. 1998; Lindauer and Blitz 1997). Additionally, there is variety in architecture as both flexed-pole and rigid-pole houses exist—both of which would form rectangular houses made of wattle and daub (Blanton and Gresham 2007; Brennan 2007; Lacquement 2007). New architectural forms in the Mississippian period generally include wall-trenched architecture, where builders dug linear trenches and placed new walls. While there is immense regional variation in architectural practice (Boudreaux et al. 2021; Brennan 2007; Lacquement 2007; Lewis et al. 1998; Lockhart 2010; Wesson 1998), such features are readily evident in geophysical data.

The natural and the built environment provide a critical dimension to understanding how people shape, experience, and understand community (Basso 1996; Bloch 2020; TallBear 2015; Watts Malouchos and Betzenhauser 2021b). The act of construction—as seen through the

building or maintenance of a house, among other features—can be a vital way to understand how people express and understand belonging. Earlier, I suggested that the concepts of doxa or practical politics may offer a meaningful way to understand community development in the wake of Moundville's outmigration (Silliman 2001). Certainly, mortuary practices and architecture may exhibit doxic practices, where, at a variety of scales, daily routines go unquestioned. Silliman (2001) questions whether practices can genuinely be unquestioned—viewing acts of residence as an act of resistance. Yet, the act of residence can also contain political implications for acts of belonging (Melly 2017). However, restricting interpretations to the physical architecture of living spaces creates an obstacle in understanding the creation and maintenance of Mississippian spaces.

The built environment also provides an essential context to explore movement and pathways. Therefore, shifting focus from individual structures, to their relationships to another provide a way to explore how architecture enables and constrains certain forms of movement and interaction (Nelson 2014; Wernke 2019). However, depending on the focal point of daily paths how people move throughout certain spaces can shift (Wernke 2012; Wernke and Kohut 2017; Wernke et al. 2017). Yet, the built environment is not the only feature to consider. Watts Malouchos and Betzenhauser (2021b) call for greater attention toward storage facilities and storage pits as an essential feature to understanding the creation of space. The placement of storage, in concert with the rest of the landscape can shape bodily disposition in how people and things move through spaces. Since pits and middens often appear as areas of low electrical resistance (Blair 2015; Lockhart 2010), or pseudo-monopoles (monopolar positive) with positive magnetism (Boles and McCullough 2018), these are ideal features to identify in geophysical data to understand the landscapes and lived experiences of communities in the archaeological record.

While the electrical resistance and magnetic data are problematized by intense scars from the historic use of a chisel plow, the distribution of potential Mississippian architecture extends from the mound to the cemetery in three areas (Figure 18). In the North Village, there are two different ways to view settlement (Figure 19). The pseudo-monopole (monopolar positive) linear anomaly surrounded by an intense non-metallic dipolar scatter with large positive magnetic feature might represent some form of palisade, thus separating the potential architectural features on either side into two distinct neighborhoods. However, this intense scatter might also be heavily disturbed from historic agricultural activities. Indeed, the linear arrangement of metallic scatter are indicative of fencing, and the intense metallic scatter around the extant hunting blind is unsurprising, especially given the regular encounters with tin roofing during the resistance survey. The random non-linear metallic scatters might support the connection between Apafalaya and Snow's Bend. Similar patterns appear de Soto contact sites such as the Glass Site in Georgia (Blanton 2013, 2020). Moreover, similar patterns emerge from identifying repurposed 16th century Spanish metal objects at Stark Farms in the province of Chicasa—the next location following the entradas departure from Apafalaya (Cobb et al. 2021; Legg et al. 2020; Smith 2017). The connection at Snow's Bend is unlikely. At a site across the river from Snow's Bend, an avocational archaeologist identified a twisted Nueva Cadiz that might support the Soto connection (Adkison 1991). Moreover, while DeJarnette and Peebles (1970) do not recount this object, collection inventories at the Office of Archaeological Research include a historic octagonal stock pistol barrel similar to those found in early 19th century contexts. As is the case throughout the site, there are hundreds of small circular and amorphous pseudo-monopole (monopolar positive) magnetic anomalies that are likely storage pits that cluster around these

architectural features. While there is no other discernable temporal or spatial pattern, these suggest a dense population.

The North Village neighborhood(s) is a unique case for interpreting geophysical data. Since a research team conducted a controlled surface collection at the site in 1979, it is possible to evaluate how potential geophysical features correspond with the locations of architectural daub, shell-tempered Moundville ceramics, and grog-tempered West Jefferson ceramics (Figure 20). Architectural daub is perhaps the most significant find here, as this is a unique feature of Mississippian architecture in the region. Early Moundville structures often were undaubed wall-trench buildings (Wilson 2008). Daub became a common architectural element during the Moundville II phase and was adapted for use in wall trench architecture. The later individually set post architecture with internal roof supports that appear in the Late Mississippian and Moundville III phase contain large quantities of daub (Gougeon 2007; Lacquement 2007). Bozeman (1982) and Welch (1998), while acknowledging the minor earlier occupation of the site, suggests Snow's Bend as primarily a Moundville III village, based on diagnostic materials from the surface collections and mound excavations. However, the quantities of daub also potentially support the Moundville III dates. Therefore, the North Village neighborhood(s) likely represent more of a 'persistent' place for Snow's Bend, with its primary occupation during the 15th century.

The Orchard neighborhood contains a collection of potential Mississippian structures and significant magnetic anomalies (Figure 21). This area is primarily characterized by the abundance of pseudo-monopoles (monopolar positive) that likely represent pits. The large-scale variations in electrical resistance provide little in the way of readily distinguishable features. However, the pseudo-monopole (monopolar positive) features correspond in this area with areas

of low resistance, thus further showing other potential cultural features. Future work can clarify the nature of archaeological remains in the Orchard. However, given its similarities with the North Village, these remains likely represent the portions of another neighborhood.

Lastly, the southernmost area by the mound in the South Village likely represents a third neighborhood (Figure 22). The South Village is characterized by a circular arrangement if large nonmetallic dipolar anomalies in areas of low resistance, that exhibit characteristics of burnt buildings, as well as a long linear magnetic anomaly and dozens of pseudo-monopoles (monopolar positive) anomalies that are likely pits. These size and nature of these structures are similar to ephemeral structures associated with mound construction at Spiro (Hammerstedt et al. 2017). The long linear anomaly might represent a portion of a palisade or large blind or screen. The organization of the potential burnt structures are unique-if associated with mound construction, their organization suggest that people intentionally organized their dwellings in a semi-circle around some courtyard that opens away from the mound. Given the abundance of architectural daub and late Moundville ceramics at the mound near these structures, these are likely contemporary with the mound in some manner. As for their place in time, Plattner et al. (2022) identified several construction phases in the mound, with architecture occupying the same general space on the summit over time (Filoromo et al. 2022; Plattner et al. 2021). Therefore, these structures could correspond with a wide range in time.

Considering the limited nature of the survey area, it is not entirely possible to determine the size of the Mississippian village at Snow's Bend. However, based on these geophysical results, Snow's Bend likely consists of at least three potential neighborhoods that demonstrate a continuity in space from the mound to the cemetery. The size and organization of these communities is not readily discernable. The abundance of potential pits throughout the site

suggests a sizeable population living at or engaging with space at Snow's Bend, and there is evidence for several houses. Yet, it is not clear if these houses are all contemporaneous with another. Certainly, the maintenance of these structures over time would suggest that the structures are continuously rebuilt within the same physical layout. Such a phenomena would not necessarily be observable in geophysical data, but is not uncommon in Mississippian construction practices (e.g., Nelson 2021). Rebuilding structures in an altered form, which is not uncommon in the Black Warrior Valley (e.g., Wilson 2010) could be identifiable in geophysical data, which I suggest might be evident in the North Village neighborhood. However, few houses do not diminish the importance of the site or if other local communities or additional neighborhoods exist and access the mound or other culturally significant features. For instance, the Grand Village of the Natchez had less than ten houses, yet was a central node to social, religious, and political practices (Brown and Steponaitis 2017).

Mississippian Settlement Patterns in the Black Warrior River Valley

In the Black Warrior River Valley during the Mississippian period, there are contrasting views as to the nature and extent of settlement patterns, especially at single-mound centers. Before Moundville's height, the settlements in the valley contained a majority of the local population (Knight and Steponaitis 1998; Welch 1998). However, Hammerstedt (2000) argues that single-mound centers support loosely based clusters of dwellings, thus suggesting the population is loosely aggregated with no more than a dozen structures. In another view, Welch (1998) indicates that during the population reorganization into the valley during the 14th and 15th centuries, single-mound centers support a nucleated population with dense occupations.

The size, extent, and organization of architectural features and potential pits suggest that the population at Snow's Bend during the Moundville III period is densely occupied. While organized around a minimum of three likely neighborhoods, the dense clusters of potential pits, the extensive daub scatter in the North Village and near the mound, suggest extensive architectural debris (see Filoromo et al. 2022). It is difficult to definitively assess the validity of either view as this survey covers only a portion of the potential village. Without identifying key elements to Mississippian villages, such as the location of the plaza, and the extent of these neighborhoods, it is not readily apparent. Certainly the tight clusters of architecture may support Hammerstedt et al. (2016), where mound centers are the foci of loose clusters of sites. However, the extensive potential pits that extend throughout the survey area certainly warrant further investigation and could suggest an extensive population.

Social Landscapes at Snow's Bend

Shifting scales between households, neighborhoods, and landscapes emphasizes the importance of reconsidering the building blocks for understanding social landscapes. Several decades ago, Rogers and Smith (1995) argued that for understanding Mississippian communities, household archaeology provides an answer. Specifically, Rogers (1995:7) defines Mississippian communities through households and coresidential groups within an enclosed space. While households are essential locations for understanding daily practice, communities are multiscalar, recombinant assemblages that are constantly emerging from the entanglements of human and nonhuman actors (Harris 2014; Pluckhahn et al. 2018; Watts Malouchos 2021; Yaeger and Canuto 2000). More specifically, in Chapter 3, I defined communities as nested, socially constructed institutions that are composed *of* and *through* interwoven social networks, while

emphasizing the built environment as a context for social action. Buildings and landscapes provide the context, precondition, place, and product of social reproductions of habitus across space and over time (Birch 2012; Melly 2017; Richard 2018; Soja 2010). Moreover, architecture promotes persistent social practices as the loci for daily practice (Ryan 2008; Sewell 1992), while also serving as a potential reflection of identity work at varying scales (Brubaker and Cooper 2000; Ryan 2008; Steere 2021). Therefore, spatial organization can provide a unique lens to examine communities and landscapes at Snow's Bend.

The continuity in space from the mound to the cemetery appears in the form of three possible neighborhoods and hundreds of potential pits at Snow's Bend. After reviewing the potential architectural features in the North Village (Figure 19), the neighborhood in the Orchard (Figure 21), and the South Village neighborhood (Figure 22), several architectural trends emerge. Both the North Village and the Orchard contain rectangular to square structures, with several potential instances of rebuilding as well as possible interior partitions. At a macroregional scale, these could be either domestic residences or unique use buildings. While the temporal range of these structures is unclear, square architecture, interior partitions, and rebuilding are common features to Late Mississippian (AD 1350 to 1550) architectural practices (Steere 2021). In the South Village neighborhood (Figure 22), the potential structures have no readily discernable shape. However, they generally appear as circular and ovular structures, an architectural style typical for nondomestic buildings, such as earth lodges, and are common in historic period settlements (Steere 2017, 2021). Considering how these also appear like short-term residences for mound construction, the South Village presents a unique case. Given the nature of impacts on these potential archaeological features, there is no discernable pattern in each neighborhood. Since these commonalities in architectural practice speak to macroregional

trends, at one scale, these might speak to the more imagined forms of communities, or communities of practice that shape people's understandings of architecture (Anderson 2016). In chapter 3 I asked: what are the appropriate mediums to facilitate imagined communities? Construction practices might represent one aspect, but to do this, future work should evaluate the social meanings behind these practices. However, contextualizing these neighborhoods within their appropriate social landscape, it is helpful to assess identity and social organization.

Archaeologists contextualize their understandings of social organization for Mississippian peoples often through ethnographic descriptions. In doing so, there is a general tendency to position collective identity (although only referred to as "identity" in a broad sense) as town-based rather than clan or corporate-clan based (Scarry and Steponaitis 2016a). More specifically, Urban and Jackson (2004) argue that (historic) towns were autonomous and self-sufficient building blocks for Muskogean social organization. This in part due to how anthropologists understand that residential pattern within a town crosscut familial systems, where different members of social groups co-reside with each other (Ethridge 2003; Galloway and Kidwell 2004). Yet, identity and community are not synonymous with one another. If towns represent collective forms of identity, this reduces the many ways members of these town create and maintain communities at multiple scales and perceive their identity. For example, toponyms can be important signifiers for attributing meaning to space (e.g., Galloway 2006). But that is only one potential scale to understand the more significant social landscape and does little to elucidate the scale present in this study. Despite the pitfalls in that these observations lack collaborations with modern Muskogean nations (Creek, Choctaw, Chickasaw, to name a few), this focus on collective identity and towns as a community can obscure the minutiae of daily realities that define community life. These understandings do require further thought as to what

defines a Mississippian household. Individual structures may not be appropriate. Multihousehold groups, such as those found amongst the historic Chickasaw and Choctaw, may appear at Moundville (Knight 2016; Scarry and Steponaitis 2016a; Wilson 2008). Therefore, multiple dwellings organized around a shared courtyard, for example, might not be the appropriate scale to define a neighborhood.

Viewing architecture as a critical dimension for understanding people's movement, mobility, and other bodily dispositions within a landscape requires seriously considering more than the built environment. Nelson (2014), and Wernke (2013, 2019) observed that the more intimate landscapes amongst communities and towns appear when shifting our focus towards the spaces in between: the paths and private courtyards within neighborhoods. Moreover, it is important to consider storage pits (Kelly et al. 2005; Watts Malouchos and Betzenhauser 2021b). Given the continuity between the mound and cemetery, these three neighborhoods likely regularly interacted with each other moving through the area to engage with different political or religious activities. However, within the neighborhoods, a more intimate scale of interaction might emerge since the structures seemingly cluster close together. Therefore, depending on the perspective from which one examines movement, the scale and intimacy of these spatial networks, pathways, and degree of interaction will change (e.g., Wernke and Kohut 2017; Wernke et al. 2017). In the South Village neighborhood, the smaller potential structures appear in a circle oriented around a private courtyard that opens away from the mound. Small potential pit features exist around these structures. Moreover, the more prominent structures attached to these clusters may be another residence or important private structures for those residing in the group. Elsewhere throughout the site, the clusters of architectural features provide little in the way to understanding specific organizational patterns. In this one instance, orienting activity

away from the mound suggests some form of symbolic distancing similar to that indicated for the end of wall-trench architecture (Rodning 2015; Rodning and Thorpe 2021). Moreover, this act of symbolic distancing might provide another indication of how peoples relationship to space supposedly changed while groups moved from Moundville to the hinterlands. Regardless, the nearby mound was an important site where the community worked to maintain space over time (Filoromo et al. 2022). The intentionality underlying community-making and maintenance at the mound suggest that even if working to distance themselves, the mound was an essential fixture in place-making at the site as a whole.

Moundville's Changing Social Landscape

Neighborhoods within Snow's Bend reflect several small social communities that interact at different scales from the family to the town. However, it is also necessary to shift from internal organization within the site to evaluate Snow's Bend contribution to the larger social landscape of the Moundville chiefdom.

Earlier, I posed interrelated questions that asked how the validity of contrasting settlement patterns and the presence of cemeteries at Snow's Bend (and White), reveal changing conceptions of space in Moundville. The abundance of potential pits, and architecture at the site suggests that during the population shifts into the valley, groups coalesced at single-mound centers. During that same time, the first cemeteries outside of Moundville emerged at Snow's Bend and the White site (Welch 1998). While people moved from Moundville, groups returned, reconfiguring former communal and living spaces as resting places for their ancestors (Wilson 2008, 2010; Wilson et al. 2010). Archaeologists suggest that the population movement during the 14th century marks a large-scale symbolic distancing of groups away from the elite who still

resided at Moundville (Knight 2016; Knight and Steponaitis 1998). If this is so, then might the presence of new cemeteries suggest that the instability of Moundville's political system led communities to distance themselves and operate autonomously (Rees 2001)? Such an idea is suggestive of the fission-fusion process of Mississippian chiefdoms (Blitz 1999), and Scarry and Steponaitis (2016a) argue that the population trends overall are indicative of the emphasis on single-mound centers. Meaning, over time, the creation of new local cemeteries at single-mound centers underscores the emphasis away from Moundville and changing roles of the mounds Moreover, one of the many interpretations of the sociogram of mound arrangements at Moundville is that the mound pairs are the home of temporarily coalesced town chiefs (Knight 2016). Therefore, the emergence of new cemeteries at Snow's Bend and White, especially given their relationship to shifting population dynamics, might index the creation of new or altered smaller political systems.

Since communities exist at multiple scales, there are also general trends that help place Snow's Bend within Moundville's greater community. The reconstruction of structures are evident at both Snow's Bend and at Moundville (see Wilson 2010). Moreover, this is a common practice in the greater Mississippian world, such as at Parchman Place in the Yazoo Basin, where there are up to five former houses stacked atop one another (Nelson 2021). Yaeger (2021) argues this act of citation is a way in which community members reproduce social organization, authority, and the materiality of their lived experiences. However, this act is not restricted to architecture—but also burial practices. The repeated burial of ancestors in the areas where former communal spaces stood are an embodiment of remembrance (Connerton 1989; Wilson 2010), that also demonstrates an act of reproducing former social bonds (Yaeger 2021). However, if archaeologists emphasize that the continuity in space, where residential areas

become resting places, what does that mean for Snow's Bend? Future research can clarify this. Yet, the continuity in space from the mound to the cemetery, and the continuity of temporally diagnostic material culture suggest that for Moundville's more outstanding social landscape, the embodiment of social memory through space might not be uniform.

Chapter Summary

In this chapter, I present the results of the magnetic gradiometer and electrical resistance survey, data integration, and discuss these results with reference to my research goals. The goals of this study were to evaluate the intra-site community and spatial organization, and its relationship to settlement patterns and social landscapes in the Black Warrior River Valley. I took a combination of different processing approaches to identify potential archaeological features. Given the nature of historic agricultural activities, it is not easy to discern certain archaeological features in portions of the study area. Combining the results of geophysical data, it was possible to identify three potential residential areas, and many potential pit features that show continuity from the mound to the cemetery. While only a portion of the potential lived landscape was surveyed, Snow's Bend likely supported a nucleated population—like that expected for the Moundville III phase. In identifying three potential neighborhoods, it is also essential to consider the appropriate scale from which we identify familial communities, neighborhoods, and households. Considering how different social understandings might problematize the scales from which we identify 'community,' the organization of residential areas and social landscape of Snow's Bend emphasize the unique, site-specific histories for Moundville's settlements. For understanding the relationships between communities at multiple scales, such as Snow's Bend to the Moundville chiefdom, the top-down focus of such approaches

obscures the unique histories of these towns. Therefore, it is necessary to investigate Moundville's settlements, rather than assume their organization and extent based on limited data sources.

CHAPTER 6. CONCLUSION

During the 14th century, groups from Moundville reorganized into the Black Warrior River Valley, making and subsequently maintaining new towns at single-mound centers through the 16th century. The nature of these movements are not fully understood, and there are contrasting views on settlement patterns, where groups were loosely dispersed (Hammerstedt 2000) or nucleated (Welch 1998) around these mound centers. At Snow's Bend, there is evidence for population nucleation, where residents of the local face-to-face community organized in at least three residential areas. The continuity in space from the mound to the cemetery is important and suggests continuous engagement with the space. This pattern of suggested movement is remarkably different than the spatial dimensions of mortuary practice at Moundville, where people traveled to Moundville to bury their ancestors, rather than in their town. Therefore, the social landscape at different scales shows unique similarities and distinctions from communities of practice at regional and macroregional scales. In this chapter, I outline the limitations and future directions of this work, while ultimately synthesizing this work as a whole.

LIMITATIONS

While survey strategies were consistent across the site, fluctuations in geophysical data, specifically with electrical resistance, can appear due to seasonality. Despite this issue, the archaeological features I identify in this study provide a noticeable contrast in the surrounding environs. Using a combination of approaches, such as Green et al. (2021), Birch (2016); Blair

(2015) and Kvamme (2006b) to identify archaeological features, and information from previous surveys, it was possible to distinguish different Mississippian features on the landscape. Given the clear link between anthropological theory and geophysical data, I am confident that these findings can provide essential perspectives that guide future investigations. However, as I repeated throughout the results and discussion, historic agricultural activities and historic archaeological features obscure portions of the survey area. For example, the overall impact of historic agricultural activities on archaeological deposits is unknown. Therefore, additional features that are recoverable through excavation may clarify other forms of social practice. With additional data, these features obscured by agriculture may be important for understanding the nature of social relationships within communities and within the Moundville chiefdom over time and space.

The three residential areas also present a complicated and occurrence in the Moundville chiefdom. While Hammerstedt (2000) suggests sites in the hinterlands are sparsely populated with distantly spread clusters of farmsteads. The three potential neighborhoods that extend across the 2.56 ha survey area are seemingly only a portion of the village site, and could support this assertation, but the density of pits across the site might suggest another view. Of course, the relationships between different areas over time is not readily apparent. Rees (2001) observed a different pattern at the Moundville III village at Foster's Landing, where there was a large village area extending from the mound towards the river. Moreover, while the exact organization and extent of the site is not fully known, the White site also contain important elements to Mississippian towns, such as a plaza, and the common Late Prehistoric terraced mound summit (Welch 1991). Work at the White site and Foster's Landing add greater nuance to archaeological understandings of Moundville III developments. However, there is still work to be done. The

development of new settlements in the valley during Moundville's outmigration would benefit from further research to clarify this issue. Such work might clarify the nature of autonomy and agency these communities have from the Moundville chiefdom during this critical transition period. Moreover, interpretive bias might obscure archaeological understandings of settlement near the mound. This caveat is made clear in the following sections.

Future Directions

There are at least two opportunities for future directions. The following future directions can provide abundant opportunities to expand avenues in Moundville research.

First, future investigations should continue through collaboration with Indigenous stakeholders. Indigenous peoples related to those who lived in the Black Warrior Valley during the Mississippian period can provide crucial perspectives on the anthropological findings in such investigations. Moreover, as active collaborators on projects, such research can contribute to the sustainability of archaeological practice and support additional avenues for the participation of those communities traditionally excluded in and from the field.

Second, ground-truthing these features can help confirm and provide greater clarity to the diachronic and synchronic relationships between them at the site. Archaeological and geophysical surveying can expand around the additional elevated areas near the mound, to the river, and further south to identify other potential features related to mound-based occupations. Given the dense woods around the site, shovel test pits (STPs) might provide a suitable option to identify the full extent of the village. Identifying additional features might alter the perspectives provided in this research pertaining to community, identity, and social landscapes. The further

confirmation of these features can offer vital archaeological data that can guide geophysical investigations and interpretations in the Black Warrior River Valley.

Discussion and Conclusion

At Snow's Bend, I identified three likely residential areas that demonstrate continuity from the mound to the cemetery. However, many of the architectural features are not fully defined, representing portions of rectilinear walls and interior partitions. Of the several structures identified, there are a wide range of architectural styles evident, with circular structures near the mound, and square and rectangular structures moving towards the river. These architectural styles are all common to the broader Mississippian community of architectural practice, where square and rectangular structures with interior partitions, and larger circular structures are common during the Late Mississippian and Early Colonial periods (Steere 2017, 2021). Again, the specific organization patterns of these structures are unclear. Yet, potential architectural features do cluster around each other. These might represent neighborhoods. However, it is important to consider if a household, a group of households around a communal space, or multiple communal spaces such as courtyard is an appropriate unit of analysis for defining neighborhoods.

Regardless of the difficulty in assessing social organization, particularly considering the difficulties in interpreting the palimpsest of geophysical data, settlement at Snow's Bend suggests a complicated history. There may be more variation throughout the Black Warrior River Valley, therefore it is important to investigate and support these cases on a site-by-site basis. For example, if Snow's Bend is the Apafalaya visited by Hernando de Soto these surveys do support the description of the town as a nucleated settlement (Hudson et al. 1990b; Shuck-Hall 2009).

However, expanding studies to survey other places around the mound could provide contrary evidence, but overall, different ways to identify and clarify this historical event are necessary.

Given the density of population, and the unique variation in the spatial dimensions of mortuary practice, Snow's Bend holds an interesting position in the Moundville Chiefdom. While social and physical landscapes are constantly in motion (Ingold 1993; Richard 2018), the aggregation of communities for mutual protection might provide an example of a complicated, contested landscape (Richard 2018). Therefore, during the period of outmigration in the valley, the development of physical space at Snow's Bend might represent a product of disjuncture in regional power and politics (Melly 2017; Richard 2018), an interpretation that supports different interpretations of the Mississippian fission-fusion process (Blitz 1999; Shuck-Hall 2009). However, the cleaving of power and politics over space within the region provides only one perspective to understand the development and settlement patterns.

Architectural evidence at the site also underscores the nature of varying uses, functions, and meanings of mounds (Kassabaum 2021). For example, mounds are meant to communicate social meaning (Brennan 2021). The organization of architecture from the mound and immediate neighborhood present a unique case for further research. Previous research on the mound has helped understand the long-term intentionality in mound building as an important component to community-making and community-maintenance (Filoromo et al. 2022; Plattner et al. 2022). Since the neighborhood has a courtyard that opens and facilitates movement away from the mound, it calls into question the scales in which symbolic distancing is visible. Acts of symbolic distance in the Mississippian world (Rodning 2015), and movement away from Moundville (Knight 2016) are important to consider. If architecture and space represent critical ways groups

express this symbolic distance, the act of orienting private courtyards away from the mound, such as I speculate in the South Village residential area, might provide another example.

In conclusion, geophysical surveying provides a useful tool in the noninvasive investigation of Mississippian landscapes and social spaces. After identifying three potential residential areas, it is possible to investigate relationships between the mound and cemetery, identify the spatial organization of the village, and relate these to the contrasting interpretations of settlement patterns in the Black Warrior River Valley. Over time, Snow's Bend represents a central location for dwellings, thus adding an additional layer to the complicated histories of movement and meaning in Moundville's social landscapes.

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