CULTURAL CRISIS, PERFORMANCE AND RITUAL: A BIOARCHAOELOGY OF VIOLENCE IN EARLY PRECONTACT NORTH ALABAMA (8,000-3,000 BP)

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ABSTRACT

Cultural Crisis, Performance and Ritual: A Bioarchaeology of Violence in Early Precontact North Alabama (8,000-3,000 BP)

By

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Cultures have responded to periods of crisis and rapid change in many ways through time and space, with anthropological research often at the forefront of thinking about the social, cultural, and ecological strategies and adaptations employed in times of change and transformation. While strategies may include cultural innovation, increased social networking, and alliance formation, there are also cases where ritual violence, inter- and intra-population conflict, and population movement serve as strategic responses to crisis. The Archaic Period (10-3,000 BP), regionally located in the Southeastern U.S., is characterized by numerous major environmental and ecological changes, with periods of major flooding, variability in climate and local flora/fauna, as well as major cultural shifts in trade and technology. There is little doubt that these changes also stimulated ideological adjustments which can be seen in the archaeological record. The goal of this study is to understand how these changes in ideology led to the emergence and intensification of ritual violence during the Late Archaic Period of this region, and how this contributed to broader transformations in cultural processes and daily-life within these groups. While research has focused on the later Woodland and Mississippian Periods, understanding what came before these larger settled, and often agricultural

communities, provides important temporal insight into how major changes were dealt with in small scale foraging societies. It is these early precontact groups which provide the greatest heuristic insight into the history and development of early Southeastern Native American groups in relation to social and cultural changes associated with emergent complexity such as trade, ritual, large scale violence, and identity structures. Expanding on previously collected osteological data from this region, a bioarchaeological approach is used to focus on the shell funerary mound sites located in the Middle Tennessee River Valley (MTRV) of North Alabama in order to investigate how ritualized violence was entwined with other behaviors relating to settlement patterns and daily life both synchronically and diachronically. These results will contribute to understanding the ways that ritual and social violence are used during times of cultural crisis to promote cohesion and integration.

ACKNOWLEDGEMENTS

This dissertation has been the culmination of nearly a decade of study and interpretation. Consequently, there is an extensive list of individuals who have contributed in some way. First I would like to acknowledge the modern descendant communities of these ancestral individuals who granted permission for additional non-destructive observation of the remains prior to repatriation. This includes The Absentee-Shawnee Tribe of Oklahoma, The Alabama-Coushatta Tribe of Texas, The Cherokee Nation, The Coushatta Tribe of Louisiana, The Eastern Band of Cherokee Indians, The Poarch Band of Creeks, The Chickasaw Nation, The Choctaw Nation of Oklahoma, The Muscogee (Creek) Nation, The Seminole Nation of Oklahoma, and The United Keetoowah Band of Cherokee Indians in Oklahoma. The land on which the sites are located is recognized as "aboriginal land" of The Cherokee Nation, The Eastern Band of Cherokee Indians, and The United Keetoowah Band of Cherokee Indians in Oklahoma. Bioarchaeology in North America was built on the study of Native American ancestors, and it is only through collaboration that the field will have a future in the region.

Second, I must thank my committee chair, mentor, and adviser Dr. Debra Martin for her inspiration and encouragement to pursue research on the topic of violence. I, like many other of her students, have come to see the nuance, meaning and complexity behind past behaviors, and look forward to continuing to contribute these insights to bioarchaeology moving forward. I also would like to thank my other committee members, Dr. Barbara Roth, Dr. William Jankowiak, and Dr. Sheila Bock, as well as original committee member Dr. Karen Harry for their insights throughout the research and writing process during the global pandemic. I must also thank my former adviser and current friend, Dr. Keith Jacobi, not only for facilitating access to the labs at the UA Museum and supporting my study, but for seeing the potential in me all those years ago and insisting on my acceptance for the master's program at Alabama. That decision put me on a

path not only to fascinating research and my career, but also to lifelong friendships and joy. This work would also not have been possible without the help of many individuals currently and formerly at UAs Office of Archaeological Research, including William De Vore, Brandon Thompson, Jaimie Ide, Lindsey Gordon, and Bill Allen.

This research was made possible through the support of the department of anthropology at the University of Nevada, Las Vegas, and the Edwards & Olswang Grant in Support of Professional Activity and the UNLV College of Liberal Arts (COLA) Summer Stipend. Direct observation in 2016 (1Ct27) and summer 2018 (1Ct8) followed parameters and permissions established through initial consultation with living descendants at the start of a separate large scale NAGPRA inventory process carried out at the Alabama Museum of Natural History's Laboratory for Human Osteology, at the University of Alabama, Tuscaloosa. These guidelines allowed for direct observation and further analysis of these sites for academic and educational purposes until the time of inventory completion as long as such work was non-destructive and did not take new photographs. Federal notices regarding the inventories of these two sites were published in 2017 and 2018 respectively. All original records from this project and past documentation remain part of the Alabama museum collection. In 2019 these ancestors and all associated funerary objects from these and many other neighboring sites were rightfully repatriated to living Native American descendant communities of The Chickasaw Nation.

DEDICATION

This labor of devotion is dedicated to all those who have loved and supported me at my best and worst these many years. My wife Sarah for tolerating my long absences while conducting research or excavation, and the general chaos of supporting someone though comps, prospectus, data analysis, and finally dissertation completion. My parents Barbara Sherman and Dale Simpson for instilling in me a passion for learning and science, but also supporting me in finding my own path and developing my own opinions about the world. I would not be here without them for a multitude of reasons.

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CHAPTER 1: Introduction

This dissertation is built around the following three studies with are intended and forthcoming publications:

- Publication 1: "Beyond the Brutality: New Insights into Violence and Trophy Taking in the Early Pre-Contact Southeastern U.S." Invited Chapter being prepared for *The Routledge Handbook of Violence in the Americas*, edited by Ryan Harrod and Aurora Perez.
- Publication 2: "Probable Trepanation in Late Archaic Period North Alabama (5800-3200 B.P.)." Article being prepared for *The International Journal of Osteoarchaeology.*
- Publication 3: "Performance, Ritual, and the Passage of Time: A Holistic Interpretation of Life and Death in Middle and Late Archaic Period North Alabama (8,000-3,000 BP)." Article being prepared for the *Journal of the Southeastern Archaeological Conference (SEAC).*

These studies for publication were written as standalone entities, and thus contain certain redundancies in relation to background, materials/methods, and results. Additional sections have been added here to ensure sufficient detail, with additions of specific references within the publications as necessary. With this in mind, each publication is preceded by a short description detailing publication intent, as well as the most notable/unique sections therein. This subsequent introduction provides a general foundation for this research.

Bioarchaeologists have long recognized that there are few things more salient in the course of human life than the events surrounding death. However, it is only in recent decades that the field has moved away from a focus descriptive studies based on frequencies of disease

and trauma. Modern bioarchaeology uses social theory and innovative methods to provide a nuanced and contextualized consideration of the lived experiences of life and death in the past (Agarwal and Glencross, 2011; Martin, Harrod, and Pérez, 2013; Zuckerman and Armelagos, 2011). Bioarchaeological studies of mortuary treatment, politics, disability, and violence now commonly examine variation in perception and experience beyond the level of the decedent to synthesize the perspectives of perpetrator, victim and witness within any particular context (Agarwal and Glencross 2011; Byrnes and Muller 2017; Klaus et al. 2017; Tilley 2015; Zuckerman and Martin 2016). For example, with regard to studies on violence, holistic approaches like this have yielded major developments toward understanding the performativity of violence, warrior identities, and how victims are chosen and subjected to such acts.

Within the Southeastern U.S., bioarchaeological approaches to violence and intersectional identity have been successfully applied by archaeologists to Late Woodland, Mississippian, proto-historic, and post-colonial populations (Cobb and Giles 2009; DiGangi, et al. 2009; Herndon 2015; Jones, et al. 2017; Powell 1988; 1991; Stojanowski 2013; Sullivan 2006; Waselkov and Smith 2017). However, few studies have sought to integrate such complex interpretations into analyses of early precontact Archaic Period (10-3,000 BP) individuals and groups.

This is largely attributed to the assumption that complex identity, ritual, and social differentiation are characteristic of sedentary agricultural populations, and are thus expected to be absent from mobile or Semi-mobile Archaic Period groups of the Southeast. It is generally assumed that all Archaic Period shell mound sites had a single use and purpose, and that all behaviors taking place should similarly follow a clear pattern through time and space. However, Archaic Period violence appears to defy this expectation. When compared to violence and large

scale warfare of the later precontact period, Archaic Period violence is often described as chaotic, unpredictable, and lacking clear pattern within the Southeast (Hodge 2018; Milner 2007; Milner et al. 2009). In particular, this is due to the contradictory lack of defensive architecture in tandem with compounding evidence for widespread Archaic trophy taking and killings (Jacobi 2007; Mensforth 2001; 2007; Simpson 2017; Smith 1996, 1997, 2015). These acts of violence also do not conform to simple, direct reactionary explanations, whereby frequency and forms of violence appear during times of famine or shortage, and disappear during times of peace and plenty.

In this case, the expectation of a unifying pattern to these behaviors further confounds an understanding of these complex cultural phenomena. There is no "single pattern" to material culture, human behaviors, or social identity at these sites. However, the long term maintenance of low- level violence during the Archaic Period (i.e. occasional inflicted injury or killings) without attempted environmental or behavioral mitigation (i.e. palisade construction or site abandonment) supports the deeper meaning and power behind such actions. This is rooted in the idea that the suite of changes occurring in this region throughout the Archaic contradicts a single proximate causative explanation, such as environmental change or resource competition. Rather, the diversification and proliferation in trade and production of non-utilitarian goods, violent interactions, the provision of care, and forms of funerary features enacted at these sites through the Late Archaic suggest the fluorescence of new beliefs, ethnogenesis, and embodiment of new experiential identities well before the Late Woodland or Mississippian period.

Archaic Period Violence

Direct violence, widely documented within the early precontact Southeast, takes the form of projectile point injuries, cranial blunt force trauma, and diverse trophy taking behaviors.

Explanations for such cases typically rely exclusively on proximate or ecological explanations, with all violence viewed as inherently negative, deviant and maladaptive (Carstens and Watson 1996; Claassen 2010; Milner 2007; Sassaman and Anderson 1996). However, these explanations fail to account for the proliferation and diversification of perimortem (around the time of death) violent trauma which emerges and endures during the Middle and Late Archaic Period in the midsouth, particularly in Middle Tennessee River Valley (or the MTRV) of North Alabama and surrounding riverine localities of the central Southeast.

In addition, few analyses of localized violence have taken a synchronic and diachronic perspective to these behaviors in relation to widespread socio-cultural patterns and changes also taking place in the region. Long discussed and documented Archaic Period phenomena such as "Benton caches" and the "Shell Mound Archaic" (Anderson and Sassaman 2012; Claassen 2010; Sassaman 2010a; 2010b) are still not fully understood, although are generally attributed to complex ritual and exchange among these groups. Additionally, major ecological and socio-economic changes throughout the Archaic have uncertain links to culture, lifestyle, and site use throughout the Period. Thus, it is certainly possible that a deeper understanding of violence (the types of violence, who is perpetrating/victims, how it maps on to perimortem processing/mortuary) could provide the key to a holistic understanding of Archaic life in the Southeast.

Indigenous violence can both create and support as well as violate and destroy identities and in this way causing chaos while also leading to social transformation and regeneration (Chacon and Dye 2007; Chacon and Mendoza 2007; Whitehead 2004). In this sense, early precontact violence should not be equated with the resource driven warfare of later periods, which is typically regarded as mal-adaptive and disruptive to past individuals and societies

(Milner 2007; Milner et al. 2013; Milner and Ferrell 2011). Although the intensification of violence can serve as a negative reaction to a brief, rapid change in environment or interaction, this attempt at mitigation can also create powerful links of social cohesion among human groups; as behaviors are performed and reproduced through time and space, they become ritualized. It is these ritualized behaviors, repeated through time and space, which can be identified retroactively through archaeological analysis.

Using a framework of poetics/social theory of violence emphasizes that death is not static. Although it manifests as a discreet event (i.e. before vs. after death), it is ultimately the result of accumulated cultural and biological forces at play throughout an individual's lifetime, all of which articulate within a social context. "Age, sex, gender, ethnic group, occupation, marital status, political affiliation, socioeconomic status, and access to social support, health care resources, and power compose a constellation of interacting factors that temper and affect how dangerous or deadly acts of violence are" (Perez 2016:455). It seems conceivable that we simply have yet to discern or clarify the basis on which a pattern of violence might occur (i.e. region, sub-region, site, temporal component, or even based on individual identity). Thus, the goal of this research is to re-complexify the conception of violence within early groups, muddying the proverbial waters of early precontact violence in the Southeast.

Considering the gap in our understanding of Archaic violence, meaning, and ritual, this study took a contextual, biocultural approach to mapping patterns of violence synchronically and diachronically. The study of ritual and violence within these Middle and Late Archaic Period groups is particularly important for a deeper understanding of concurrent changes in settlement and interaction observable within the archaeological record, as well as the complex violence and political structures of later precontact periods. This study examines osteological data, as well as

local and regional context to examine the populations of two sites within the Western portion (Pickwick Basin) of the MTRV of Alabama, Mulberry Creek (1Ct27) and Little Bear Creek (1Ct8) (see Figure 1.1).

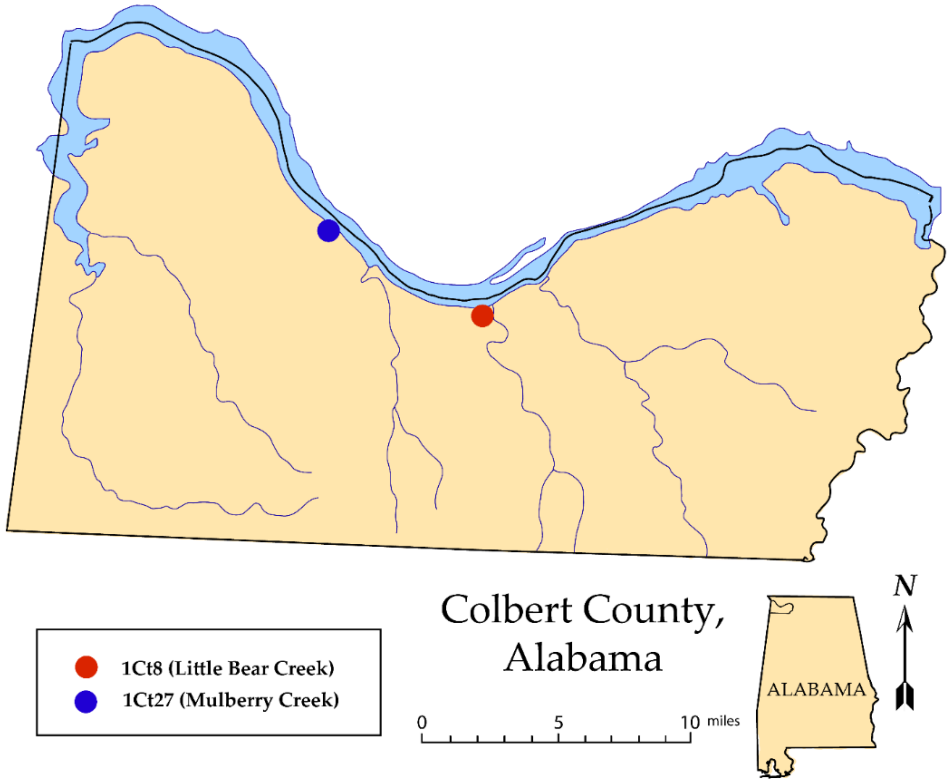

Figure 1.1: Showing a portion of the region of focus for this study, the Pickwick Basin of the MTRV, located in Colbert County, Alabama. Dots indicate the location of the two shell-mound sites for which individual remains were directly documented by the author.

The direct data collection for this study was accelerated by necessity with osteological observation being carried out during 2017-18 due to the impending repatriation of these remains; a deadline with was reached in summer of 2019. Although the individual remains are no longer available for additional direct examination, the raw data collected hints at the exceptional

potential of a holistic interpretive approach. This study seeks to consider existing data, and takes a contextual approach to deeper interpretation. By factoring in a substantial body of archival, ethnographic, and ethnohistoric sources, it is possible to consider how ritual violence articulates with individual biology, life-course, and mortuary treatment.

The primary questions for this project include:

- Does observed perimortem violence correspond to other factors of biological or cultural identity such as age, sex, health, and mortuary treatment within this group?
- How do patterns of perimortem violence and postmortem processing change over time during the Middle and Late Archaic Periods within the MTRV?
- Do changes in these patterns correspond to known cultural or ecological changes? (these include: nonlocal trade, production, habitation, the collapse of Poverty Point, drought, flooding, famine or disease)
- How does this relate to social differentiation (hierarchy or heterarchy) within these pre-sedentary hunter-gatherer groups through time?

Theoretical Framework: Violence as a Social Process

Interrogating the ways that violence and identity are entwined demands an approach that is both theorized and empirical, examining culturally-specific cases of violence in order to provide a deeper understanding of its power and persistence in cultural systems such as the Archaic Southeast. Such research bolsters our understanding of the human capacity for violence, as well as the role violence plays in personal identities and relationships amongst individuals, society, and nations. In this sense, the central question of interest for this project is not the documentation of violence in the past, but how violence articulates with the cultural whole and

how ritual ideology, daily practice, norms, and cultural performances underlie identity and, memory in relation to violence within past societies.

Archaeological and ethnographic accounts of violence in small scale societies represent a baseline for thinking about how culturally sanctioned or ritual violence become integrated into social processes. Violence, both lethal and nonlethal, is associated with social spheres of both power and influence and is embedded within ideologies and shared histories (Anderson and Martin 2018; Martin et al. 2012). Using fine-grained biocultural analyses which interrogate ritual violence in a more nuanced way, the histories and experiences of social violence can highlight culturally-specific patterns in past societies. The documentation and understanding of such patterns through time and space allows for the construction of larger theoretical approaches which include indigenous forms of violence.

Defining violence is both simple (i.e. causing harm) and profoundly difficult due to the diverse range of contexts in which violence is culturally located. Influenced by the earlier work of violence scholars such as Galtung (1990), Abbink and Aijmer (2000), Whitehead (2004), Schepher-Hughes and Bourgois (2004), and Farmer (2009), the definition used here is that violence is the diverse set of bioculturally embedded processes that employ power and force to harm or provoke others through both direct (physical) and indirect (structural) means. It is also acknowledged that violence is often communicated through symbolism/ritual as nonlethal intimidation/domination, pain, and fear. Thus, violence is often (re)produced through social structures involving resource restriction and promotion of inequality.

Still, recent scholarship has shown that while ritual violence can be chaotic and disruptive, it can also serve as a force for regeneration and social transformation (see examples in Scheper-Hughes and Bourgois 2004; Whitehead 2004). Using an interpretive (poetics) approach,

focusing on ritualized violence provides rich insights into social processes governing the cultural logic that normalizes and institutionalizes direct violence. In particular, the poetics approach conceptualizes violence as a meaningful exchange involving numerous individuals and seeks to understand both the intended meaning(s) being enacted by the perpetrator, and the perceived meaning(s) experienced by the victims, as well as any witnesses to violence taking place. As acts of violence and any associated meanings become ritualized and perpetuated through time, these acts take on additional meaning and power as part of long term collective memory. This is why ritual violence can provide such valuable insights into past culture, identity, and ideology.

Culturally sanctioned violence includes acts such as raiding and warfare, captivity and slavery, public torture and death, trophy taking, and the enforcement of codes of conduct regarding power and resources (Martin and Tegtmeyer 2017; Martin 2016; Martin and Osterholtz 2016; Osterholtz 2012). In this sense, peace (i.e. the absence of conflict/inflicted trauma) cannot be conceptualized as the absence of violence. Especially in situations of power disparity/hierarchy, peace is often maintained through daily fear, coercion, or threat of future violence. Because of this, the effects and influence of violence reaches far beyond the victims and direct sufferers (Martin and Harrod 2015; Whitehead 2004).

All forms of violence involve three spheres of relational influence: victims, perpetrators, and witnesses (Whitehead 2004). Culturally meaningful rituals and public performances make violence a self-perpetuating phenomenon that is deeply embedded in collective memory (see Martin and Harrod (2015)). In this sense, any act of violence can cause harm/pain/death, while also building/reaffirming relationships, group cohesion and cooperation, transcending a simple categorization of "maladaptive" and "destructive" (for example see Dye 2009 and Milner 2007 discussing the Southeast).

In conceptualizing indigenous systems of violence, one major challenge is the synthesis of the biological with the cultural to parse out the deeper meaning of inflicted trauma. Direct violence leaves wounds and trauma on the physical remains (biological) and occurs within a symbolic and experiential social context (cultural).

For example, in a modern context, analysis of skeletal remains allows for the identification of soldiers/warriors, or victims of abuse, or murder, however, we may also see similar patterns of injury in athletes playing hockey, football, rugby, and boxing. Both groups, unwilling victims and voluntary participants, may show signs of blunt force trauma, facial fractures, and defensive "parry fractures" of the arms, yet a modern, emic perspective allows for the recognition of these ritualized, formally regulated, forms of direct violence which exist somewhat separate from war, conquest, or random acts of destruction. It is only when the context of the violence is incorporated that the poetics and meaning of the acts can be better understood. Thus, the archaeological context is crucial for interpreting funerary features showing violence or bones with cutmarks suggestive of trophy-taking.

Thus, this study interrogates how violent behaviors developed and were used in past human groups to solve perceived problems being faced while maintaining social cohesion. In this way, this project seeks to understand what drives the shift from small-scale, occasional interpersonal killings, to the adoption of culturally sanctioned, ritualized violent exchange, and what perpetuates these actions while also preventing intensification. It is important to understand the complexities of human violence through time and space, especially as it relates to the myriad ways that power and identity are expressed, performed, and ritualized (Halbmayer 2001), otherwise the point of violence is entirely missed.

Detail-oriented approaches to violence which are framed by social theory highlight the fact that in the past, much as today, violence is never as simple as good vs. bad, right vs. wrong, or malevolent perpetrator vs. powerless victim. Such research also avoids the potential controversy of glossing over/censoring past violence to avoid controversy or sensationalizing the acts of these past individuals. These were not savage, thoughtless acts, but an integral part of the lifeblood of these past societies. The nuanced rituals we might categorize simply as "violence" might have caused death and pain, but might have simultaneously been a force for unity, renewal and group endurance; neither bad nor good, but both.

There is no universal pattern for violence within small scale societies, or for how identity within this realm is achieved and expressed. However, there is a cultural logic that underpins and articulates such actions within social processes, lending consistency in particular cultural systems. In this sense, endemic, ritualized violence should not simply be regarded as chaotic or disruptive, but must be documented and understood in the context where it occurs, such as early precontact Alabama. Understanding how these early groups mitigated and avoided large scale, disruptive violence through small-scale, ritualized violence, and daily practice has exceptional heuristic potential for the goal of understanding large scale acts of violence manifesting today and mitigating the far-reaching negative impacts of such acts through time and space.

The Archaic Period Southeast: Archaeological Context and Past Studies of Violence

The Southeastern United States was widely occupied by mobile hunter-gatherer groups as early as the Paleoindian Period; however, it was not until the Middle Archaic (8-5,000 BP) that the earliest examples of direct violence can be observed (Anderson 2004; Sassaman 1995).

During this time, existing riverine shell mounds begin to demonstrate evidence of intensified construction, occupation and site use.

In the Pickwick Basin of the MTRV (see Fig. 1.2), , where local ecology provided extremely favorable shellfish resources for much of the year (Claassen 1996) we see evidence of increased mound creation, production, regional exchange, and funerary features during the Middle and Late Archaic Period. These notable changes of material culture suggest concurrent social changes among these groups (Dye 1996; Sassaman 1995).

In particular, several features of this locality suggest a probable deeper meaning to the Archaic Period violence taking place. First of all, this locality represents a small region of overlap between two major recognized cultural phenomena of the Middle and Late Archaic, specifically the Benton interaction sphere, and the "Shell Mound Archaic" (SMA) (see Figure 1.3).

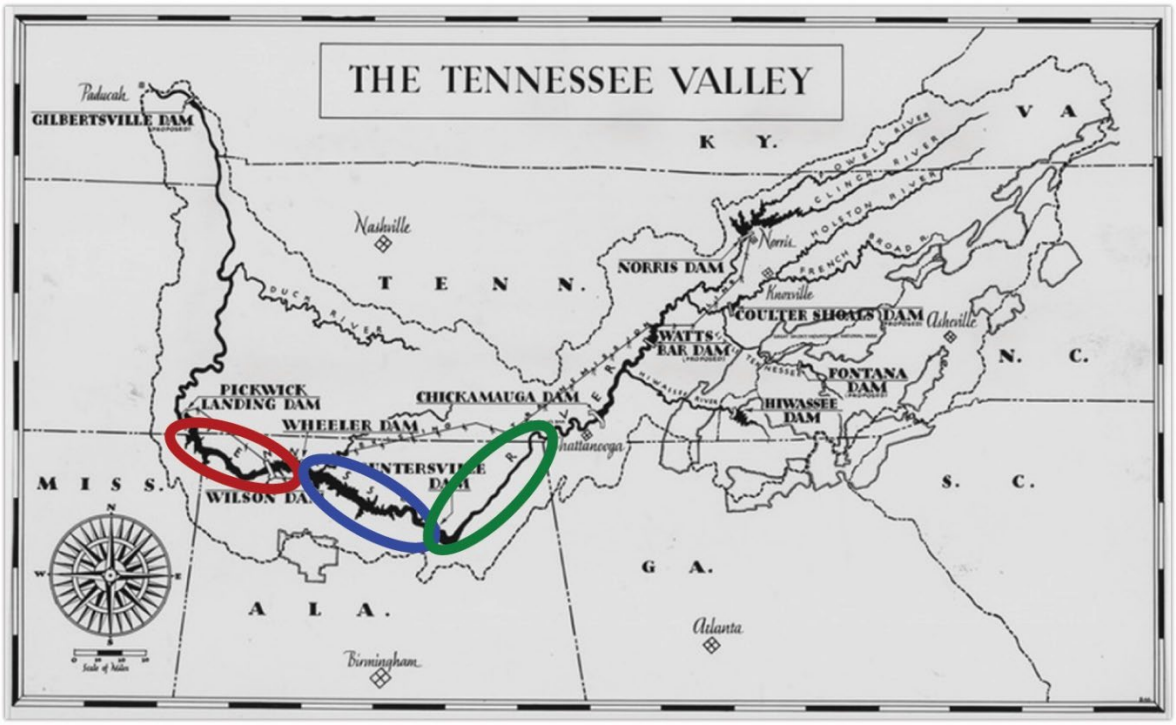

Figure 1.2: Map of the Tennessee Valley showing the modern river basin areas created by dam construction; Pickwick (red), Wheeler (blue), and Guntersville (green) (Adapted from Jacobi 2007:309 "Redrawn from Webb 1938: Plate 1").

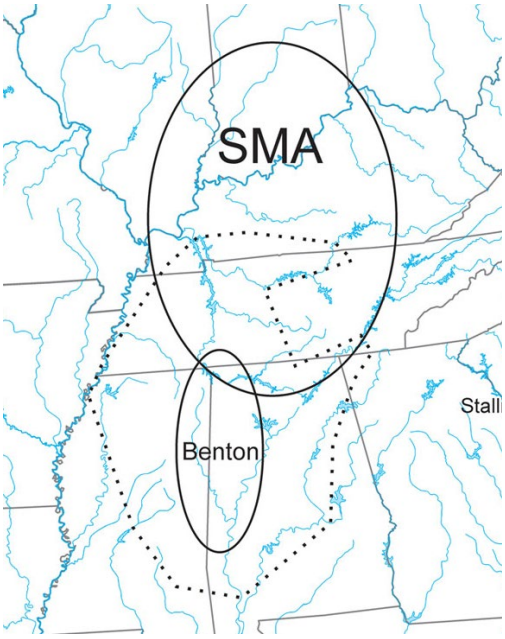

Figure 1.3: Showing the range of Benton and the Shell Mound Archaic in the Southeast, dotted line is Benton Interaction Zone, from Kidder and Sassaman 2009.

The Benton Phenomenon/Interaction Sphere.

The Benton phenomenon is characterized by the production and caching of large projectile points, both in mortuary and non-funerary settings. These points are preferentially made of blue Fort Payne chert, a material found only in the narrow locality encompassing the Pickwick Basin of the MTRV, and have been identified in caches throughout the eastern woodlands. In particular, unlike contemporaneous utilitarian points of this same material, these cached points do not conform to expectations for reduction in point size as a function of distance from the source (i.e. further away = smaller points). This seems to suggest a ritualized meaning behind the inclusion of these points during a specific temporal interval of the Middle Archaic (5800-5200 BP) (Johnson and Brookes 1989). Additionally, the rapid disappearance of these

cached points from the material record prior to the Late Archaic Period indicates a broader socio-cultural change taking place simultaneously.

Ken Sassaman (2010a) considers items such as Benton points "hypertrophy", of which possession and use "was intended to make a statement" (p. 174). Specifically, he posits them as a response to a perceived threat, serving as a "declaration of identity among individuals resistant to assimilation or other impositions" (p. 175). Although the full intended meaning and value of Benton points is not known, the caching of these points appears to be part of a shared Middle Archaic mortuary ritual; an "ethnogenetic consequence" of interaction and trade between shell mound groups in the MTRV, and Gulf coastal groups (Sassaman 2010b:48).

The Shell Mound Archaic (SMA)

The "Shell Mound Archaic (SMA)" refers to the widespread phenomena wherein precontact human groups collected and mounded shell into often massive deposits over the course of decades or centuries. Such archaeological sites are widespread in the Eastern U.S., concentrated along the major valleys of the Ohio, Kentucky, and Tennessee Rivers, with links to the smaller shell ring sites of the coastal Southeast. There is no single trait which identifies the SMA, however, it is identifiable within each particular regional chronology based on the appearance of unique funerary object inclusions. For example, tubular stone beads and banner stones, shell beads, pendants or cups, Benton projectile points, and human remains as trophy items all appear throughout most of the SMA range. Although the majority of SMA sites contain funerary features (Claassen 1991; 2010), many regard this as a consequence of habitation rather than the result of formalized cemetery use (Milner and Jefferies 1998). It has also been suggested that over time, the act of interment within the mound would have created ancestral ties to the land, possibly fostering decreased mobility and aggregation over time (Walthall 1980). However,

it is clear that overall occupation and habitation of these sites during the Archaic Period was highly variable through time and space.

Currently, it is believed that most SMA sites represent semi-permanent settlements during the Middle Archaic (Milner and Jefferies 1998; Shields 2003) but shifted toward usage as seasonal aggregation sites of ritual practice and feasting during the Late Archaic (Anderson 2010; Carstens and Watson 1996; Claassen 2010). Although widespread throughout the major river valleys of the Midwest and Midsouth, SMA sites are not observed in all riverine localities, nor every location with major shellfish resource availability (Claassen 2010). The consistent re-occupation of these same sites over millennia indicates that these mounds represented deeply meaningful "persistent places" (Schlanger 1992; Thompson 2010) through time for the occupants. This also suggests that any violence occurring at these localities would also have been imbued with meaning, ritual, and performance. In fact, Anderson (2010) has posited the possible power of ritualized violence in the Late Archaic Southeast as a way to acquire status, control resources, or maintain buffer zones between groups (Dye 2009; Smith 1996).

According to Anderson and Sassaman (2012) one of the most "original and provocative model(s) of the Shell Mound Archaic" (p. 99) is presented by Cheryl Claassen (2010) who argues that Archaic life was primarily determined by belief/ideology. Within this model, shell mound sites were used for repeated seasonal gatherings of oft-disparate groups for the exchange of ideas and goods, feasting, and interment of the dead. Claassen regards these sites as physical localities of major ideological and cosmological activity, such as human sacrifice and rituals of renewal. Within this proposed system, violence and other rituals represent the competition for power not between human individual combatants, but rather among the individual and the

supernatural (i.e. the cosmos or deities) (Claassen, 2010; 2015). Unfortunately, the surety of this argument is hindered by the questionable chronology of many SMA sites. A deeper understanding of mortuary variability through time and space has been touted as one of the most viable solution to this issue of chronology (Anderson and Sassaman 2012:99).

Site Selection

With this in mind, the Pickwick Basin of the MTRV is an ideal locality to explore the topic of changing patterns of violence in relation to concurrent cultural and ecological changes of the Archaic. This narrow, Western sub-region was chosen from the broader Tennessee River Valley for several reasons. First of all, as previously mentioned, this region is known to have had particularly favorable shellfish resources available throughout the Archaic Period. This area also has numerous sites with clear Archaic Period components which were minimally disturbed or altered by later Mississippian groups. This will greatly simplify efforts to determine a reasonable chronology for funerary and non-funerary and features within the mounds at these sites.

For scholars familiar with the MTRV region, the Pickwick Basin is recognized as uniquely situated for the study and analysis of ritual violence. For example, as Keith Jacobi has stated:

> "The Pickwick Basin stands out…as having the most evidence for obvious warfare and raiding, due to violence visible on the skeleton. Pickwick also has the distinction of being the basin that includes the highest count of human body parts that are possible evidence for trophy taking behavior" (Jacobi 2007:310-11).

> "There is a difference in the human trophies found from basin to basin along the Tennessee River. In the Pickwick Basin….human trophies are prevalent and varied. There are headless bodies, numerous multiple burials with headless bodies, individuals without arm and leg parts, individuals with extra arm and leg parts laid next to them, skulls buried by themselves, a human skull bowl, a human tooth necklace and sharpened human fibulas accompanying a headless man, and evidence of scalping sometimes in large numbers at a site" (Jacobi 2007:334).

The identification of a-typically high occurrences of human trophy taking in this region has led to the classification of the Pickwick region as the “bloody alley” of the MTRV. It is possible that this region represents a contested boundary area or hinterlands among ethnic groups, however, this interpretation is, thus far, uncertain.

The recent NAGPRA inventory has demonstrated that MTRV river shell funerary mounds, in the Pickwick Basin region in particular (see Fig. 1.2), show major intensification in frequency and types of violence through the Late Archaic. This was followed by a near-total abandonment of these mounds during the Woodland (local Galena; ~1200 B.C.-A.D. 1000), followed by the appearance of intrusive interments during the Mississippian Period (A.D. 1000-1450 or contact).

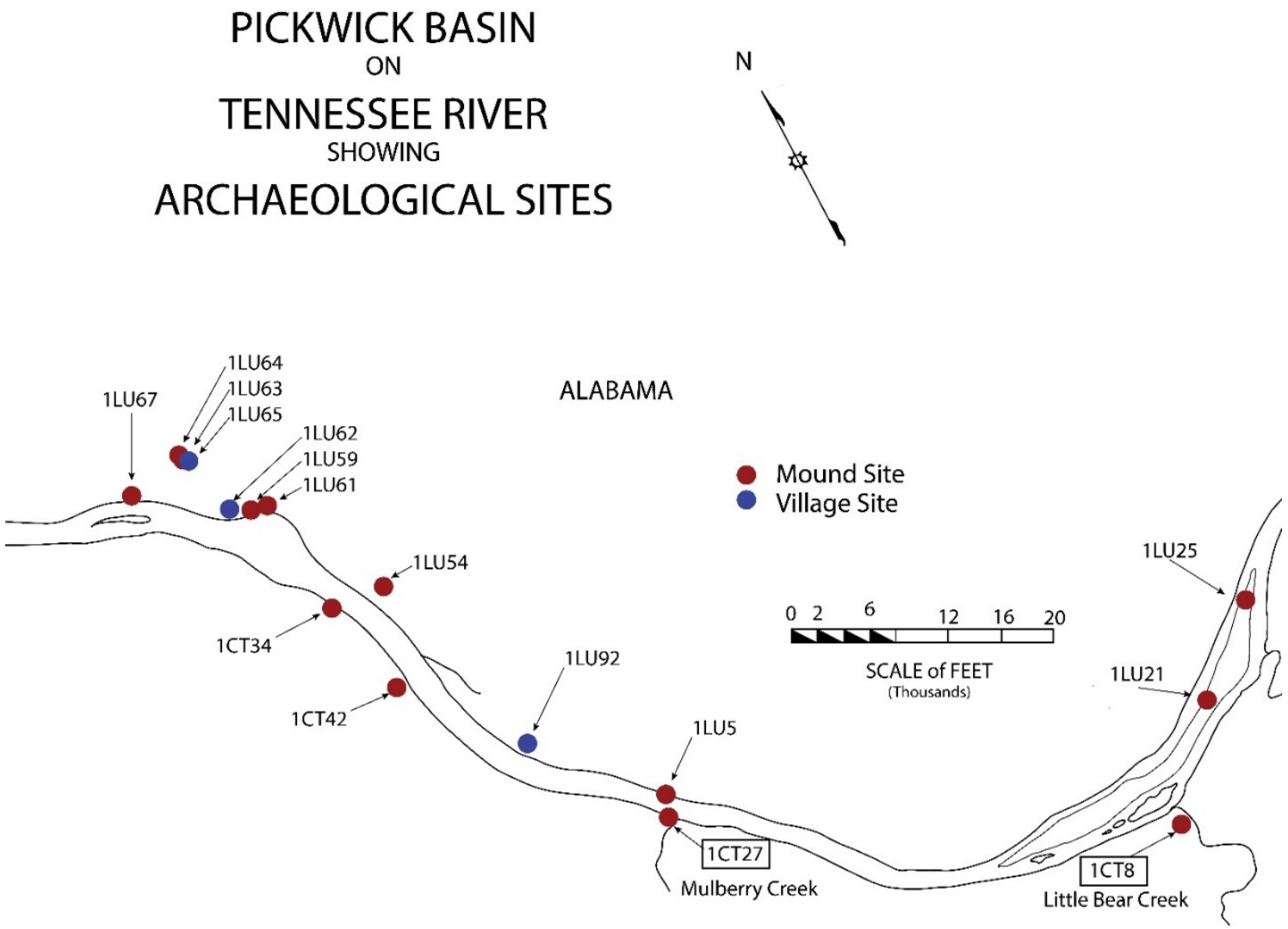

Figure 1.4: Map showing the entirety of the Pickwick Basin, identifying all Mound and Village Sites excavated by the WPA in the 30's and 40's prior to dam construction.

The pattern of violence followed by abandonment seen at river shell mound sites in the Pickwick MTRV locality represents a notable deviation from the patterns seen in the two surrounding River Basins (Wheeler and Guntersville). This could suggest the possibility of a particularly pervasive landscape of institutionalized and ritualized violence in this area during the Middle and Late Archaic Periods, taking the form of formal multi-individual raiding parties, trophy taking behaviors in the form of scalp, ear, and limb removal, and other performances of violence.

Since the identification of the first case of trophy taking in the Archaic period of Tennessee (Smith 1995), modern techniques for cut-mark analysis have demonstrated that such behaviors were present and often widespread during the Middle and Late Archaic Periods and throughout much of the Southeast (De Vore and Jacobi 2016; Jacobi 2007; Mensforth 2007; Smith 1997). The suite of diverse trophy taking behaviors now documented transcend proximate explanations of interpersonal conflict and small-scale skirmishes. This includes examples of ritual violence involving the removal of scalps, ears, eyes, hands, feet, and complete skulls.

Early ritualized warfare such as this might have served many different purposes such as reinforcing social identities and cohesion at the intra and intergroup level, the accumulation of status through resources, and a way to externalize grief or shame (Mensforth 2001). Ethnohistoric accounts detailing southeastern Native American groups shortly after contact demonstrate a complex suite of warfare related behaviors served many different purposes including reinforcing social identities and cohesion at the intra and intergroup level, the accumulation of status through resources, and a way to externalize emotions and loss (Smith 1951).

Although the identification of endemic violence during the early precontact period of the Southeast is now well established, there has been a relative dearth of attempts to situate these actions within a biocultural context, to interpret the deeper meaning being transmitted and experienced through such actions. In particular, the default analytical categorization of direct, inflicted perimortem trauma or killing as malevolent warfare or agonism represents a vast oversimplification.

Early precontact trophy-taking and extreme violence are widely accepted and recognized among regional specialists of the Southeast, but these practices still rarely factor into deeper interpretation of identity, social-cohesion, or transformation outside the specialty of bioarchaeology. Generally all violence is viewed as uniform in meaning, cause and impact. In addition to this, violence is depicted in most publications thus far as maladaptive and characteristic of a negative disruption in standard reciprocity (for example, see Dye 2009, or Milner 2007).

This generally stems from the assumption that physical violence represents a societal pathology, a disruption of the natural state (i.e. peace). As previously mentioned, early ecological models attributed increasing Archaic violence to resource insecurity/competition, either focusing on shellfish/seasonal economy (Dye 1996; Jefferies 2009; Milner 1999; Walthall 1980), or the need for females within a polygynous marriage system of clan exogamy (Claassen 1996; Sassaman 1995). However, recent decades have seen a slight shift in perspectives to acknowledge the possible cosmological and metaphysical influences motivating this early violence.

For example, through her consideration of a single case of Archaic Period scalping, Shannon Hodge (2018) recently argued:

> "[Archaic] trophy taking might have been less individually motivated than spurred by interest in achieving status enhancement, honoring ancestors, marking territory, exacting retribution or retaliation, carrying out ritual or communal obligations, celebrating cohesion and unity, or marking corporate identity for the clan, lineage, or other sodality as a whole" (Hodge 2018:113).

Although this perspective represents a notable advance in the understanding of Archaic violence, there is a further need for a deeper consideration of how violent behaviors articulate within the broader socio-cultural sphere of the precontact period. Hodge also argues this point, advocating for the application of social theory and "explanatory frameworks that have been developed for interpersonal and intergroup violence in other precontact groups" (Hodge 2018:113). It certainly seems that this is a major shortcoming and impediment to a holistic understanding of the early precontact Southeast.

Sites of Study

The two sites of focus chosen for analysis were chosen due to the number of individuals recovered (~150 funerary features each), the majority of which date to the Archaic Period. In addition, both sites have similar locations at intersections of smaller water sources with the Tennessee River, and are within visual distance of the two largest sites in the area, the island sites of Koger's Island and Perry (see Fig. 1.6).

The first site, Mulberry Creek (1Ct27), was chosen due to its widespread recognition among Southeastern archaeologists. Often touted as the "epitome" of an Archaic Period shell mound site (Dye 1996), it is known for the presence of a triple interment suggesting violence, and a human crania bowl. Part of the initial large scale WPA excavations of the first half of the 20th century, the results of this site and resultant analysis of lithics, pottery, and human remains were published in the large Smithsonian "Pickwick Basin" Report (Webb and DeJarnette 1942).

Figure 1.5: Showing the Eastern Profile of the Mulberry Creek Site shell mound during excavation: 1Ct27 Plate 151 (Photo from Alabama Museum of Natural History Photograph Archives.)

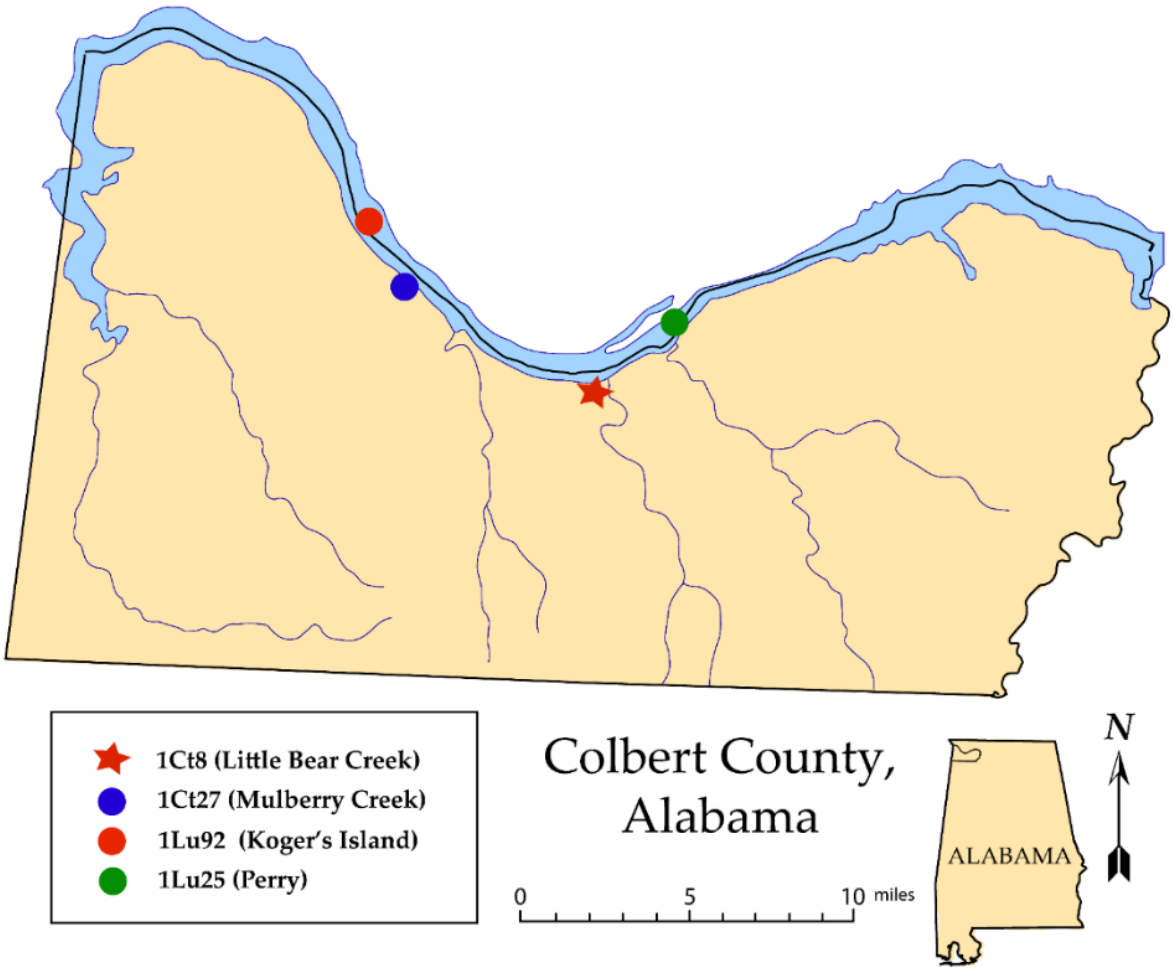

Figure 1.6: Showing the Pickwick Basin of the MTRV indicating locations of the two shell-mound sites for which skeletal remains were directly observed by the author, and two large sites in close proximity.

The second site, the Little Bear Creek Site (1Ct8) was chosen mostly due to the lack of recognition and awareness as a notable Archaic site within the region. This site, located slightly farther from the river, was not initially identified as "at risk" from dam construction and was thus not part of the initial WPA efforts. When it was finally excavated in the subsequent years of the 1940's due to flood damage, the results were published in a small museum publication (Webb and DeJarnette 1948b) rather than the large Pickwick Basin Report (Webb and DeJarnette 1942).

Because of this, materials and results from this site have not been widely documented, recognized, oar incorporated into additional publications (see Curren 1974; Gilliland 2020; and Owens 2010 for specialized exceptions). In fact, the 2016 NAGPRA inventory was the first time the remains had undergone complete direct analysis in decades. With this in mind, this site presented a good chance to help fill a notable gap in our understanding of this region. It was specifically brought to my attention by Keith Jacobi who noted the high rate of illness/injury being observed among the group of individuals. My own analysis has supported this observation and hinted at a unique suite of mortuary processing and interment behaviors which I suspect could shed light on the region overall.

The group of individuals documented here were part of a larger group previously housed at the Alabama Museum of Natural History's Laboratory for Human Osteology for the duration of the repatriation inventory process. Over the years, these individuals have undergone numerous documentation efforts, often focusing on a single site (Bridges 1991, 1996; Bridges et al. 2000; Chronister 2006; De Vore et al. 2018; De Vore and Jacobi 2016; Gilliland 2020; Herndon 2015; Jacobi 2007; Morgan 2016; Owens 2010; Shields 2003; Simpson 2017; Smith 2010; Stewart 2014, 2020), and the entire group of individuals was recently documented for basic demographics and pathology in accordance with NAGPRA and repatriation efforts. However, the results of my detailed reconsideration of a small portion of this collection, conducted during thesis research in 2016, have proven that there is much to be gained from secondary or even tertiary osteological studies with a more nuanced focus on identity and interpretation (Simpson 2017).

Although these ancestors and any associated funerary objects have been repatriated to descendant communities of the Chickasaw group, there is still much to gained from additional

study and interpretation using the evidence still available. In recognition of the repatriation deadline, direct osteological study was undertaken during summer 2018 to document a second Pickwick Basin MTRV site, the Little Bear Creek Site (1Ct8). At this time, it was also possible to evaluate archives and potential historic documents of interest for this study.

Existing archival records include excavation data such as funerary maps and photographs, documentation of associated funerary objects, as well as the results of the most recent inventory/skeletal analysis undertaken prior to repatriation (see Appendix). These data were used to consider the targeted group of individuals from the Archaic Period population of the Western MTRV.

Because the goal of this research is an examination of the Pre-Mississippian Period MTRV, focus was given to Archaic Period funerary features, which was verified as much as possible through a consideration of multiple variables such as depth within the mound, mortuary processing, funerary objects, and body position. Existing chronology for the region typically relies on early culture-history based categories (i.e. as discussed in Webb and DeJarnette 1948a, 1948b and shown in Table 1.1).

Table 1.1: Basic Chronology of Shell Mound funerary features within the MTRV of Alabama created by the author based on descriptions from Webb and DeJarnette (1948a, 1948b).

Archaic 1 (Early Archaic)	*Archaic 2 (Middle Archaic)*	*Archaic 3 (Late Archaic)*	*Pottery 2 (Early/Middle Woodland)*	*Pottery 3 (Mississippian)*
• *No worked flint* • *Primarily sand deposits* • *No known funerary features in mounds (neighboring cave sites)*	• *Flint workshops, accumulated debris, flint blades through percussion* • *Canine mortuary features* • *Some cremations*	• *Bone, stone, shell artefacts* • *Minimal stone vessels of sandstone* • *"Sitting" mortuary position*	• *Sand/grit temper* • *Typically final layer of deposit* • *Limestone celts and hoes*	• *Complete vessels (shell-temper) as funerary objects* • *Moundville connections?* • *Intrusive funerary features* • *Extended mortuary position*

Acknowledging Possible Bias

It must be noted that collection bias in the field does play a role in this case. In general, for most WPA sites, infant individuals were only mapped and recovered when sufficiently well preserved, or when mortuary items were associated.

As I began interpretation, it became clear that the recovered individuals from Little Bear Creek (1Ct8) were not necessarily representative of the community through time. This was indicated by field notes and photos which indicate that the three blocks excavated at 1Ct8 were not taken to equivalent depths, and that the high water table prevented any progress deeper than around 244 cm (or the bottom of observed "Zone D"). There is a clear Middle Archaic component at this site, with two distinct flint workshop areas, at 5.5 and 3.5 feet in depth, occurring above "Zone D". However, it appears that relatively few Middle Archaic funerary

features were recovered. Observing excavation profile drawings from the site, I believe that most funerary features from the Middle Archaic, if present, would be located at a greater depth than what was reached by the WPA in 1939. Thus, there is some uncertainty about the intensity of the Middle Archaic use of the site, as well as even the possibility of an Early Archaic Period component at the base of the mound.

Taking into account the law of superposition, it is possible to examine smaller sub-zones of the excavation to consider proximate individuals and features (when not disturbed) within a relational timeline (i.e. the deepest undisturbed features in an area predate their shallower neighbors, etc.). Still, this cannot be confidently applied to the entirety of the mound thereby limiting possible refinement of the mortuary chronology.

At 1Ct27, prior documentation by Ben Shields (2003) sought a more refined chronology largely based on John Walthall's interpretation (1980), differentiating between Middle and Late Archaic, as well as Woodland/Mississippian. Because the deepest individuals recovered from this location were the triple interment with Morrow Mountain projectile points embedded in vertebra, the seriation of these points provided a relative date within the Late-Middle Archaic (Dye 1996). Additionally, most of the individuals at an equivalent depth were located in close proximity to these three individuals. This, in tandem with funerary treatment and goods associated allowed for the differentiation of the likely "Middle Archaic" individuals at this site, all within a relatively circumscribed zone on the Southeastern portion of the mound. All these individuals were at a depth of around 3.5-4 meters within or immediately around a light sand layer, and below the large flint workshop observed by WPA workers at the 9 foot level.

As this workshop is likely linked to Middle Archaic lithic production (possibly part of the Benton interaction sphere), it logically follows that any interments dating to this period of occupation would occur below this level.

Unlike the Middle Archaic individuals who were recovered from a circumscribed area, Late Archaic Period individuals appear to have been interred much more widely throughout the mound. Over the course of the centuries and millennia of use, the mound itself grew and expanded, both through the natural deposition of sand and silt during seasonal flooding, as well as the accumulation of shell and other discarded materials of human occupation. Thus, as the surface of the mound expanded, so too did the usable occupation surface, and therefore the space available for individual interments.

In particular, this stands in contrast to the mound at Little Bear Creek which, being slightly more removed from the Tennessee River than Mulberry Creek, appears to have experienced less frequent flooding. This is visible in the stratigraphy of the mound, as well as the relatively narrow depth range for individuals interred throughout the entire duration of site use, and narrower occupation levels throughout the Archaic and Mississippian periods. This is to say, the deepest individuals at Little Bear Creek (1Ct8) occur at around 2-2.5 meters, compared to 3.5-4 meters at 1Ct27, with the surface "pottery" layer reaching a depth of only 2-3 feet max at 1Ct8.

The consistently observable pattern at sites throughout the region is a relatively small number of individuals dating to the Middle Archaic time period, with the majority of individuals originating from the Late Archaic time period. This pattern does appear consistent with the pattern observed at Mulberry and Little Bear Creek, however further fine-grained refinement of chronology remains challenging.

With this in mind, although available data was recorded for all possible individuals, certain factors were used as a basis for the exclusion of particular cases from specific analyses. Since the focus of this study is the Archaic time period, individuals known to originate from the Mississippian period were excluded from study. This designation was based preliminarily on the assignments made in the original site reports, and was verified using observed funerary associations, presence of pottery within the interment level, as well as depth and position of the body (fully extended placement is only known from interments dating to the Mississippian time period). Any individuals for whom sufficient data was not available for clear temporal designation were excluded from additional mortuary analyses. For example, at 1Ct8 this was true for individuals without funerary objects or associations which were recovered in the first two feet of the mound (even when excavation records gave a "shell mound" designation). The specific details of each factor which resulted in exclusion from analyses are shown in Table 1.2.

Finally, a large number of juvenile individuals were excluded from interpretation, as a large percentage were not mapped or photographed in-situ. Generally, it was the inclusion of funerary offerings, or close association with an interred adult individual that led to thorough in-situ documentation of juvenile individuals. In addition, older juvenile individuals were more likely to be documented than very young (infants, neonates, etc.) due to the trend for better preservation as bones begin to fuse with age.

Table 1.2: Showing the criteria for excluding specific individuals or funerary features from specific statistical analyses.

Excluded from:	Reason(s) for Exclusion
All	• Any individual with complete ceramic vessels or sherds in association • Elements which seemed to be the result of ancient mixing/anthropo-turbation (secondary individuals in Funerary Features).
Skeletal	• Total or near-total cremation preventing most analyses. • Examples of extremely poor preservation (i.e. most skeletal elements were fragmentary).
Mortuary	• Funerary Features in the top 2 feet that did not have additional indicators (i.e. no funerary objects, body position not mapped or unclear). • Juvenile or infant Funerary Features throughout the mound which were not mapped or described in-situ. • Funerary Features without a depth or specific location recorded. • Funerary Features which were disturbed by flooding at the sites which were often not reliably documented or fully recovered. • Funerary Features made up of less than 50% of the body, as these could represent trophy caches. • Any definite multiple interments were excluded from funerary object analyses.

Ethical Concerns & Potential Controversy: Ancestral Remains and Descendant Communities

In general, as the study of precontact violence in the Southeast has developed and evolved through time, pre-contact groups were portrayed first as either pacifists in the Rousseauian sense (see Bartram 1988 [1791]) or overly brutal (Friederici 1906; Nadeau 1941; Knowles 1940). This latter view often corresponded with eugenics, and ideas propagated by early physical anthropologists. Most recently, there has been a trend towards a non-judgmental documentation of violence and inflicted traumas (see Chacon and Dye 2007; Dye 2009). Although un-biased, this abstract, almost clinical description of violence obfuscates the performance, deeper meaning, and variable experience of these past acts (Arkush 2008; Hodge

2018). In addition, an overly scientific documentary approach to violence research is particularly susceptible to exploitation by modern news and social media outlets who may sensationalize results to attract readers (Redfern and Fibiger 2019).

There is certainly a potential for controversy inherent in bioarchaeological study relating to ancestral Southeastern Native American groups, particularly for studies focusing on violence, warfare, or trophy taking. The analytical record of this region is rife with exploitative efforts made by early physical anthropologists and archaeologists seeking to demonstrate the perceived inferiority of modern tribes, or to vilify these ancestral groups to justify forced tribal relocations by the American Government, a practice particularly focused in the Southeast (See Figure 1.7).

This is particularly concerning and relevant for researchers working with collections that fall under the legislative act referred to as the Native American Graves and Repatriation Act passed in 1990. Thus, it is crucial to consider the broader wishes and perceptions of living descendant groups in relation to research publications and interpretations.

This sometimes tenuous balance of interests has been approached in a range of ways, from a total unwillingness to engage with the ethical issue of (non)reporting violence, to a willingness to couch interpretations to ensure future access to collections and successful collaboration with descendant communities. Researchers today are obligated to present a fully realized interpretation of the mortuary and artefactual record, however, this must be done in a way that neither sensationalizes nor simplifies those behaviors.

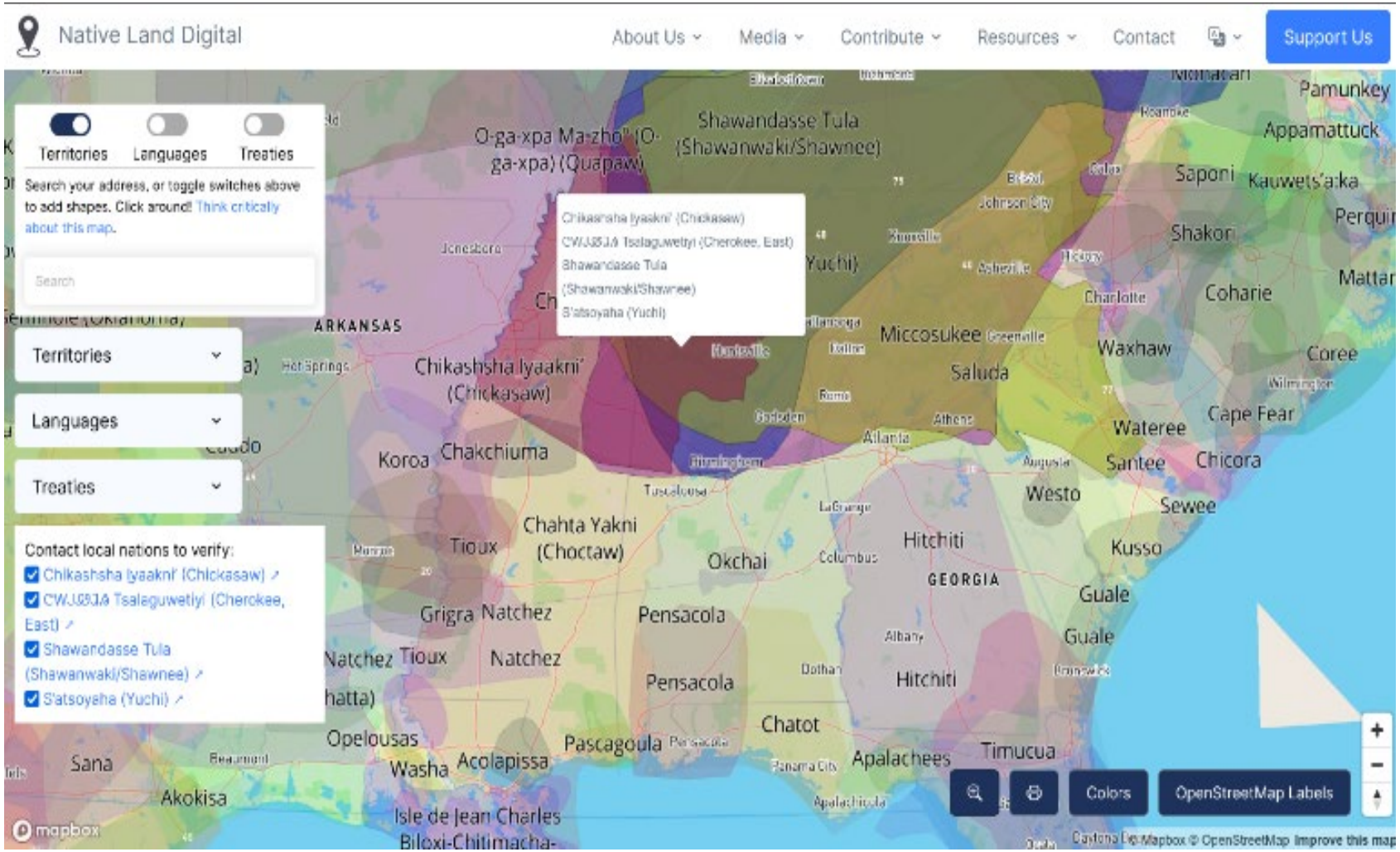

Figure 1.7: Screenshot taken from Native Land Digital (https://native-land.ca/) showing tribes with ties to the Pickwick Basin area (accessed 7/20/2023).

The Southeast has an extensive archaeological record from the early precontact period, however much of the data and even preliminary interpretations (with the exception of specialized books/monographs) is found only in gray literature (site reports), unpublished thesis, or long-forgotten conference proceedings. Due to this, sites are rarely re-visited by analysts, particularly after the individual ancestors have been repatriated. Additionally, Bioarchaeology in North America is moving towards a post-NAGPRA era, where most of the ancestral remains recovered in the depression/post-war era have now been, or will soon be, repatriated.

These remains have overwhelmingly provided the source material for large scale regional study of past human biology and behavior in the region, and their absence will leave a void in museum and research collections. However, the return of these remains after decades of injustice is long overdue, and undoubtably a good thing. Furthermore, although viewed as an impediment by some, there is still exceptional potential for substantive interpretation of the archaeology of this region despite the inability to undertake additional direct analysis.

The data collection and interpretations discussed below, which utilized direct observation in addition to considering the extensive archival body of artefactual, mortuary, and ethnohistoric data, demonstrates the utility of reconsidering even the most over studied sites through the lens of modern theory and interpretation. This sort of reanalysis and reinterpretation is well suited to understanding nuance and meaning in Indigenous contexts, even long after the ancestral remains have been returned to their rightful place with living descendant communities.

CHAPTER 2: "Beyond the Brutality: New Insights into Violence and Trophy Taking in the Early Pre-Contact Southeastern U.S." Invited Chapter being prepared for The Routledge Handbook of Violence in the Americas, edited by Ryan Harrod and Aurora Perez.

Introduction to the Chapter

This study provides an overview of the current state of understanding relating to violence, processing, and trophy taking in the Archaic Period Southeast, followed by an overview of the results of this bioarchaeological documentation. Specific focus is given to the observed forms of perimortem-inflicted trauma, cut-marks, and atypical mortuary treatment observed at two sites during the Archaic Period. Interpretations are discussed using biological indicators of specific forms of violence at the interpersonal and intergroup level, as well as discussing the violent rituals that may have been taking place during the early occupations of these sites.

The broader research questions relevant to this publication are as follows:

- *Does observed perimortem violence correspond to other factors of biological or cultural identity such as age, sex, health, and mortuary treatment within this group?*
- *How does this relate to social differentiation (hierarchy or heterarchy) within these pre-sedentary hunter-gatherer groups through time?*

Abstract

The Archaic Period (10-3,000 BP) in the Southeastern U.S. is characterized by (1) numerous major environmental and ecological changes, (2) major cultural shifts in trade and technology, and (3) the earliest evidence of violence in the region. Although recent years have

seen a growing acceptance of the culturally-patterned nature of Archaic Period violence, these behaviors are still often viewed as maladaptive and/or disruptive to cultural norms and daily life. Inflicted trauma is generally assumed to be the result of small scale warfare/raiding in response to environmental stressors or the desire for prestige enhancement through trophy taking. However, such explanations do not account for the ubiquity, proliferation, and diversification of perimortem violent trauma observed during the Archaic Period in the Midsouth.

This study takes a holistic biocultural approach to interpreting the forms and patterns of violence taking place at two neighboring riverine shell mound sites in North Alabama. Bioarchaeological consideration of age, sex, pathology, trauma, and perimortem processing are supplemented by archival records to consider mortuary treatment and site use over time. This allowed for the nuanced consideration of individual experience and community norms. The bioarchaeological data suggests that a variety of "violent" rituals were taking place during the Archaic Period at these sites, along with mortuary practices which could be mistaken for violence. This demonstrates that although not a daily occurrence, violence in the early pre-contact Southeast was not necessarily disruptive or maladaptive. Rather, certain forms of ritualized violence likely served to foster community identity, group cohesion, and even lend stability during times of ecological and cultural change within these ancestral Native American communities.

Introduction

Although recent decades have seen a growing recognition of the commonality of violence during the Archaic time Period ("Archaic") in the Southeastern US, there is still a tendency to

assume such actions were deviant, maladaptive, or uniform in meaning and motivation. This is largely attributed to the assumption that complex identity, ritual, and social differentiation are characteristic of sedentary agricultural populations, and thus expected to be absent from mobile or Semi-mobile Archaic groups of the Southeast. It is generally assumed that most Archaic shell mound sites shared a uniform use and purpose, and that all behaviors taking place should similarly follow a clear pattern through time and space.

However, Archaic violence appears to defy this expectation. When compared to violence and large scale warfare of later periods, Archaic violence is often described as chaotic, unpredictable, and lacking clear pattern within the Southeast (Hodge 2018; Milner 2007; Milner et al. 2009). In particular, this is due to the contradictory lack of defensive architecture in tandem with compounding evidence for widespread trophy taking and killings (Chacon and Dye 2007; Simpson 2017; Smith 1997). These acts of violence also do not conform to simple, direct reactionary explanations, whereby violence intensifies during times of famine or shortage and decreases or disappears during times of peace and plenty.

Rather, the long term maintenance of low- level violence during the Archaic (i.e. occasional inflicted injury and killings) without attempted environmental or behavioral mitigation (i.e. palisade construction or site abandonment) supports the deeper meaning and power behind such actions. This is further rooted in the idea that the suite of cultural changes occurring in this region throughout the Archaic contradicts a single proximate causative explanation, such as environmental change or resource competition. Rather, the diversification and proliferation in trade, production of non-utilitarian goods, violent interactions, provision of care, and forms of funerary features enacted at these sites through the Archaic suggest the

fluorescence of new beliefs, ethnogenesis, and embodiment of new experiential identities well before the Late Woodland or Mississippian periods (Sassaman 2010a).

In order to gain a clearer understanding of the intentions and implications of Archaic violence in the Southeast, bioarchaeologists must stop viewing such actions as deviant or maladaptive, but rather consider Archaic violence at the individual and community level where it can be most clearly observed in the archaeological record. Within the Pickwick Basin, located in the Westernmost portion of the Middle Tennessee River Valley (MTRV) of North Alabama, re-documentation of ancestral remains has revealed a diverse range of inflicted traumas and trophy taking behaviors beyond the scope recognized by preceding observations of these individuals. In order to further interrogate the possible meanings and power of violence within Archaic communities in this broader region, two neighboring MTRV sites were chosen for a synchronic and diachronic comparison of violence using osteological, funerary, and archival sources.

Theoretical and Regional Foundations

Violence as a Social Process

Defining violence is both simple (i.e. causing harm) and profoundly difficult due to the diverse range of contexts in which violence is culturally located. For this interpretation, violence is viewed as the diverse set of bioculturally embedded processes that employ power and force to harm or provoke others through both direct (physical) and indirect (structural) means (Galtung 1990; Whitehead 2004; Farmer 2009). It is also acknowledged that violence is often communicated through symbolism/ritual as nonlethal intimidation/domination, pain, and fear.

Thus, violence is often (re)produced through social structures involving resource restriction and promotion of inequality.

Still, recent scholarship has shown that while ritual violence can be chaotic and disruptive, it can also serve as a force for regeneration and social transformation (see examples in Scheper-Hughes and Bourgois 2004; Whitehead 2004). Using an interpretive (poetics) approach to ritualized violence provides rich insights into social processes governing the cultural logic that normalizes and institutionalizes direct violence. As acts of violence and any associated meanings become ritualized and perpetuated through time, they take on additional meaning and power as part of long term collective memory (see Martin and Harrod (2015)). In this sense, any act of violence can cause harm/pain/death, while also building/reaffirming relationships, group cohesion and cooperation, transcending a simple categorization of "maladaptive" and "destructive" (for example see Dye (2009) and Milner (2007) discussing the Southeast). This is why ritual violence can provide such valuable insights into past culture, identity, and ideology.

Culturally sanctioned violence includes acts such as raiding and warfare, captivity and slavery, public torture and death, trophy taking, and the enforcement of codes of conduct regarding power and resources (Martin and Tegtmeyer 2017; Martin 2016; Martin and Osterholtz 2016; Osterholtz 2012). In this sense, peace (i.e. the absence of conflict/inflicted trauma) cannot be conceptualized as the absence of violence. Especially in situations of power disparity/hierarchy, peace is often maintained through daily fear, coercion, or threat of future violence. Because of this, the effects and influence of violence reaches far beyond the victims and direct sufferers (Martin and Harrod 2015; Whitehead 2004).

The major challenge in conceptualizing indigenous systems of violence in the past is the synthesis of the biological with the cultural to parse out the deeper meaning of inflicted trauma.

For example, in a modern context, analysis of skeletal remains allows for the identification of soldiers/warriors, or victims of abuse, or murder, however, we may also see similar patterns of injury in athletes playing hockey, football, rugby, and boxing. Both groups, unwilling victims and voluntary participants, may show signs of blunt force trauma, facial fractures, and defensive "parry fractures" of the arms, yet a modern, emic perspective allows for the recognition of these ritualized, formally regulated, forms of direct violence which exist separately from war, conquest, or random acts of destruction. It is only when the context of the violence is incorporated that the poetics and meaning of the acts can be better understood. Thus, the archaeological context is crucial for interpreting funerary features showing violence or bones with cutmarks suggestive of trophy-taking.

This study interrogates how violent behaviors developed and were used in past human groups to solve perceived problems being faced while maintaining social cohesion. In this way, this project seeks to understand what drives the shift from small-scale, occasional interpersonal killings, to the adoption of culturally sanctioned, ritualized violent exchange, and what perpetuates these actions while also preventing intensification. It is important to understand the complexities of human violence through time and space, especially as it relates to the myriad ways that power and identity are expressed, performed, and ritualized (Halbmayer 2001), otherwise the point of violence is entirely missed.

The Archaic Period Southeast: Archaeological Context and Past Studies of Violence

The Southeastern United States was widely occupied by mobile hunter-gatherer groups as early as the Paleoindian Period; however, it was not until the Archaic that direct violence can be observed (Anderson 2004; Sassaman 1995). Specifically during the Middle Archaic (6,900-3,800 BC), existing riverine shell mounds demonstrate intensified construction, occupation, and long

term use; part of a wider phenomenon known as the "Shell Mound Archaic" (SMA). Currently, it is believed that most SMA sites represent semi-permanent settlements during the Middle Archaic but shifted toward usage as seasonal aggregation sites of ritual practice and feasting during the Late Archaic (3,800-1,000 BC) (Anderson 2010; Carstens and Watson 1996; Claassen 2010; Milner and Jefferies 1998).

The consistent re-occupation of these same sites over millennia indicates that these mounds represented deeply meaningful "persistent places" (Schlanger 1992; Thompson 2010) through time for the occupants. This also suggests that any violence occurring at these localities would also have been imbued with meaning, ritual, and performance.

Southeastern specialists such as David Anderson (2010), David Dye (2009), and Maria Smith (1996) have previously suggested that the power of Archaic ritualized violence provided a way to acquire status, control resources, or maintain buffer zones between groups. This argument is somewhat based on comparative analogy made with warfare of the later Mississippian period, analyses of specific regions or sites, or ethnohistoric analogy.

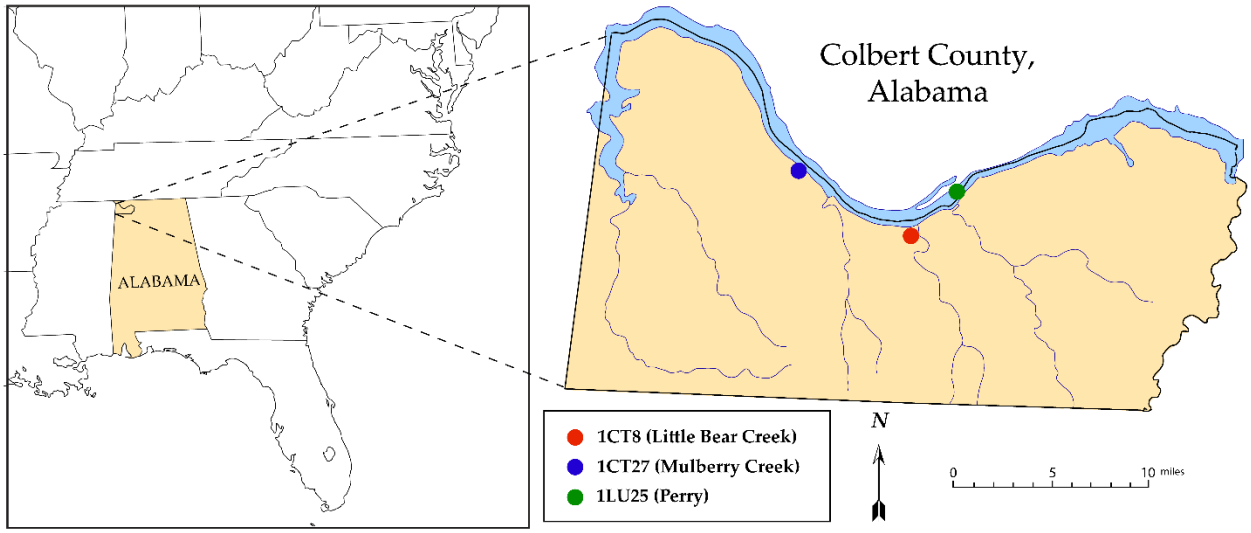

Figure 2.1: Showing the location of the Pickwick Basin of the Tennessee River in Colbert County Alabama indicating locations of the two shell-mound sites for which skeletal remains were directly observed (red and blue), and a large neighboring site (green) (Map created by the author).

For example, much of our understanding of the Shell Mound Archaic originates from interpretations formed from the Green River Valley shell mound sites of Ohio and Kentucky (Anderson and Sassaman 2012; Claassen 2010; Mensforth 2001, 2007). This is due to a larger number of modern excavations of sites in the region, and an emphasis placed establishing an understanding of contemporaneous non-mortuary sites in this locality. Dave Anderson and Ken Sassaman (2012) report over 3,000 documented Archaic Period funerary features from Green River sites; both large shell-bearing sites like Indian Knoll, Carlston Annis, Chiggerville and Read, as well as non-shell bearing sites in the region like Ward and Kirkland (Haskins and Herrmann 1996; Hensley 1994; Milner and Jefferies 1998; Webb 1946).

Through an exhaustive consideration of data from dozens of sites throughout the various Southeastern river valleys, Cheryl Claassen (2010; 2015) presents a model for SMA daily life primarily determined by belief/ideology, where mound sites served as physical localities for

major ideological and cosmological activity, such as human sacrifice and rituals of renewal. She draws on diverse data from historic WPA reports and documents, as well as numerous modern analyses and reanalyses in the form of detailed site context, mortuary patterns, and bioarchaeological demographics and details to support these ideas. Specifically, using ethnographic analogy, she emphasizes the inclusion of specific funerary objects and details of postmortem treatment of the body as indicative of manner of death (violence, accidental death, drowning, etc.), or involvement in specific sacrificial rites ("hunt god", renewal, etc.). Within this proposed system, violence and other rituals represent the competition for power not between individuals, but rather between individual and supernatural.

Trophy Taking

During the first half of the 20th century, most researchers attributed the widespread practice of scalping and trophy taking seen among Native Americans to the influence of European colonialism, as it was common practice for European officials to provide monetary incentives for any scalps retrieved from "hostile" groups throughout the Eastern U.S. However, the large scale salvage archaeology projects of the 1930's and 40's yielded conclusive proof of scalping occurring prior to contact. Perhaps most notably, a case of a survived scalping documented by Charles Snow (1941) from the Mississippian period at Moundville in Alabama. Following this paradigm shift, it was generally assumed that trophy taking was both an outcome and a characteristic of sedentism, and thus did not occur prior to agriculture in the Southeast. This assumption was finally disrupted when Maria Smith (1995) identified scalping and trophy taking (removal of wrist/hand) during the Archaic period of the Kentucky Late Reservoir population of Western Tennessee.

Early precontact trophy-taking and extreme violence are now widely recognized among Southeastern specialists, but these practices still rarely factor into deeper interpretation of

identity, social-cohesion, or transformation outside the specialty of bioarchaeology. Generally all violence is viewed as uniform in meaning, cause, and impact, and is often depicted as maladaptive; characteristic of a negative disruption in standard reciprocity (Milner 2007).

This stems from the assumption that physical violence represents a societal pathology, a disruption of the natural state of society (i.e. "peace"). Early ecological models attributed Archaic violence to resource insecurity/competition, either focusing on shellfish/seasonal economy (Dye 1996; Jefferies 2009; Milner 1999; Walthall 1980), or the need for females within a polygynous marriage system of clan exogamy (Claassen 1996; Sassaman 1995). However, recent decades have seen a shifting of perspectives as scholars begin to consider a more complex portrait of violence in this period; with links to prestige, retribution, community rituals and even fostering unity (Hodge 2018:113). Although this represents a notable development toward an understanding of Archaic violence, there is a need for deeper considerations of the nuance of such violent behaviors, and how they articulate within the broader socio-cultural sphere of the era.

Data Collection and Analysis

Study Site Selection

For scholars familiar with the MTRV region, the Pickwick Basin is recognized as uniquely situated for the identification and consideration of ritual violence (see Jacobi 2007:310-311). When these mound sites were first excavated by the WPA in the early twentieth century, researchers were struck by several extreme examples of Archaic violence. One of the most famous example is a triple interment uncovered at the Mulberry Creek Site (1Ct27), all of whom

demonstrate violent death and torture, with projectile points imbedded in vertebrae (Webb and DeJarnette 1942).

A modern documentation by DeVore and Jacobi (2018) identified a range of traumas for these three male individuals, including scalping, sharp-force trauma to posterior ribs, and damage suggesting a slice to the throat, and partial paralysis caused by the projectile injuries to the spine (De Vore et al. 2018:14). Overall, these individuals are posited as non-group members taken captive, tortured, and ultimately killed as part of a highly visible display of Middle Archaic violence (p. 18). For many past interpretations, the lack of defensive architecture at Archaic sites is argued to indicated that such early acts of violence, although brutal, would have been infrequent and atypical, not institutionalized as part of every-day life. However, this reconstruction of the deaths of these three individuals clearly suggests a ritualized component.

Overall, MTRV sites demonstrate major intensification of violence during the Archaic, followed by a near-total abandonment of many sites during the Woodland Period, and occasional intrusive interments during the Mississippian Period. This could suggest a particularly pervasive landscape of institutionalized and ritualized violence in this area during the Archaic, taking the form of formal multi-individual raiding parties, trophy taking behaviors in the form of scalp, ear, and limb removal, and other performances of violence. In fact, the atypically high occurrences of human trophy taking in the Pickwick sub-region has led some to label it the “bloody alley” of the MTRV (Jacobi 2007). It is possible that this specific region represents a contested boundary area or hinterlands among ethnic groups during the Archaic. With this in mind, the Pickwick Basin (Figure 2.2) is an ideal locality to explore the topic of changing patterns of violence in relation to concurrent cultural and ecological changes of the Archaic.

The two sites examined here, Mulberry Creek (1Ct27) and Little Bear Creek (1Ct8) (Figures 2.1 and 2.2), were excavated in 1937 and 1940 prior to and following the construction of the Pickwick Landing hydroelectric dam, an event which changed the boundaries of this stretch of the Tennessee River. The results of the excavations and subsequent documentation were published in a large Smithsonian report (Webb and DeJarnette 1942), and an edition of the Alabama Museum papers (Webb and DeJarnette 1948b). Following this, the individuals from these sites were housed within the collections at the Alabama Museum of Natural History's Laboratory for Human Osteology, at the University of Alabama, Tuscaloosa until the repatriation process was officially begun, with inventory completion reached in 2018. All original records from this project and past documentation remain part of the museum collection.

The direct documentation discussed here was done in keeping with the established directives and permissions given by modern tribal representatives. This allowed for further non-destructive, non-invasive documentation of these ancestral individuals until the time of inventory completion, which occurred in early 2019. The creation and use of line drawings was permitted as part of this process, but additional photographic documentation of the remains was not permitted.

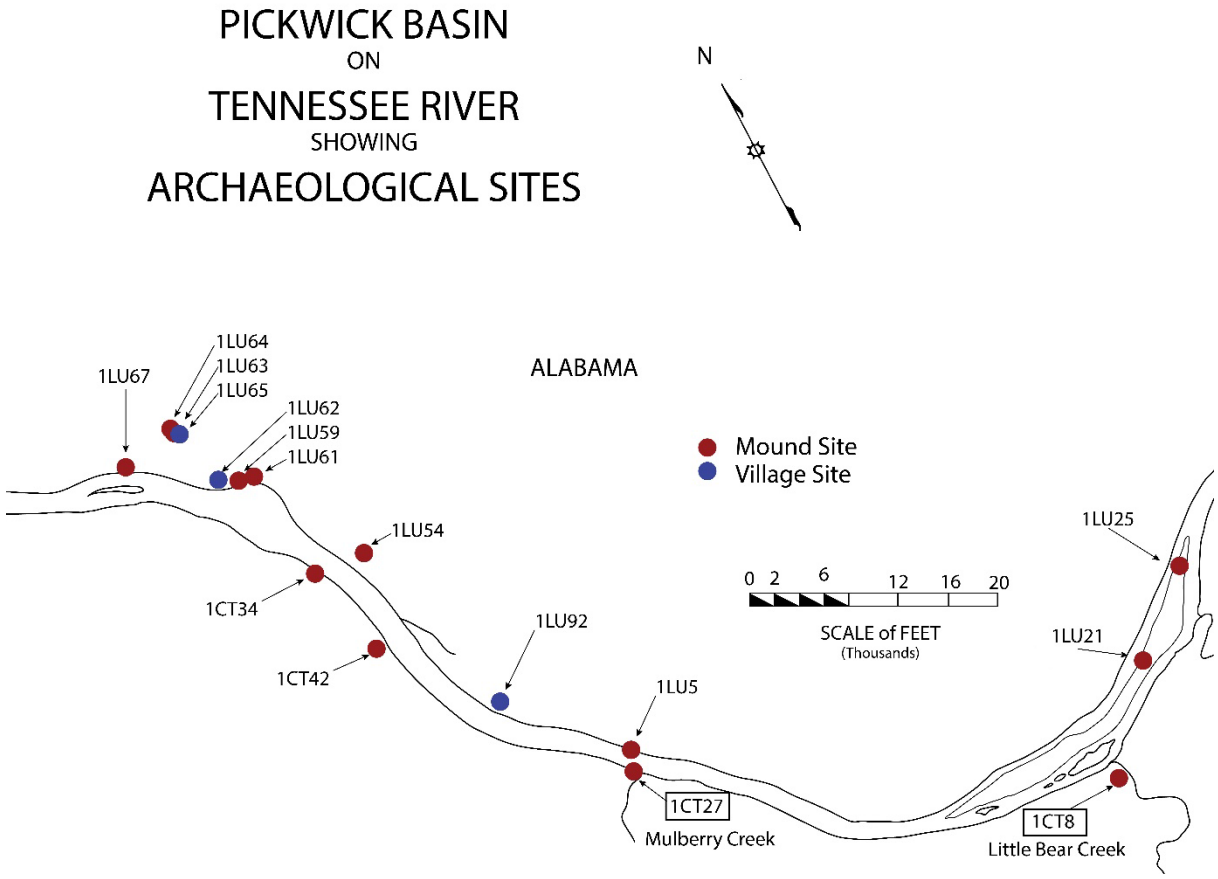

Figure 2.2: Map showing a portion of the Pickwick Basin of the MTRV, identifying all sites excavated by the WPA in the 1930's and 1940's with the addition of 1Ct8 (Created by the author based on Webb and DeJarnette 1942:Map 2).

Bioarchaeological study consisted of direct macroscopic observation of all available elements for all available Archaic individuals from each site. Due to the fragmentary nature of most individuals, there was no single approach to aging or sexing. Individuals identified as juvenile were aged based on fetal development, dental development (Buikstra and Ubelaker 1994; Ubelaker 1999), and epiphyseal closure when possible (Cunningham et al. 2016). Because the reliable determination of sex can only occur after sexual maturity, for statistical analysis

juveniles were categorized simply as “juvenile”, an additional designation for the variable of “sex”.

Along with age, osteological sex, and preservation, any pathological conditions were noted, along with severity and location on the body. Due to the recognized prevalence of perimortem trauma and trophy taking within these groups, particular attention was given to any fractures or cut marks observed, considering possible causes and timing. For the sake of this analysis, the perspective was taken that due to the viscoplastic nature of human bone, trophy taking and dismemberment (excluding any instances demonstrating healing processes) represent ‘perimortem’ events, regardless of the exact timing of death (Passalacqua and Rainwater 2015).

The consultation and incorporation of original archival materials was also central to this project, as it allowed for consideration of the effects of taphonomy, mortuary treatment, and relationships among individuals at each site. The available records consisted of original funerary maps, archival photographs and notes from the WPA, lithic and ceramic studies, and data forms from any previous documentation of these individuals. Any historic archival images were examined and supplemented by hand-drawn illustrations only when deemed necessary.

Bioarchaeological Evidence: Demography, Pathology and Trauma

Although early publications make reference to 134 individuals recovered from the Mulberry Creek Site (1Ct27) (Shields 2003; Webb and DeJarnette 1942), the exclusion of highly fragmentary/cremated, and individuals deemed to be Mississippian resulted in a total of 89 individuals for further skeletal documentation. Similarly, of 163 reported individuals from 1Ct8 (Webb and DeJarnette 1948b), 118 were considered for this project.

Table 2.1: Number of observable Archaic individuals of known and unknown osteological sex demonstrating pathology, trauma, and perimortem trauma from 1Ct27 and 1Ct8.

	Observable Individuals		Individuals with Pathology		Individuals with Trauma	
1Ct27	(n)	%	(n)	% (of obs.)	(n)	% (of obs.)
Male	28	31.5	25	89.29	18	64.29
Female	28	31.5	27	96.43	14	50
"Adult"	5	5.6	5	100	1	20
Juvenile	28	31.5	18	64.29	6	21.43
Total	89	--	75	--	39	--
1Ct8						
Male	34	28.81	30	88.24	26	76.47
Female	27	22.88	26	96.30	17	62.96
"Adult"	3	2.54	3	100	2	66.67
Juvenile	54	45.76	35	64.81	19	35.19
Total	118	--	94	--	64	--

As shown above (Table 2.1), nearly all adult individuals from both sites demonstrated some form of pathology. This is not surprising, considering the high rate of "common" or "typical" pathologies like arthritis, periosteal reaction, or dental attrition within this community. It is expected that most individuals would have at least one observable condition by the age at which biological sex can be observed (i.e. "adulthood"). However, the high rate of pathology present in juvenile individuals indicates that poor health and disease were also common in the younger members of these communities. An independent sample t-test was performed for each site separately to examine the mean age for those with and without pathology.

For the Little Bear Creek site (1Ct8), the mean age for those with pathology is 20.25 years higher than for those without (95% CI, 14.85 to 25.64 years), a statistically significant

difference, t(58) = 7.51, ($p < 0.001$). The results are similar for the site 1Ct27, where the mean age of those with pathology is 18.78 years higher than for those without (95% CI, 8.31 to 29.24 years), also statistically significant $t(82) = 3.570$, $p < 0.001$).

Trauma and Cut-Marks

The frequency and patterning of trauma indicates that adult males were most likely to suffer trauma in general, as well as perimortem injury of any kind. However, females and juveniles were not excluded from risk of injury.

Statistical analysis did indicate significance for presence of trauma between males, females and juveniles, however, a further comparison between male and females only (excluding juveniles) did not yield significant results. This suggests that, as with pathology, this difference is likely also the result of the increasing probability of suffering some form of injury as age increases. The majority of antemortem injuries observed are fractures suggestive of accidents and/or falls, or overuse. This includes both single and multiple fractures of the lower extremities and thorax, and compression or dislocation.

Table 2.2: Showing the number of observable Archaic individuals of known and unknown osteological sex demonstrating antemortem trauma, perimortem trauma, and both antemortem and perimortem trauma from 1Ct27 and 1Ct8.

	Antemortem Only		Perimortem Only		Both	
1Ct27	(n)	% (of obs.)	(n)	% (of obs.)	(n)	% (of obs.)
Male	5	18	8	29	6	21
Female	6	21	4	14	4	14
"Adult"	0	0	1	20	0	0
Juvenile	0	0	6	21	0	0
Total	11	--	19	--	10	--
1Ct8						
Male	10	29	8	24	8	24
Female	9	33	2	7	6	22
"Adult"	0	0	1	33	1	33
Juvenile	2	4	16	30	1	2
Total	21	--	29	--	16	--

Table 2.3: Showing the location (cranial, postcranial, both cranial and postcranial) of cut-marks observed on Archaic individuals of known and unknown osteological sex from 1Ct27 and 1Ct8.

	Cranial Only	Postcranial Only	Both
1Ct27	(n)	(n)	(n)
Male	9	0	2
Female	5	1	0
"Adult"	1	0	0
Juvenile	2	2	0
Total	17	3	2
1Ct8			
Male	4	1	3
Female	4	1	0
"Adult"	0	2	0
Juvenile	7	2	0
Total	15	6	3

During this documentation, cut marks were observed on the crania of 17 of the Archaic individuals from Mulberry Creek (1Ct27), one of whom was also missing postcranial elements. Cuts were similarly observed on the postcrania of 3 individuals, and both cranially and postcranially for 2 individuals. Among the Archaic individuals at Little Bear Creek (1Ct8) cuts were observed on the crania of 15 individuals, one of whom was also missing postcranial elements, on the postcrania of 6 individuals (two of whom also had missing crania), and in both locations for 3 individuals.

These observed patterns in health, trauma, and mortuary treatment, although largely not statistically significant, do hint at possible rituals and deeper meanings underpinning the peri/postmortem inflicted injuries and processing occurring during the Archaic Period at these two sites. In particular, detailed consideration of several specific individuals lends insight into variations in the identity of victims of violence, as well as the possible intended meaning of the violence being enacted at these locations.

Using Social Theory to Contextualize Violence

The observed patterns of health and trauma observed in the Archaic Period communities at these two shell mound sites suggest several things. First, it demonstrates that these individuals lived active lives and accidental trauma, infectious disease, and infant mortality were not uncommon. Second, the frequency and forms of perimortem trauma and cut marks all serve as further support for the non-random, likely ritualized nature of the violence taking place in these early communities.

Violence at 1Ct8 and 1Ct27

Considering the possible and probable violence observed within the Archaic communities at these two sites, there appear to be multiple explanations for what is taking place at the individual level. Preliminarily, there can be little doubt that the skeletal evidence does not support simplistic explanations of fatal violence exclusively caused by small-scale raiding between sites. Individuals subjected to perimortem fractures or processing of some kind include males and females, as well as juveniles from a near-total range of ages. Although no definite statistical link could be made between individual age, osteological sex, or overall health and violence, by incorporating mortuary variables possible trends can be observed.

The victims of perimortem violence at this site can be broadly conceptualized in three groups. The first grouping includes individuals who show evidence of multiple injuries (multiple trauma, cut marks) ultimately leading to death. However, they do not demonstrate deviant mortuary treatment. These individuals are posited to represent community members who fell victim to raids or attacks by outsiders.

The second grouping includes individuals who show perimortem fractures, as well as trophy taking as evidenced by patterned cut-marks and/or the absence of body parts. Mortuary treatment for such individuals is generally minimal, in some instances suggesting a total lack of care and ceremony for placing the body, or in other cases appearing to be a "disturbed" or "incomplete" interment during recovery. These individuals are believed to represent outsiders, likely killed while participating in raids or attacks on the mound communities. For example, the individual from Funerary Feature 135 from 1Ct27, an adult male victim of scalping who seems to have been quickly interred with no intentionality, as might be expected for a casualty during a raid or attack on the local community (see Simpson 2017; 2022).

Finally, a third category of individuals include those demonstrating evidence of ritualized sacrifice, killing, and/or as offerings made at these locations. Though not all such individuals demonstrate definitive skeletal evidence of obvious or atypically extreme perimortem violence, a poetics based approach to reconstructing intended and perceived meaning requires the acknowledgement of the powerful performance suggested by the deaths and burials of these individuals. Specifically, rather than the "haphazard" interment described for the preceding group, these individuals demonstrate a range of particularly complex or deliberate atypical interments, often with an extreme excess of funerary goods. It is the association of comparatively lavish funerary offerings which provides a contrast to the treatment of the individual remains which often seems punitive in intention (face down/prone, missing limbs or crania, covered by large stones, extreme/unnatural placement of limbs).

For example, the individual recovered from Funerary Feature 8 at 1Ct8 (Figure 2.3). This adult male individual was recovered in a face-down position within a pit lined with sandstone boulders, where partial cremation had occurred in-situ. The pattern of differential burning suggests the fire could have been localized primarily over the cranium (Owens 2010), however the degree of discoloration visible in this area is proposed here to be related to evidence of defleshing (probable scalping) observed on the cranium. This individual was also missing both left and right lower legs and feet, with skeletal evidence of perimortem removal, possibly as trophies.

Based on the lack of any fragmentary bones from the feet, and the degree of dark discoloration visible on the skull when compared to the postcrania, it is argued that this individual was killed, then subjected to scalping, leg and foot removal, followed by burning. Although the postmortem taphonomic damage caused by the cremation process makes it difficult

to establish an exact timeline of the events surrounding death, there are visible cuts circumferentially on the left and right parietal, deep cuts/slash marks visible on the dorsal surface of the third metacarpal of the right hand, sharp force injury of the ribs and midshafts of the right ulna and radius, and splintered fractures with percussion marks on the midshaft of the left femur.

Notably, this individual was surrounded by 3,094 anculosa shell beads, representing over three-quarters of all gastropod (*Leptoxis ampla*) shell beads recovered from the community at 1CT8 (4,068 total as reported by the Department of the Interior: National Parks Service (2018: 65736)). In addition, a single marine shell bead, and one unidentifiable stone blade/point were also recovered in association with this individual. The indication of major perimortem violence and large concentration of shell beads links this individual to others within the MTRV and broader Southeast. Ashley Stewart (2020) discusses a 30-40 year old Archaic Period male individual, recovered from Funerary Feature 134 at the Perry Site (1Lu25 shown in Figure 2.2), who demonstrates indirect evidence of trophy taking (absent cranium), and was interred with over 1,000 shell beads. Stewart suggests this large funerary association could be evidence of high status within his community, however the individual from Funerary Feature 8 at 1Ct8 could suggest an alternative explanation for such Archaic Period individuals.

Figure 2.3: Sketch of the individual from Funerary Feature 8 at 1Ct8; although unclear in this image, individual was placed face-down. Shell beads are not shown but surrounded the body within the stone ring (Created by Simpson (2019) based on archival documents).

Claassen has recently argued that large inclusions of shell in mortuary settings indicates a deeply meaningful link to renewal rituals and human sacrifice (Claassen 2019a; 2019b; 2015; 2013; 2010). Shell "belts" in particular, are posited as representing the Milky Way galaxy (due to the spiral formation of the individual shells), as part of an Archaic version of the Mississippian hunt god rite (Claassen 2015: 39; 2019a; 2019b). In such a scenario the decedent themselves, as a victim of such a ritual, would represent part of the "offering" taking place, rather than the owner of the shell item with which they were interred.

Still, a number of individuals demonstrating probable violence and atypical mortuary practice are not associated with shell objects. For example, the adult male recovered from Funerary Feature 26 at 1Ct8, who was placed on a ring of stones with both knees bent unnaturally upward and laterally at 90 degrees (see Figure 2.4), as well as the individual from Funerary Feature 88 at 1Ct27. This Middle Archaic Period adult male individual shows significant perimortem facial/cranial trauma, and was interred face down with limbs tightly flexed, accompanied by a cache of 13 Benton projectile points, a tool kit, and two canine mortuary features (Figure 2.5).

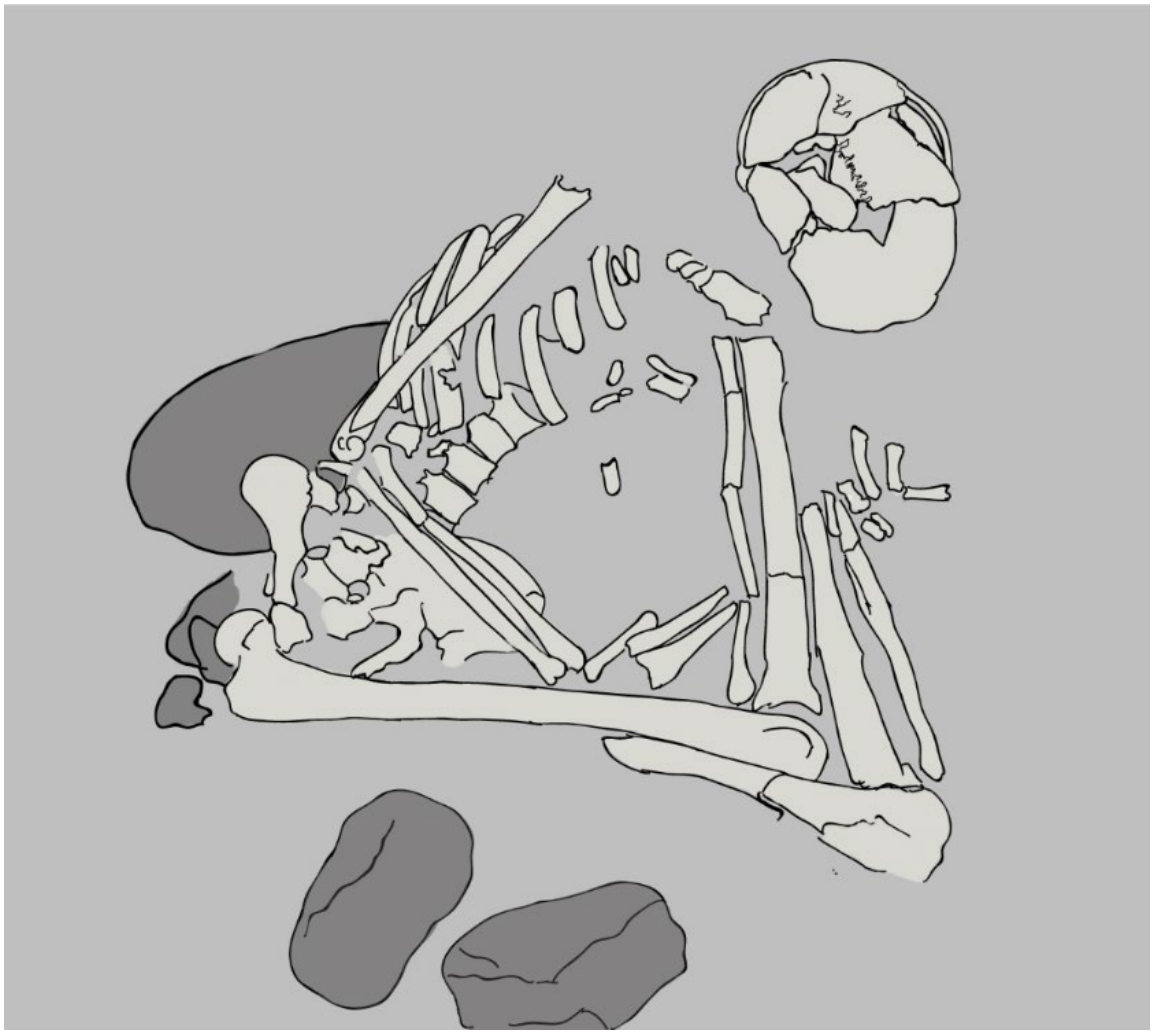

Figure 2.4: Showing the original position of the individual from Funerary Feature 26 at 1Ct8 (illustrated by the author based on archival image No. 25 from 1Ct8 January 27, 1939).

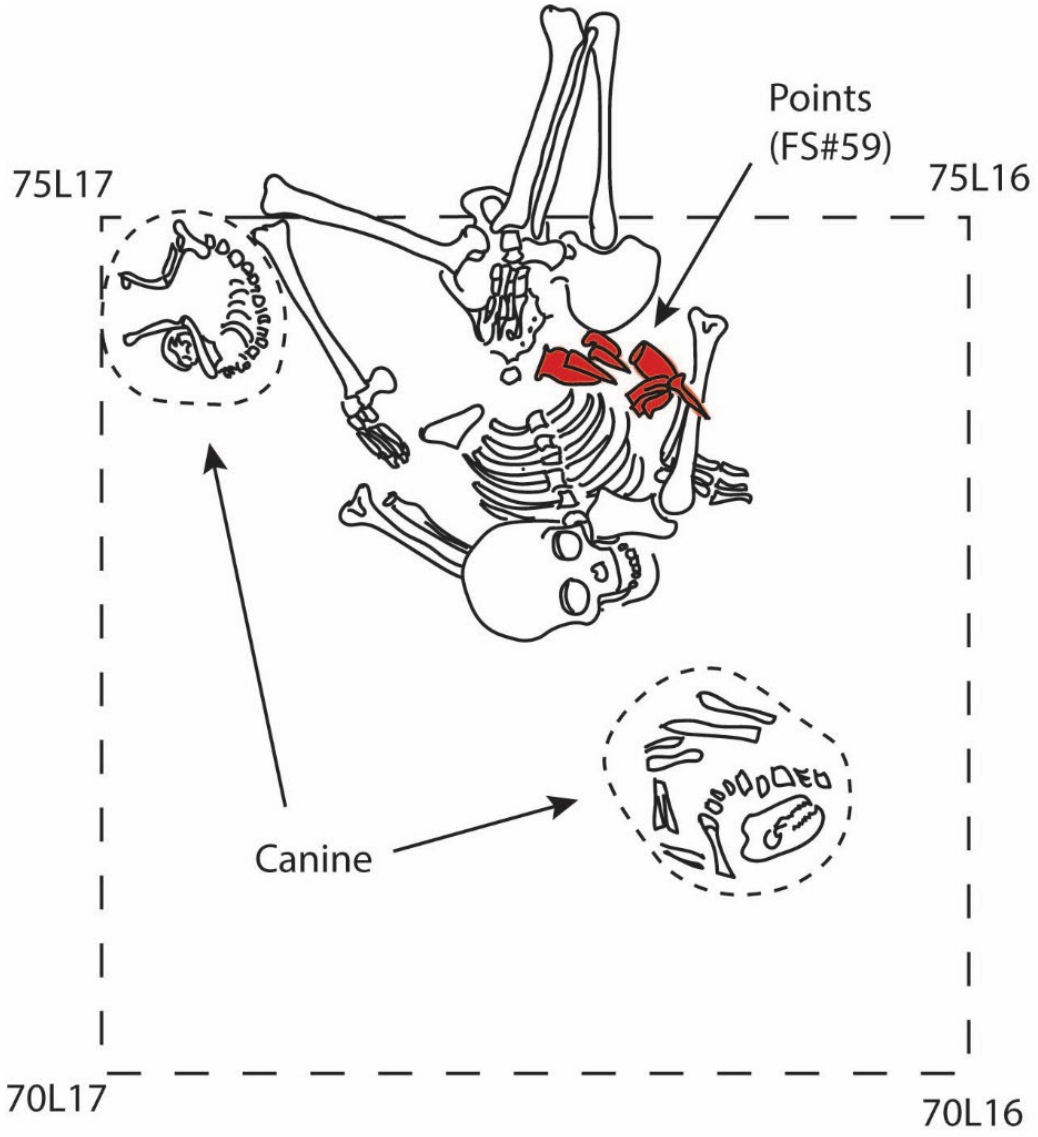

Figure 2.5: Funerary map showing the individual from Funerary Feature 88 at 1Ct27. Two canines are shown in association, with funerary goods (points and tools) shown in red. (Created by Simpson (2023) based on original funerary map by James R. Foster, May 27, 1937)

Trophy Taking and Other Processing Activities

From the 20 sites considered part of the Pickwick Basin excavated by the WPA (or immediately after), original documents identify 1672 funerary features from the Archaic, Woodland, Mississippian, and post-contact period. Descriptions identify 47 of these as missing crania, 10 as "cranium-only", 14 consistent with possible trophy arms/hands, 13 with possible trophy legs/feet, and 10 as possibly "scalped" (Jacobi 2007:310). However, it is now known that the early considerations of these ancestral individuals greatly underestimated the frequency of scalping and trophy taking, particularly from earlier communities and individuals. Due to the assumed rarity of such behaviors among mobile, pre-agricultural groups, only the most severe and obvious examples of cut-marks were noted by the physical anthropologists and medical doctors brought in to examine the remains.

The recent examinations of these same individuals as part of the NAGPRA inventory process which focused on patterned, localized cuts (for example around the circumference of the cranium) identified at least 250 additional cases of "probable scalping" from MTRV sites, with many more disarticulated limbs and crania (Thompson 2017). These results are likely an under-estimation of the true frequency of such behaviors. Ethnohistoric documents indicate that trophy taking would have required minimal cutting force and might have left little if any evidence on bone when performed by skilled practitioners (Freiederici 1907; Nadeau 1941; Owsley and Berryman 1975). In addition, cut marks are not exclusively the result of trophy taking or malicious intent. Rather, they can result from numerous forms of standard mortuary treatment or processing to prepare an individual's remains for burial or a period of curation. With this in mind, multiple lines of evidence must be considered to ensure accurate interpretation.

In particular, cut marks observed at joints or attachment points of major ligaments can indicate removal of trophy limbs, but are also argued to be the result of standard funerary

treatment or body processing, possibly for disarticulation for secondary/bundling of the remains or to allow for tight flexion of the body within a primary/fleshed interment (Simpson 2017; Smith 1997). Little Bear Creek (1Ct8) has a particularly high number of individuals with observable skeletal evidence of perimortem percussion traumas and/or processing which are argued to be the result of mortuary ritual rather than violence (See Chapter 4).

Still, it is clear that perimortem cut marks were not exclusively the result of processing and/or ancestor veneration after death. Trophy taking for unmodified curation or use as funerary offerings, as well as modification into material objects is well documented throughout the Archaic Southeast (De Vore and Jacobi 2014; Mensforth 2007; Jacobi 2007). Mulberry Creek (1Ct27) is widely recognized within the literature, because in addition to the triple interment mentioned above, original excavation identified the fragments of a bowl/vessel crafted from a human cranium with smooth-edges and drilled holes (possibly for suspension, or to form a rattle) (Claassen 2010; Jacobi 2007; Smith 2015; Webb and DeJarnette 1942). It is of note that the individual from whom this object was constructed also suffered a significant blow to head well before death, as evidenced by a well healed cranial depression fracture to the top of the head (Jacobi 2007:321). This indicates this individuals involvement in multiple violent encounters over the life course, and further hints at the likely endemic nature of violence within these communities. Survival following trophy taking is also documented osteologically with a case of survival following scalping by an Archaic female individual from modern Kentucky (Hodge 2015), indicating that trophy taking was not limited to deceased victims/subjects.

Although now recognized in the deep past, it is not clear how much variability is present among forms and meanings of trophies made from human remains. Certain acts (i.e. scalping) are agreed to represent shaming of an enemy. For example, cut marks to the top of the cranium

often mirror the location of the typical “top-knot” depicted by early ethnographers, a symbol of warrior status and prowess in battle. Scalp removal would have preferentially targeted this area as a material symbol of triumph, both to denigrate the victim, and elevate the perpetrator amongst peers (Jacobi 2007). Ethnographic and ethnohistoric literature suggest that individuals who were physically incomplete when interred could have been impeded during the transition to the afterlife, suggesting that any form of trophy taking would have served as the ultimate punishment for an enemy (Hudson 1976; Jacobi 2007; Smith 2015; Swanton 1946).

Perhaps one of the most interesting observations made between numerous sites from the Pickwick, Wheeler and Guntersville Basin sites during the most recent inventory is the presence of anomalous skeletal elements within individual funerary features. Although mixing during the thousand years of mortuary use and occupation of these sites is undoubtedly responsible for most instances where elements from multiple individuals were recovered from a single funerary feature, there are also cases where a non-duplicate element(s) is present which is not consistent with the primary individual.

For example, cases where the post-crania, including the pubis, are most consistent with a 20 y/o biological male, but the cranium is diagnostically consistent with a 40+ y/o female. Although not common, such cases were observed often enough that it drove speculation as to possible explanations for such examples of major variability. One obvious explanation is post excavation mixing in the lab or during intervening decades. There is no doubt that this did occur on occasion as recorded remains were lost or mixed up in transit or storage. However, there are certain cases where an examination of archival site photos of an individual in-situ indicate that the disparate elements observed in the lab are fully consistent with what was recovered from the field (i.e. characteristic staining, char from partial cremation, diagnostic post-mortem breakage

patterns of bones, etc.). Consideration of explanations beyond modern human error can be taken from ethnohistoric sources.

Ethnohistoric study within the region details a system of belief whereby the ability for the soul or essence to journey into the afterlife is tied to the existence of a complete, undisturbed physical body at time of interment. This, coupled with the recognition of the commonality of limb and skull trophy taking within the region has led some to propose a so called "proxy" mortuary ritual. In such a system, when a major part of the body was taken by outsiders as a trophy, it could be "replaced" by the corresponding portion from the body of another individual. By such a practice, the body might have then been viewed as "complete" and unviolated, thereby guaranteeing passage into the afterlife.

Alternatively, this practice could represent an element of multi-generational ancestor worship. Perhaps the skull or body part of a family member might be removed for curation, only to be replaced by the corresponding, curated body part of a previously deceased relative or group member. If the desire for "proxy" replacements were a factor in trophy taking behavior, it could certainly explain the sustained practice of small-scale raiding and warfare. Rather than a desire for prestige enhancement, trophies might have been taken on behalf of relatives or group members, not enhancing the prestige of the trophy-taker, but ensuring the post-mortem longevity of victims after interment. In addition, proxy inclusions could explain certain individual cases where cut marks consistent with trophy taking are observed, but the corresponding "trophy" was present in-situ. Unfortunately, investigations which could corroborate this proposed "proxy" ritual have been minimal. It is generally assumed that if skeletal elements appear to be in general articulation in situ, they all originate from the same single individual and are analyzed as such.

Even analysis which considered DNA evidence generally don't compare samples from numerous different elements within a single individual.

Some scholars have argued that Archaic trophy taking behavior primarily served as a method of prestige enhancement and was a contributing factor toward the emergence of social hierarchy within the pre-contact Southeast (Mensforth 2001). Although it is acknowledged that prestige enhancement was linked to scalping in the later precontact period, the observed high frequency of trophy taking behaviors during the Late Archaic runs counter to the lack of well-defined hierarchical structure during this time period. Smith (2015) acknowledges the need to consider both trophy taking and the inclusions of funerary items from a metaphysical, rather than purely materialist perspective. In this way, it is possible to consider a heterarchical system of status variability among individuals in these communities.

The difficulty in creating a universal explanation for causation and meaning of Archaic violence is almost certainly due to the reality of multiple motivations underpinning such actions within these groups. It is likely that interpersonal conflicts or abuse did occur within the community, however the numerous examples presented here suggest intergroup violent interactions being repeated through time at both sites. Clearly, although not pervasive, experiencing violence was not uncommon in these communities. However, it is also clear that certain examples of violence and/or processing represent specialized rituals with a deeper intended meaning beyond simply ending a life or taking a trophy from a perceived enemy.

Violence as Transformative and Culturally Meaningful Performance

It is argued here that the majority of violence taking place in these MTRV Archaic Period communities was not driven purely by competition for basic resources. Documented levels of

shellfish, and other food availability during the Archaic Period do not support major periods of widespread famine or shortage. However, seasonal changes, such as the annual flooding of the Tennessee River and tributaries, would have been a significant event in the daily lives and consciousness of these individuals. Specifically, proposed links to rituals of renewal in the form of offerings/conspicuous consumption, or even proposed human sacrifice could have been scheduled based on these regularly occurring changes in the occupied landscape. In this way, we can conceptualize how a standardized, regularly occurring suite of ritual activities can be created, and also augmented or amplified in response to extreme manifestations of these expected ecological events or changes. For example, the scale of a ritualized killing or sacrifice (i.e. human vs. non-human/material victim offering, number of victims, etc.), could be larger in response to particularly extreme or destructive flood cycles or other extreme natural phenomena such as weather. Such violent activities and events can provide a sense of control or normalcy during a time of uncertainty or upheaval.

Indigenous violence can both create and support as well as violate and destroy identities, causing chaos while also leading to social transformation and regeneration (Chacon and Dye 2007; Chacon and Mendoza 2007; Whitehead 2004). In this sense, early precontact violence should not be equated with the resource driven warfare of later periods; often regarded as mal-adaptive and disruptive to past individuals and societies (Milner 2007; Milner et al. 2013; Milner and Ferrell 2011). Although the intensification of violence can serve as a negative reaction to a brief, rapid change in environment or interaction, it also represents an attempt at mitigation which can create powerful links of social cohesion among human groups; as behaviors are performed and reproduced through time and space, they become ritualized. It is these ritualized

behaviors, repeated through time and space, which can be identified retroactively through careful archaeological documentation.

Using a framework of poetics/social theory of violence emphasizes that death is not static. Although it manifests as a discreet event (i.e. before vs. after death), it is ultimately the result of accumulated cultural and biological forces at play throughout an individual's lifetime, all of which articulate within a social context. "Age, sex, gender, ethnic group, occupation, marital status, political affiliation, socioeconomic status, and access to social support, health care resources, and power compose a constellation of interacting factors that temper and affect how dangerous or deadly acts of violence are" (Perez 2016:455). It seems conceivable that we simply have yet to discern or clarify the basis on which a pattern of violence might occur (i.e. region, sub-region, site, temporal component, or even based on individual identity).

It is clear that violence during the Archaic was not just an occasional random occurrence. Although documentation of frequency and types of trauma present are still of value, we must also fully acknowledge the possible deeper meanings underpinning such actions. Each individual and each site have the potential to provide a material basis for ethnographic analogy to the myriad motivations and intentions for violence or processing in Native American groups.

The overarching goal of this research was to re-complexify our conception of violence within early groups, muddying the proverbial waters of early prehistoric violence in the Southeast. Detail-oriented approaches to violence which are framed by social theory highlight the fact that in prehistory, much as today, violence is never as simple as good vs. bad, right vs. wrong, or malevolent perpetrator vs. powerless victim. Such research also avoids the potential controversy of glossing over/censoring past violence to avoid controversy or sensationalizing the

acts of these past individuals. These were not savage, thoughtless acts, but an integral part of these past societies. The nuanced rituals we might categorize simply as "violence" might have caused death and pain, but might have simultaneously been a force for unity, renewal and group endurance; neither bad nor good, but both.

There is no universal pattern for violence within small scale societies, or for how identity within this realm is achieved and expressed. However, there is a cultural logic that underpins and articulates such actions within social processes, lending consistency in particular cultural systems. In this sense, endemic, ritualized violence should not simply be regarded as chaotic or disruptive, but must be analyzed and understood in the context where it occurs, such as early prehistoric Alabama. Understanding how these early groups mitigated and avoided large scale, disruptive violence through small-scale, ritualized violence, and daily practice has exceptional heuristic potential for the goal of understanding large scale acts of violence manifesting today and mitigating the far-reaching negative impacts of such acts through time and space.

CHAPTER 3: Probable Trepanation in Late Archaic Period North Alabama (5800-3200 B.P.) Article being prepared for *the International Journal of Oseoarchaeology*

Introduction to the Chapter

The following is a study focusing on a single individual from the Archaic Period community at the Little Bear Creek Site (1Ct8). The article is currently being prepared for submission to *the International Journal of Oseoarchaeology.* This individual is a case study of extended survival following trepanation (cranial surgery) in response to an antemortem cranial trauma. In addition, the mortuary treatment and funerary objects recovered with this individual indicate a differential status as a ritual practitioner, possibly a shaman or tattooist.

The broader research questions relevant to this publication are as follows:

- *Does observed perimortem violence correspond to other factors of biological or cultural identity such as age, sex, health, and mortuary treatment within this group?*
- *How does this relate to social differentiation within these pre-sedentary hunter-gatherer groups through time?*

Abstract

Although trepanation is regarded as one of the earliest surgical procedures practiced throughout the world, examples from precontact North America are few in number and considered to be ambiguous. Trepanation, generally defined as creating an opening in the cranium using surgical techniques, can be difficult to identify skeletally due to similarities with

numerous congenital, pathological, and traumatic changes to the cranium. This paper provides a consideration of an adult male individual from the Archaic Period of North Alabama who demonstrates extended survival following cranial trepanation through scraping, possibly as a treatment for a past cranial trauma. This adult male individual, recovered in the early twentieth century from the Archaic Period shell mound site known as "Little Bear Creek" (1Ct8), also demonstrates an atypical mortuary assemblage possibly suggesting a specialized identity within the community. Not only does this case contribute to our understanding of medical intervention in the precontact Southeast, it represents the earliest known example of trepanation in North America.

Introduction

Trepanation, defined as the creation or expansion of an opening in the cranium to expose the neurocranium (Aufderheide and Rodriguez-Martin 1998; Verano 2016), is recognized archaeologically as one of the earliest forms of major surgery performed in the human past. It has been well documented as early as the Neolithic period in Europe, with a multitude of examples of long-term survival recognized in South America. Still, despite its commonality on the global scale, evidence of this practice in early North America remains limited and somewhat uncertain.

There is support for at least a general knowledge of trepanation among pre-colonial Native North Americans. An evaluation of historically published case examples identified 13 total examples of "Pre-Colombian" trepanations; 11 from Canada, and 8 from the United States (Stone and Miles 1990:1015). Although other cases have been put forward, Stone and Urcid (2003) focus on six cases of possible trepanation from the sub-region of the Eastern US, largely

associated with the Mississippian/mound builder culture. Thus far, none of those cases have been clearly associated with preceding Archaic Period groups. In addition, it is of note that most of these case examples were identified by researchers in the first half of the twentieth century (Cosgrove 1929; Hinsdale and Cappannari 1940; McGregor and Wadlow 1951) and have not been re-assessed using modern techniques or a full consideration of differential diagnoses. It seems likely that a direct reconsideration of these cases might reveal alternate differential diagnoses (Stewart 1958).

With these points in mind, the case presented here is argued to demonstrate the existence of the practice of trepanation in the Late Archaic Period Southeast, and to represent the earliest known trepanation in the modern day United States.

Site Background

The sample for this research originated from remains recovered in the first half of the twentieth century from a site in the Pickwick Basin; the Westernmost portion of the Tennessee River Valley of North Alabama. Although many of the surrounding sites in this river basin were recovered as part of the Works Progress Administration (WPA) prior to the construction of several hydroelectric dams, 1Ct8 was not initially identified to be at risk from the resultant flooding. The mound was partially recovered in the subsequent years of 1938-1939 due to significant seasonal flood damage and erosion.

The results of this excavation and subsequent documentation were published in a small museum publication (Webb and DeJarnette 1948b) rather than within the widely disseminated, larger, Pickwick Basin Report (Webb and DeJarnette 1942). Because of this, the materials and results from this site have not been widely documented, published, or considered within the context of the broader Shell Mound Archaic Southeast. Most recently, these ancestral remains were housed at the Alabama Museum of Natural History's Laboratory for Human Osteology, at

the University of Alabama, Tuscaloosa where a NAGPRA inventory was undertaken and completed. In 2019 the ancestors were returned to modern descendant communities.

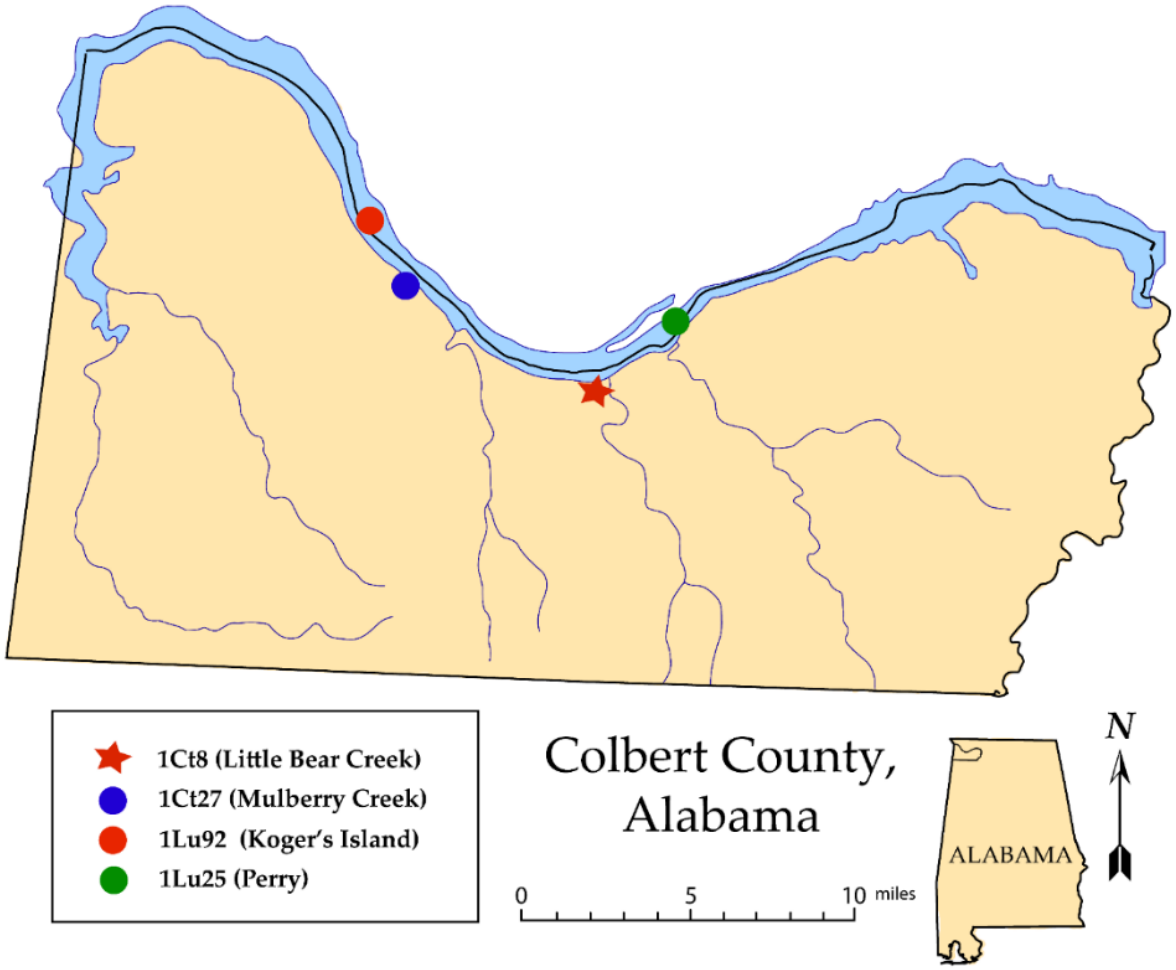

Figure 3.1: Showing the Pickwick Basin in Colbert County Alabama showing the Tennessee River and the location of 1Ct8 and several neighboring sites (created by the author).

Although seriation of funerary features is somewhat rudimentary, of the 163 total funerary features recovered by the WPA, 136 were categorized as "Shell Mound/Archaic", and 27 were categorized as "Koger's Island/Mississippian." Withing this modern reanalysis focused

on the Archaic Period individuals, osteological documentation identified a minimum of 118 individuals (34 male/27 female/54 Juvenile/3 Unknown Adult), with 45 individuals demonstrating some form of perimortem trauma, and 32 having associated funerary goods. Several adult individuals demonstrate a-typical mortuary treatment in tandem with notable pathology/trauma, including the individual of interest here, who was recovered from Funerary Feature 6 at 1Ct8.

The Individual From FF-6 at the Little Bear Creek Site (1Ct8)

The remains of this individual are considered to be relatively well preserved and complete allowing for a classification of biological male, between 40 and 50 years of age at death. Sex estimation was based primarily on the pubic bone and sciatic notch, with cranial features considered as secondary indicators (Buikstra and Ubelaker 1994; White et al. 2011). Age was estimated based on pubic symphysis, further corroborated by auricular surface and degenerative changes throughout the body and dentition (Brooks and Suchey 1990; Buikstra and Ubelaker 1994). This individual demonstrated several pathological conditions, antemortem traumas, and skeletal markers suggestive of habitual activity throughout their lifetime. Certain conditions observed are typical of older individuals within this group, such as arthritic changes throughout much of the postcrania, and moderate exostoses of both auditory canals, but several observed pathologies and traumas are considered a-typical.

The proximal portion of the left tibia shows evidence of avulsion and compression on the medial portion of the tibial plateau. This appears related to arthritic lipping and osteochondritis dissecans of the posterior portion of the medial condyle of the left femur. The distal portion of the left tibia also demonstrates probable well healed antemortem fracturing at the medial malleolus, which could suggest a fall or twisted ankle.

However, based on the broader pattern of antemortem trauma represented in this individual, it is argued that they were involved in one or more violent interpersonal interactions well before death. This is supported by a well healed transverse fracture to the distal portion of the right ulna, consistent with a "Parry" fracture, and a well-healed cranial depression fracture (CDF) of the left frontal.

The CDF of the frontal is located 10mm above the left eye orbit, angling superior-laterally and is just over 11 mm in length. Though cranial trauma is often distinguished as inflicted vs. accidental based on location in relation to the "hat brim line" (Guyomarc'h et al. 2010; Kremer et al. 2008), the depression in this case is at the superior edge of this line, indicating a somewhat ambiguous etiology. Still, the placement could indicate a direct blow from a right handed assailant. It is also possible that additional CDFs occurred concurrently, only to ultimately be obliterated by the argued cranial surgery (also on the frontal bone).

There is a complete perforation of the frontal bone roughly 54 mm above nasion in close proximity to the observed CDF. This lesion is oblong, roughly 17 mm in height, and 33.3 mm long laterally (Fig. 3.2 and 3.3). The circumferential margins of this opening demonstrate external beveling, with an angled thickness of roughly 6mm in length circumferentially.

Multiple features indicate that this perforation of the cranium represents an antemortem event or intervention. The internally beveled margins demonstrate partial loss of the visible diploe structure, and the immediate surrounding area is covered in an irregular, coral-like build-up of bone, likely suggestive of ongoing reactive growth during the remodeling process. In addition there are several sharp protrusions of compact bone present within the opening.

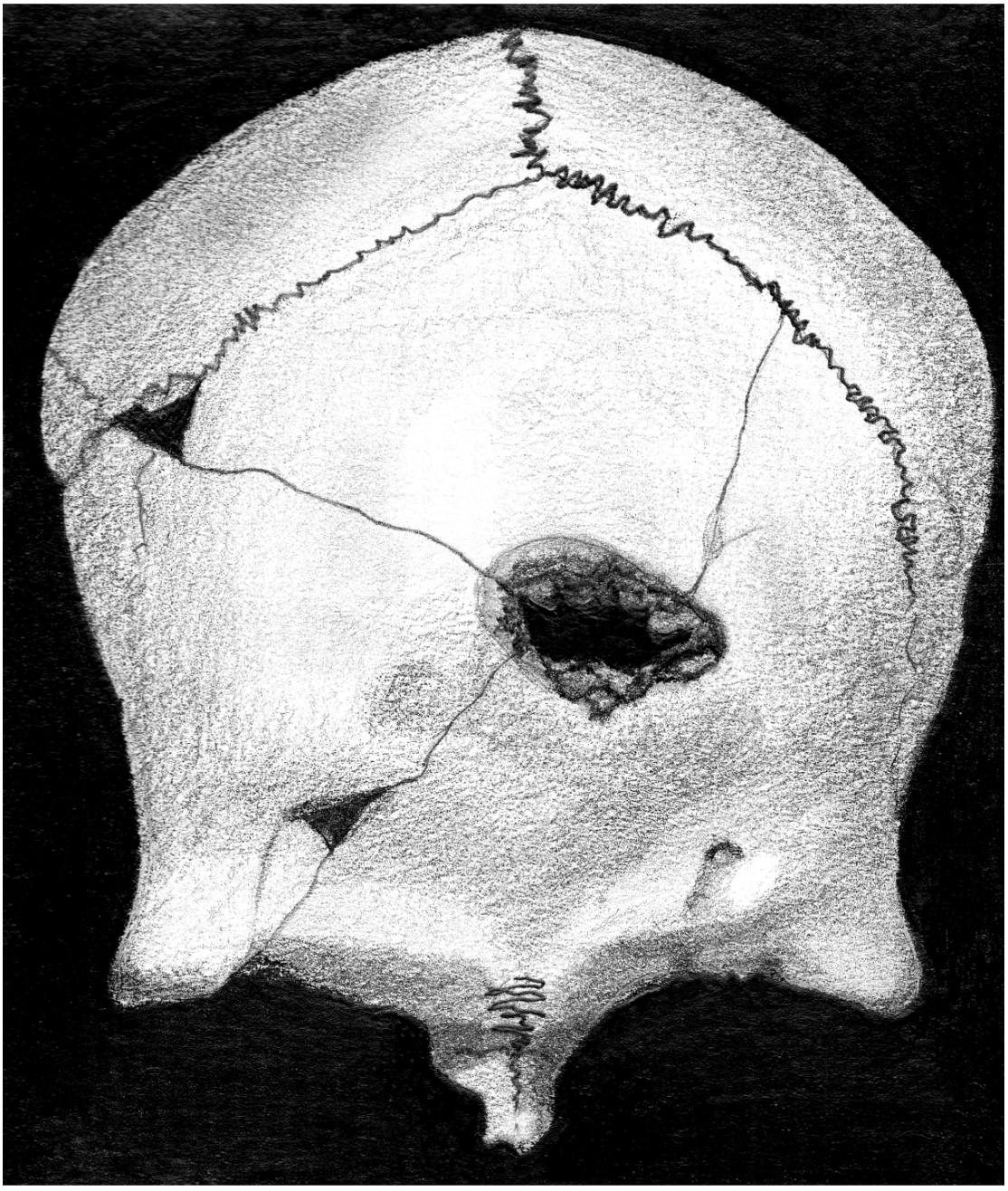

Figure 3.2: Pencil drawing by author based on direct observation of the skull of the individual from burial 6 at 1Ct8; frontal bone showing trepanation and well healed cranial blunt force trauma/depression fracture (radiating fractures are postmortem).

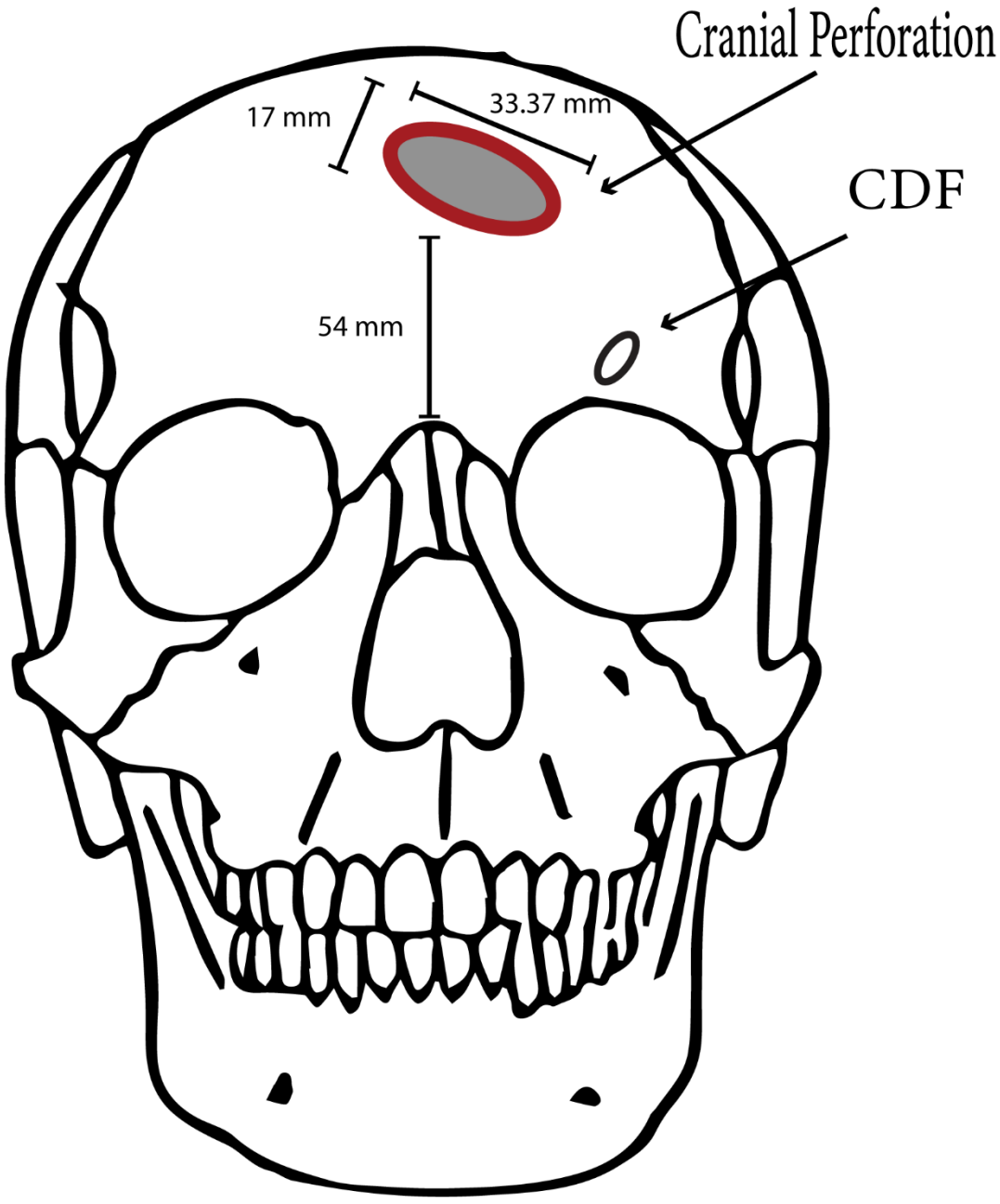

Figure 3.3: diagram showing depression fracture, and argued antemortem trepanation (gray circle) with beveled margins (red border).

Mortuary Treatment

Although the mound at 1Ct8 was intermittently used after the Archaic Period, there is no doubt that FF-6 represents a pre-Mississippian Funerary Feature. The depth within the mound is well below the Mississippian component, and the mortuary associations and body position all suggest this FF likely dates to the Late Archaic Period (5800-3200 B.P.). It is also clear that this individual represents some level of differential status within their community at this site.

Based on the original funerary map (Fig. 3.4), and two historic photographs of the Funerary Feature in situ, the individual was covered or surrounded with several large limestone boulders. In addition, it seems likely that some level of post-mortem disarticulation occurred, possibly even curation of the remains for a length of time before final interment. Osteological documentation identified evidence of perimortem percussion throughout the body, particularly visibly on the clavicle, humerus, and vertebrae. This breakage patterning could suggest intentional disarticulation, or could be partially attributed to the boulders being deposited during interment.

In this case, the most notable indicator of differential status is the associated funerary goods. Nearly fifty items including sharpened bone pins, a beaver incisor, several talons/claws, turkey fid, and a bird scapula fragment were recovered from a single location beside the body, suggesting these items were a tool kit, bundled in some sort of biodegradable wrapping or bag. In addition, nearly a dozen items of modified deer antler, deer ulna, and turkey bone, as well as crinoid stems (drilled & not drilled), bivalve shell (drilled), chert pebbles, a projectile point, and a slate abrader/palette were found on or around the remains. These associated artifacts share numerous consistencies with previously documented examples of toolkits which may have been used for tattooing or scratching/bloodletting.

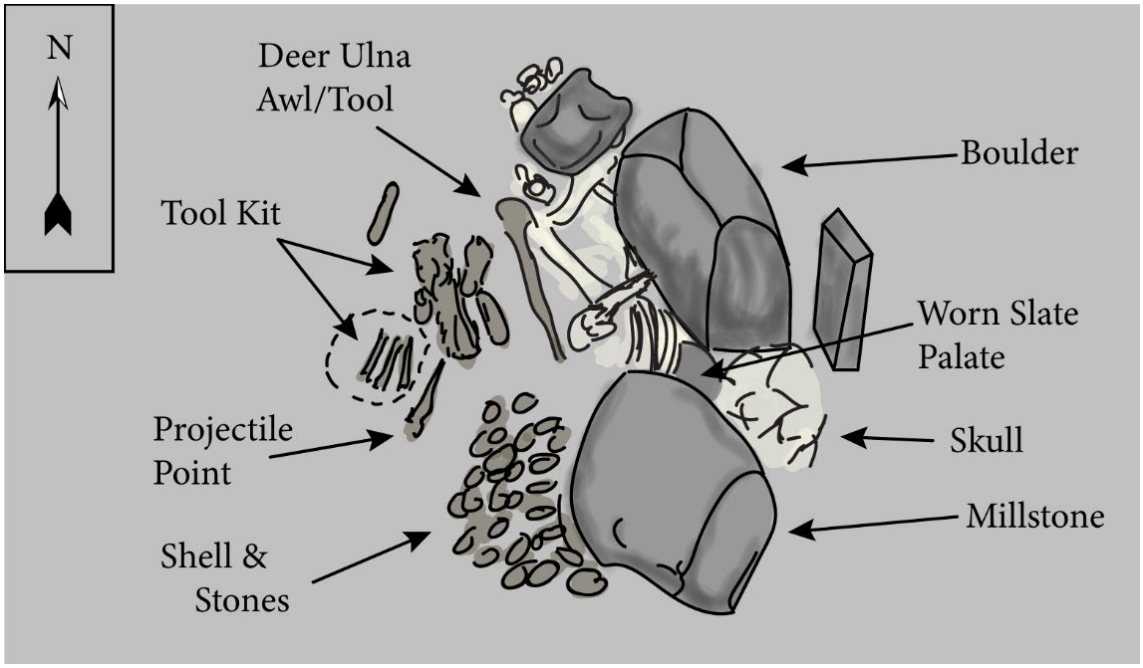

Figure 3.4: Diagram showing in-situ placement of the individual from burial 6 at 1Ct8 based on original burial map created by James R. Foster (1939).

Using multiple lines of evidence, Deter-Wolf and colleagues (2021) provide direct evidence of a tattoo kit recovered from a Late Archaic Period funerary feature at the Fernvale (40WM51) site in Tennessee. This tool kit consisted of small, pointed bone implements, several animal claws, as well as sharpened bone tools reminiscent of awls and billets, along with a stone grinding palette. Experimental archaeology, as well as chemical analysis was able to prove the presence of pigment residue in this case example, as well as a diagnostic microscopic wear pattern indicative of the tattooing process. This example from Fernvale (40WM51) is now regarded as the earliest conclusive tattoo bundle identified in the Southeast.

It is acknowledged that due to the nature of the excavations and protections placed on the remains from 1Ct8, it is not possible to prove the presence of pigment residue, nor to revisit microscopic wear of the implements. Still, the similarities between the objects associated with

these two individuals do suggest a similar purpose for the tools, and perhaps a similar identity or status for the individuals themselves within their groups.

Discussion

Diagnosis of trepanation

A conclusive diagnosis of trepanation in the past is often difficult to achieve. This is particularly true in regions/cultures lacking an accepted history of the practice, and in cases where taphonomic change or poor preservation add additional ambiguity. In such cases, a careful consideration of differential diagnosis is imperative to conclusively argue trepanation, as a number of congenital and pathological conditions can easily lead to similar perforations of the cranium (Ortner 2003; Verano 2016).

In this case example, the location of the opening on the body of the frontal eliminates most congenital etiologies such as cranial dysostosis, which occur along suture lines and convergences, and parietal fenestrae and biparietal thinning which are found on the parietal bones. The complete nature of the perforation on this individual also eliminates cranial meningocoele, which can produce rounded depressions on the cranium, often at suture lines (Kaufman et al. 1997; Verano 2016). Finally, although remodeling is visible on the opening margins, it is primarily neoplastic growth/deposition with minimal resorption present, which suggests an origin within a year of death rather than during development.

Certain cancers such as metastatic carcinoma can be mistaken for trepanation of the cranium, however such openings are often multiple in number, and demonstrate margins with a

"punched out" appearance lacking internal beveling or remodeling (Aufderheide and Rodriguez-Martin 1998; Verano 2016).

In cases such as this where antemortem trauma is observed, injury with a bladed weapon must be given thorough consideration. Certain re-analyses have assessed previously identified trepanations as slice wounds perforating the cranium as far back as the Neolithic period in Europe (Bennike 2003). However, cases of full perforation with a blade are much more likely in cultural contexts where metal weapons were available and prevalent (i.e. sites of historic battles). Weapons documented in the Archaic Period Southeast include projectiles, axes, and other hafted weapons of stone (primarily chert) and bone.

It is of note that the practice of scalping and trophy taking were present, and even widespread, at certain periods in this region and culture (De Vore and Jacobi 2016; Jacobi 2007; Smith 1997). Although it is possible for a stone axe or a scalping implement to cause penetrating cranial damage, additional features of this case seem counter-indicative of such explanations.

First, the presence of extended healing demonstrates that death did not occur immediately. In the case of a weapons trauma, this would mean that the dura matter surrounding the brain was not damaged by the blow, and the attack did not continue after this injury occurred. Further, glancing blows from a bladed weapon often leave additional traces such as scrapes or "chatter marks", radiating fractures, or even stone trace embedded in surrounding bone (Verano 2016). Similarly, perimortem scalping may leave behind subtle cut marks, and if survived, will manifest as a large sclerotic rim encompassing the entire area of skin removal. In the case of the individual from 1Ct8, there are no observable radiating fractures or cut/chatter marks visible, and the region of reactive bone is small and circumscribed immediately surrounding the perforation.

Thus, it is argued that the most likely explanation for the cranial perforation in this case is surgical intervention as trepanation by scraping. This is the most commonly described form of trepanation found in the archaeological record, consisting of the gradual removal of the outer table of the cranium to expose the diploe and ultimately internal cranium, using a sharp implement of stone or other materials (Aufderheide and Rodriguez-Martin 1998; Verano 2016).

Estimating Survival Time

An exact estimate of survival time following trepanation is difficult archaeologically. Osteogenic activity is generally lower in the cranium than in long bones, due to the highly localized stimulation exerted by cranio-facial musculature (Barbian and Sledzik 2008). In addition, age, sex, and overall health can influence healing. Although there is need for additional clinical study, descriptions of healing in modern trepanations suggest several diagnostic features. First, margins of the opening to manifest macroscopic bone remodeling at around 2 months following the surgical event (Nerlich et al. 2003; Partiot et al. 2020). Additionally, it is known that trepanations never fully close, even in instances where no bone removal occurs. Although smoothing of the margins ultimately obliterate the diploe structure, initial healing often manifests as "plaque-like appositional calcifications….attached to the trepanation defects" (Nerlich et al. 2003:43).

Based on the macroscopic direct observation of the individual from FF-6, it is clear that healing has occurred but is ongoing, as the diploe is still partially visible. This suggests that in this case, the trepanation took place a minimum of two to five months prior to death (Nerlich et al. 2003; Partiot et al. 2020). Although healing is not "complete" (i.e. no visible diploe, smooth margins), it is clear that this individual did survive this trepanation procedure.

Conclusion

Overall, physical evidence supports the conclusion that the individual from Funerary Feature 6 at 1Ct8 underwent trepanation by scraping at least two months prior to death. Consideration of the age of the individual, location of the perforation, and remodeling present on the margins of the opening, allows for the elimination of congenital anomaly, neoplasm, major penetrating trauma, or taphonomic damage as explanations in this case. Rather, it is argued that this represents an attempted medical intervention, possibly following traumatic cranial injury. Although no radiating fractures are visible around the perforation, the well healed CDF, also on the left frontal, could suggest additional fractures were initially present, or could itself represent the impetus for surgical intervention.

Traumatic injury to this region of the frontal above the eye can cause damage to the supraorbital nerve, leading to supraorbital neuralgia. This painful condition can cause intermittent but significant regional pain and sensitivity, as well as sensory dysfunction (Evans and Pareja 2009). Trepanation is most commonly utilized as a treatment for cranial trauma, however may also be an intervention for headaches or neurological disorders such as epilepsy or seizures. Some interpretations have also explored religious or magical role for trepanation in the past (Alt et al. 1997; Aufderheide and Rodriguez-Martin 1998), yet archaeologically we can only speculate on such non-traumatic motivations for this high risk surgery.

In the case of the individual from 1Ct8 FF-6, there is clear evidence to support trepanation as treatment for trauma or pain, but there is also possible support for a magico-ritual motivation. In particular, the artefacts recovered in association share numerous consistencies with previously documented examples of toolkits which may have been used for tattooing or

scratching/bloodletting from other Archaic funerary features in the Southeast (i.e. Deter Wolf et al. 2021, Stewart 2020). Ethnographic accounts suggest that the identity of such practitioners within the community were associated with supernatural powers and ritual (Swanton 1928, 1931). Although the exact nature of this individual's identity is speculative, the potential link between the observed trepanation (and any associated behavioral changes), the differential mortuary treatment, and extensive tool kit must be acknowledged.

Overall, this case provides the earliest known evidence for the practice of trepanation in the Southeastern US, and likely in North America overall. It also represents the only documented example of trepanation from the pre-sedentary, Late Archaic Period of the region. This early cultural period has often been assumed to lack the social and cultural complexities of later agricultural, sedentary periods (i.e. Mississippian). Although the reason(s) for this trepanation will likely remain uncertain, the mortuary associations and link to differential status do suggest the possibility of a magico-ritual motivation. Not only does this case support the presence of complex healthcare behaviors during the Archaic Period, but also the potential existence of complex ritual identities and practices among these early groups. It is hoped that this single case example will lead to the re-evaluation of other crania from this region, and possibly the identification of additional examples of trepanation in the Late Archaic Period Southeast.

CHAPER 4: Performance, Ritual, and the Passage of Time: A Holistic Interpretation of Life and Death in Middle and Late Archaic Period North Alabama ((8,000-3,000 BP)." Article being prepared for the *Journal of the Southeastern Archaeological Conference (SEAC).*

Introduction to the Chapter

This chapter begins with an overview of the Shell Mound Archaic, detailed archaeological context of the Little Bear Creek Site (1Ct8), followed by a full summary of bioarchaeological methods utilized for this project. Primary focus is given to life, death and mortuary ritual during the Archaic Period occupation of the Little Bear Creek Site (1Ct8), with the individuals from Mulberry Creek (1Ct27) presented for comparison. General demographics, frequency type and severity of both pathology and trauma are presented in the results section and are evaluated to explore connections to features of funerary treatments and offerings. Interpretations are made considering observed trends within the community, as well as through presentation of several notable individuals in relation to argued ritual violence, as well as mortuary treatments which have likely previously been misinterpreted as violence or trophy taking.

The broader research questions relevant to this publication are as follows:

- *Does observed perimortem violence correspond to other factors of biological or cultural identity such as age, sex, health, and mortuary treatment within this group?*
- *How do patterns of perimortem violence and postmortem processing change over time during the Middle and Late Archaic Periods within the MTRV?*

- *Do changes in these patterns correspond to known cultural or ecological changes? (these include: nonlocal trade, production, habitation, the collapse of Poverty Point, drought, flooding, famine or disease)*
- *How does this relate to social differentiation (hierarchy or heterarchy) within these pre-sedentary hunter-gatherer groups through time?*

Abstract

This paper is drawn from a larger research project which took a holistic biocultural approach to interpreting the forms and patterns of violence taking place at two neighboring riverine shell mound sites in North Alabama. Bioarchaeological consideration of age, sex, pathology, trauma, and perimortem processing are supplemented by archival records to consider mortuary treatment and site use over time. This allowed for the nuanced consideration of individual experience and community norms. Of primary interest for this work was the interplay between individual identity throughout life, circumstances surrounding death, and ultimate treatment of the individual after death. In particular it was speculated that perimortem death caused by violence could confer a deviant (possible negative) status to the individual which would be reflected in deviant funerary treatment.

Although some individuals with perimortem fractures or cut-marks were observed as having deviant funerary treatments, there were a number of other individuals who did not. Based on this, this article proposes a cultural landscape in which postmortem processing, and even possibly removal of body parts, were not exclusively the result of violence or aggression between enemies or malicious intent. Specifically, it is argued that the Archaic Period

community at the Little Bear Creek site (1Ct8) in the Middle Tennessee River Valley of North Alabama, regularly enacted funerary rituals of extensive processing or long-term curation for certain individuals after death. In particular, evidence of such processes in the form of cut-marks, perimortem fractures, and identification of secondary funerary features, are identified for numerous juvenile individuals at this site. Although violence and trophy taking were clearly occurring at these Archaic sites, it is likely that the frequency is being over-estimated through misidentification of this and other mortuary related activities.

Introduction

Bioarchaeologists have long recognized that there are few things more salient in the course of human life than the events surrounding death. However, it is only in recent decades that the field has moved away from a focus descriptive studies based on frequencies of disease and trauma. Modern bioarchaeology uses social theory and innovative methods to provide a nuanced and contextualized consideration of the lived experiences of life and death in the past (Agarwal and Glencross, 2011; Martin, Harrod, and Pérez, 2013; Zuckerman and Armelagos, 2011). Bioarchaeological studies of mortuary treatment, politics, disability, and violence now commonly examine variation in perception and experience beyond the level of the decedent to synthesize the perspectives of perpetrator, victim and witness within any particular context (Agarwal and Glencross 2011; Byrnes and Muller 2017; Klaus et al. 2017; Tilley 2015; Zuckerman and Martin 2016). For example, with regard to studies on violence, holistic approaches like this have yielded major developments toward understanding the performativity of violence, warrior identities, and how victims are chosen and subjected to such acts.

Within the Southeastern U.S., bioarchaeological approaches to violence, intersectional identity, and mortuary ritual have been successfully applied by archaeologists to Late Woodland, Mississippian, proto-historic, and post-colonial populations (Cobb and Giles 2009; DiGangi, et al. 2009; Herndon 2015; Jones, et al. 2017; Powell 1988; 1991; Stojanowski 2013; Sullivan 2006; Waselkov and Smith 2017). However, few studies have sought to integrate such complex interpretations into analyses of early precontact Archaic Period (10-3,000 BP) individuals and groups.

This is largely attributed to the assumption that complex identity, ritual, and social differentiation are characteristic of sedentary agricultural populations, and are thus expected to be absent from mobile or Semi-mobile Archaic Period groups of the Southeast. It is generally assumed that all Archaic Period shell mound sites had a single use and purpose, and that all behaviors taking place should similarly follow a clear pattern through time and space.

In this case, the expectation of a unifying pattern to these behaviors further confounds an understanding of these complex cultural phenomena. There is no "single pattern" to material culture, human behaviors, or social identity at these sites. However, the long term maintenance of low- level violence during the Archaic Period (i.e. occasional inflicted injury or killings) without attempted environmental or behavioral mitigation (i.e. palisade construction or site abandonment) supports the deeper meaning and power behind such actions. This is rooted in the idea that the suite of changes occurring in this region throughout the Archaic contradicts a single proximate causative explanation, such as environmental change or resource competition. Rather, the diversification and proliferation in trade and production of non-utilitarian goods, violent interactions, the provision of care, and forms of funerary features enacted at these sites through

the Late Archaic suggest the fluorescence of new beliefs, ethnogenesis, and embodiment of new experiential identities well before the Late Woodland or Mississippian period.

Direct violence, widely documented within the early precontact Southeast, takes the form of projectile point injuries, cranial blunt force trauma, and diverse trophy taking behaviors. Explanations for such cases typically rely exclusively on proximate or ecological explanations, with all violence viewed as inherently negative, deviant and maladaptive (Carstens and Watson 1996; Claassen 2010; Milner 2007; Sassaman and Anderson 1996). However, these explanations fail to account for the proliferation and diversification of perimortem (around the time of death) traumas which emerges and endures during the Middle and Late Archaic Period in the midsouth, particularly in Middle Tennessee River Valley (or the MTRV) of North Alabama and surrounding riverine localities of the central Southeast.

In addition, few analyses of localized ritual have taken a synchronic and diachronic perspective to these behaviors in relation to widespread socio-cultural patterns and changes also taking place in the region. Long discussed and documented Archaic Period phenomena such as "Benton caches" and the "Shell Mound Archaic" (Anderson and Sassaman 2012; Claassen 2010; Sassaman 2010a; 2010b) are still not fully understood, although are generally attributed to complex ritual and exchange among these groups. Additionally, major ecological and socio-economic changes throughout the Archaic have uncertain links to culture, lifestyle, and site use throughout the Period. Thus, it is certainly possible that a deeper understanding of ritual violence and mortuary rituals could provide the key to a holistic understanding of Archaic life in the Southeast.

Indigenous violence can both create and support as well as violate and destroy identities and in this way causing chaos while also leading to social transformation and regeneration

(Chacon and Dye 2007; Chacon and Mendoza 2007; Whitehead 2004). Although the intensification of violence can serve as a negative reaction to a brief, rapid change in environment or interaction, this attempt at mitigation can also create powerful links of social cohesion among human groups; as behaviors are performed and reproduced through time and space, they become ritualized. It is these ritualized behaviors, repeated through time and space, which can be identified retroactively through archaeological analysis.

Considering the gap in our understanding of Archaic violence, meaning, and ritual, this study took a contextual, biocultural approach to mapping patterns of violence synchronically and diachronically. The study of ritual and violence within these Middle and Late Archaic Period groups is particularly important for a deeper understanding of concurrent changes in settlement and interaction observable within the archaeological record, as well as the complex violence and political structures of later precontact periods. The broader study referenced here examined osteological data, as well as local and regional context to consider the populations of two sites within the Western portion (Pickwick Basin) of the MTRV of Alabama, Mulberry Creek (1Ct27) and Little Bear Creek (1Ct8) (see Fig. 1.1). Primarily focus for this paper is given the individuals recovered from the Little Bear Creek Site (1Ct8), but the Archaic Period individuals from the Mulberry Creek Site (1Ct27) are considered for comparison when relevant.

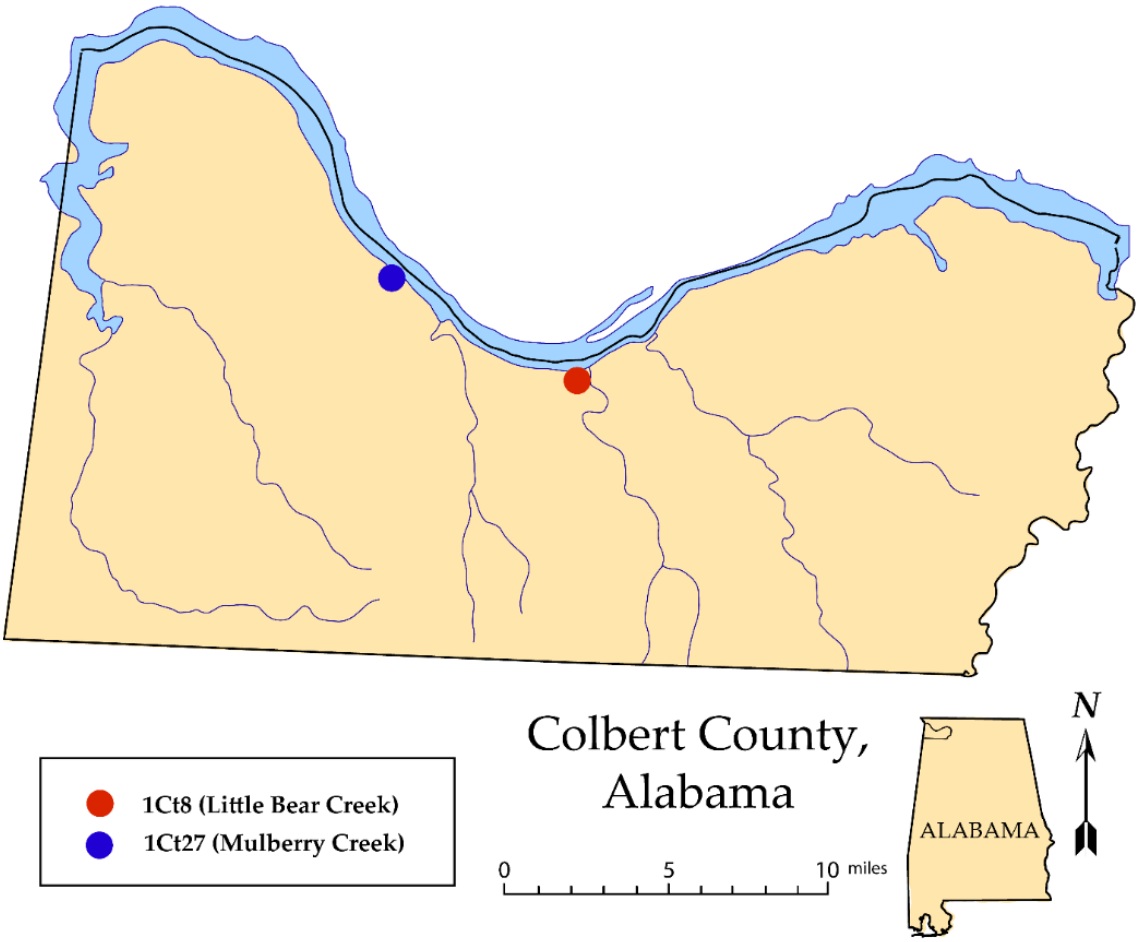

Figure 4.1: Showing a portion of the region of focus for this study, the Pickwick Basin of the MTRV, located in Colbert County, Alabama. Dots indicate the location of the two shell-mound sites for which individual remains were directly documented by the author.

Due to the long duration of the Archaic Period, it is not yet possible to define nuanced change in lifestyle and practice from one generation, or even one century, to another. Thus, an integral part of this analysis was a full scale re-assessment of excavation records and mortuary data. Variation in post-mortem treatment and placement/interment of the body was examined in detail to consider and refine existing basic typologies created by early culture historians. Known patterns of change through time for ceramic and lithic technology were used to extrapolate a

chronology of each single, or group of, funerary features whenever possible. This was then considered in relation to patterns in overall health during life, as well as antemortem violence/trauma.

The direct data collection for this study was accelerated by necessity with osteological observation being carried out during 2017-18 due to the impending repatriation of these remains; a deadline with was reached in summer of 2019. Although the individual remains are no longer available for additional direct examination, the raw data collected hints at the exceptional potential of a holistic interpretive approach. This study seeks to consider existing data and takes a contextual approach to deeper interpretation. By factoring in a substantial body of archival, ethnographic, and ethnohistoric sources, it is possible to consider how ritual violence articulates with individual biology, life-course, and mortuary treatment.

Cultural Context: The Middle and Late Archaic Period Southeast

The "Shell Mound Archaic (SMA)" refers to the widespread phenomena wherein precontact human groups collected and mounded shell into often massive deposits over the course of decades or centuries. Such archaeological sites are widespread in the Eastern U.S., concentrated along the major valleys of the Ohio, Kentucky, and Tennessee Rivers, with links to the smaller shell ring sites of the coastal Southeast (Anderson and Sassaman 2012).

There is no single trait which identifies the SMA, however, it is identifiable within each particular regional chronology based on the appearance of unique funerary object inclusions. For example, tubular stone beads and banner stones, shell beads, pendants or cups, Benton projectile points, and human remains as trophy items all appear throughout most of the SMA range.

Although the majority of SMA sites contain funerary features (Claassen 1991; 2010), many regard this as a consequence of habitation rather than the result of formalized cemetery use (Milner and Jefferies 1998). It has also been suggested that over time, the act of interment within the mound would have created ancestral ties to the land, possibly fostering decreased mobility and aggregation (Walthall 1980). However, it is clear that overall occupation and habitation of these sites during the Archaic Period was highly variable through time and space.

Much of our understanding of the SMA is centered in interpretations formed from the Green River Valley shell mound sites of Ohio and Kentucky (Anderson and Sassaman 2012; Claassen 2010; Mensforth 2001, 2007). This is due to a larger number of modern excavations of sites in the region, and an emphasis placed establishing an understanding of contemporaneous non-mortuary sites in this locality. Thus, it is this region which provides the most well-studied comparative examples for the Archaic Period sites in the MTRV.

David Anderson and Kenneth Sassaman (2012) report over 3,000 documented Archaic Period funerary features from Green River sites. These originate both from large shell-bearing sites like Indian Knoll, Carlston Annis, Chiggerville and Read, as well as non-shell bearing sites in the region like Ward and Kirkland (Haskins and Herrmann 1996; Hensley 1994; Milner and Jefferies 1998; Webb 1946).

Although widespread throughout the major river valleys of the Midwest and Midsouth, SMA sites are not observed in all riverine localities, nor every location with major shellfish resource availability (Claassen 2010). The consistent re-occupation of these same sites over millennia indicates that these mounds represented deeply meaningful "persistent places" (Schlanger 1992; Thompson 2010) through time for the occupants. This also suggests that any violence occurring at these localities would also have been imbued with meaning, ritual, and

performance. In fact, Anderson (2010) has posited the possible power of ritualized violence in the Late Archaic Southeast as a way to acquire status, control resources, or maintain buffer zones between groups (Dye 2009; Smith 1996).

Currently, based on the presence of lithic workshops and hearth features, it is believed that most SMA sites represent semi-permanent settlements during the Middle Archaic (6,900-3,800 BC) (Milner and Jefferies 1998; Shields 2003) but shifted toward usage as seasonal aggregation sites of ritual practice and feasting during the Late Archaic (3,800-1,000 BC) (Anderson 2010; Carstens and Watson 1996; Claassen 2010). For example Cheryl Claassen (2010) argues that a small number of such sites may have begun as villages, but primarily were:

> "places where major short-term gatherings were held to conduct significant rituals during which or for which captives and trangressors of mores were dispatched and buried, and where a subset of the dead from several social groups were interred ceremoniously. Archaic social life was made up of many parts, the most significant of which were these ceremonial aggregations." (Claassen 2010:134)

This interpretation is based on the pattern of multiple periods of abandonment, followed by re-occupation visible in the stratigraphic record of these sites (most notably, during the Woodland Period with reoccupation during the Mississippian). This sort of cycle is not typically expected for villages, but is often seen at known ritual centers. Rituals themselves may be abandoned, changed, or developed anew, often in the footprint of the old rituals thereby maintaining a link to the past.

Within this model, shell mound sites were used for repeated seasonal gatherings of oft-disparate groups for the exchange of ideas and goods, feasting, and interment of the dead. Claassen regards these sites as physical localities of major ideological and cosmological activity, such as human sacrifice and rituals of renewal. Within this proposed system, violence and other

rituals represent the competition for power not between human individual combatants, but rather among the individual and the supernatural (i.e. the cosmos or deities) (Claassen 2010; 2015). Unfortunately, the surety of this argument is hindered by the questionable chronology of many SMA sites. A deeper understanding of mortuary variability through time and space has been touted as one of the most viable solution to this issue of chronology (Anderson and Sassaman 2012:99).

Linking Violence and Mortuary Behavior in the Archaic Southeast

It is now acknowledged by many that mortuary treatment in the Archaic Period Southeast does not conform to a simple culture materialist explanation. Early scholars like Webb (1946) and Walthall (1980) often argued that observed patterns of interment were driven by seasonal mobility and basic logistical concerns, generally suggesting a "lack of veneration for the dead" (Webb 1946:246). This has ultimately led to the argument for an absence of formal or corporate cemeteries within the Midsouth and lower Southeast region (see Clay 2022).

If we consider the MTRV sites as generally most similar to the Archaic Period Shell Mound sites of the Green River in Kentucky, many scholars do not regard these locations as formal corporate cemeteries. For example, Buikstra and Charles (1999) contrast Kentucky SMA sites with the contemporaneous sites of the Lower Illinois Valley where bluff sites are argued to represent formal cemeteries sensu Saxe-Goldstein. These bluff localities are generally reserved for the interment of youths and middle aged individuals, with the very young and very old concentrated mostly at flood plain locations. In this model, it is argued that the bluff locations, favorable for defense and resource access, were used as markers of territory through the inclusion of the "most active" members of the group.

Overall, the connection between perimortem violence (or violent death) and mortuary treatment is uncertain in the Southeaster Archaic. Claassen (2010) has previously argued for a link between suffering a violent death and being placed "on the back" during interment, as well as the inclusion of shell-bead funerary offerings (more often found with juveniles and infants) with adult individuals. However, these links appear anecdotal, often based simply on original site reports which usually simplifies funerary forms into a handful of basic and descriptive categories absent of social theory or deeper interpretation.

Still, it is of note that some Archaic Period individuals from the MTRV argued to be victims of violence and/or trophy taking also demonstrate a-typical mortuary treatment (partial cremation, placed face-down, covered with boulders, large caches of funerary objects, etc.) (Chronister 2006; Jacobi 2007). This suggests a definite basis for the link between funerary placement and perimortem violence during the Archaic time period in the MTRV; a topic in need of additional study.

Site Selection and Bioarchaeological Methods

The Little Bear Creek Site (1Ct8)

Although many of the surrounding sites in this river basin were excavated by the Works Progress Administration prior to the construction of several hydroelectric dams, the Little Bear Creek Site (1Ct8) was not initially identified as "at risk" from the flooding ensuing from dam construction due to its location slightly removed from the main river. It was finally excavated in the subsequent years of 1938-39 due to significant flood damage, and the results were published in a small museum publication (Webb and DeJarnette 1948b) rather than the widely

disseminated, larger, Pickwick Basin Report (Webb and DeJarnette 1942). Because of this, the materials and results from this site have not been widely analyzed, published, or considered within the context of the broader shell mound archaic of the Southeastern US (though Curren (1974) examined zooarchaeological remains from the site).

Strata and Features

Excavation at Little Bear Creek (1Ct8) took place between December 1938 and June 1939 and was plagued by periods of extreme and rapid flooding. Due to this, the approach to excavation was variable among the three different blocks, with Block 1 excavated using one foot levels within five foot squares, regardless of features or zones.

Table 4.1: Observed site zones from original excavation (created based on Webb and DeJarnette 1948b).

	Description	Average Thickness	Temporal association
Zone A	Shell and midden material suspended in silt soil	2.75 ft.	FF in this layer Mississippian
Zone B	Silt soil and ash, shell found in lenses, minimal midden material	1.25 ft.	Later Late Archaic, possibly some Early Woodland. Not living long at the site? Mostly for feasting only?
Zone C	Humus zone, "considerable shell" slightly consolidated	1.75 ft.	Main occupation, Early to Middle Late Archaic
Zone D	Argillaceous silt and shell, consolidated. More humus material than above zone	2.25 ft.	Middle Archaic 150-200 cm Middle Archaic projectile points at 150-200 cm

Consistent with other Archaic Period mound sites in the area, the Middle Archaic Period occupation of this site is delineated stratagraphically based on the appearance of stone tools, and specifically stone tool production workshops. Workshop areas at 5.5 and 3.5 feet in depth (above and in "Zone D" in Table 4.1) are visible as major concentrations of debitage, consisting of mostly blue gray chert. Such locations and materials have notably been linked to the appearance of Benton caches in surrounding localities, possibly supporting the region as a source for ritually important Benton projectile points during the Middle Archaic Period. Such points were common mortuary inclusions, and often decrease in size in proportion to the distance from this northern portion of Alabama, suggesting many of these points were produced in the area (Johnson and Brookes 1989).

Unfortunately, it appears that few Middle Archaic funerary features were recovered, as the high water table during excavation prevented progress below roughly 244 cm (the bottom of Zone D). Although the primary focus here was the Archaic Period occupation of the site, it is of note that a minimum of 27 funerary features were identified as "Koger's Island", a type which corresponds to known features of the Mississippian period. These funerary features are consistently described as "intrusive" into existing habitation layers at the mound, did not exceed a depth of ~2.75 feet (76.2 cm), and were generally accompanied by sherds or complete vessels of shell tempered pottery.

The Mulberry Creek Site (1Ct27), presented for comparison below, was excavated by the WPA in 1939, is often touted as the "epitome" of an Archaic Period shell mound site (Dye 1996), it is known for the presence of a triple interment suggesting violence, and a human crania bowl. Part of the initial large scale WPA excavations of the first half of the 20th century, the

results of this site and resultant analysis of lithics, pottery, and human remains were published in the large Smithsonian “Pickwick Basin” Report (Webb and DeJarnette 1942).

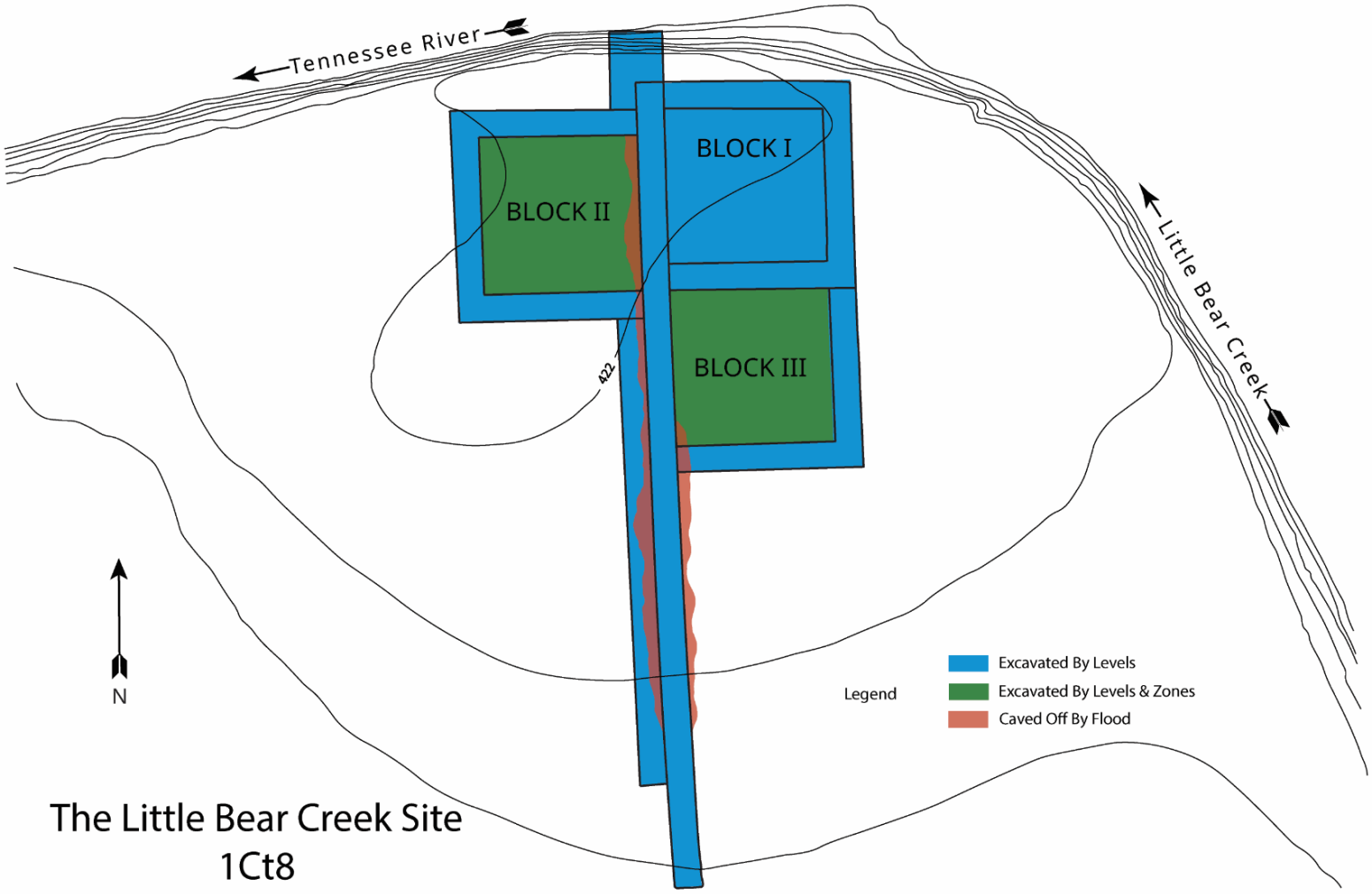

Figure 4.2: Map showing the excavation plan followed at the Little Bear Creek Site (based on Webb and DeJarnette 1948b).

Skeletal and Contextual Documentation

Most recently, these ancestral remains were housed at the Alabama Museum of Natural History's Laboratory for Human Osteology where a NAGPRA inventory was undertaken and completed (2016-17) and were returned to modern descendant communities of the Chickasaw Nation in 2019. As previously mentioned, direct osteological documentation of the Archaic Period Individuals from two Pickwick MTRV sites was completed out of necessity during the summer of 2018.

Preliminarily, each individual recovered from these sites was documented by physical anthropologists and/or medial doctors in the early 20th century following completion of the recovery effort. The original records from this project generally included observations of biological sex, estimated age, which major skeletal elements were present (or absent), and a brief description of any major or noteworthy pathologies observed. At this point within the field of osteology, differential diagnoses of disease was limited, and the possibility of violent injury or trophy taking was rarely considered (exceptions can be seen for cases where projectile points were recovered still embedded in bone). Particular focus was given to establishing physical "types" to differentiate "Shell Mound" and "Koger's Island" populations at each site. Consistent with prevailing views on racial typology and pseudoscience of the time, it appears that this typology was primarily based on features of the skull with particular attention given to any case of cranial modification (primarily observed in Koger's Island [Mississippian] individuals).

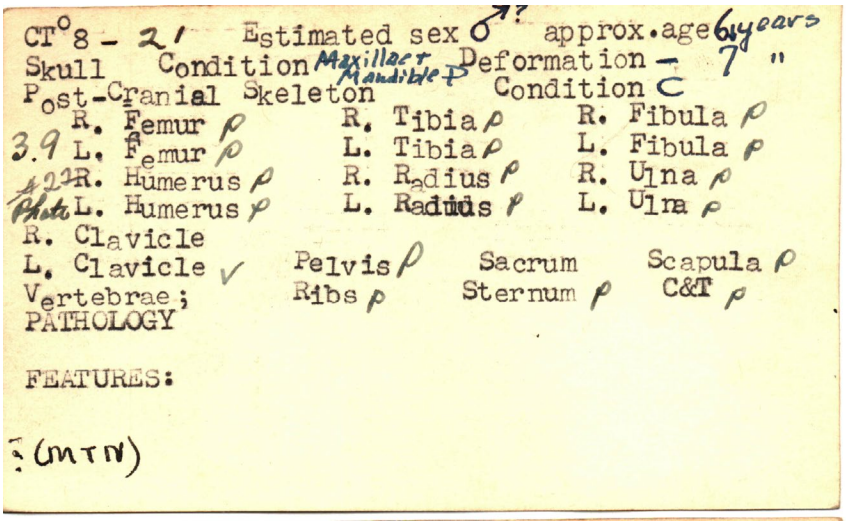

Figure 4.3: Example of original documentation cards prepared by Charles Snow et al. Note sex estimation was given for this 6y/o juvenile individual, and no trauma was noted. During modern re-documentation, this individual was found to show evidence of cut-marks and processing on the post-crania.

As noted by similar studies reexamining WPA sites, the ability of early analysis to determine skeletal age was inconsistent and often imprecise (see Millner and Jeffreys 1998). The largest confidence can be given to the original designation of adult/juvenile categories, and the correct age was often reported for juvenile individuals. The accuracy greatly decreases for older individuals, particularly those who have been most recently aged to 40+. Such individuals were often given a much younger age designation by early researchers. Additionally, determination of biological sex was made for any relatively complete individual, with juvenile individuals being classified as possible male/female from as young as 2 years of age. It is these demographic statistics which are still being utilized by modern researchers who make mention of the Little Bear Creek Site (see Claassen 2010).

These original reports for all individuals recovered from 1Ct8 identified 164 funerary features in the field, with 71 male, 69 females, and 24 of unknown sex (primarily infants or

highly fragmented/cremated individuals). The re-analysis for osteological sex at 1Ct8 has yielded a vastly different result, with all juvenile individuals excluded from any designation of sex. By comparison, modern analysis of all individuals recovered from Little Bear Creek (1Ct8) examined 165 total funerary features (suspected that the additional individual resulted from lab mixing of trophy bones), with 38 males, 36 females, 76 juvenile, and 15 adults of unknown sex.

Table 4.2: Comparing results of WPA documentation with those of the modern inventory completed prior to repatriation for all individuals recovered from the Little Bear Creek Site (1Ct8).

Variation in Recorded/Observed Osteological Sex		
	WPA	Modern
Male	71	38
Female	69	36
Juvenile	---	76
Unknown	24	15
Total	164	165

Other modern re-considerations of MTRV sites have taken variable approaches and foci (Bridges 1991, 1996; Bridges et al. 2000; Chronister 2006; De Vore et al. 2018; De Vore and Jacobi 2016; Gilliland 2020; Herndon 2015; Jacobi 2007; Morgan 2016; Owens 2010; Shields 2003; Simpson 2017; Smith 2010; Stewart 2014; Stewart 2020). At minimum, preliminarily every individual from each site was observed for an inventory of skeletal elements. Each of the possible 206 bones in the adult body were scored as present or absent. When present, each bone

was further scored as complete, incomplete, or fragmentary. Duplicate elements originating from a single funerary feature, or any which were inconsistent with observed age or taphonomy of the primary individual, were considered an additional individual within the funerary feature. In some cases, field records allowed for such superfluous elements to be reassociated with other individuals originally recovered in close proximity.

Next, each individual was scored as juvenile or adult. Juvenile individuals were then examined for age with priority given to fetal development, dental development, and epiphyseal closure when possible (Buikstra and Ubelaker 1994; Cunningham et al. 2016). As biological sex cannot be observed skeletally until after sexual maturity, juveniles were not categorized as male/female, but rather simply as "juvenile."

For age estimation of adult individuals, priority was given to the pubic symphyseal surface whenever sufficiently preserved. When not possible, the auricular surface of the ilium, cranial suture closure, and dental wear/attrition were considered for older individuals, with epiphysial fusion/resorption and dental eruption used to narrow the range for young-adult individuals (Brooks and Suchey 1990; Buikstra and Ubelaker 1994; White et al. 2011). Generally these approaches to aging for both adults and juveniles, resulted in an estimated age range, often between 1-5 years depending on the completeness of the individual.

For the sake of data input and analysis, these ranges were simplified to the median age of the range given. For example, an adult individual estimated between 20-25 years of age was scored as 22.5 years of age. For particularly young or old individuals this pattern was altered slightly, with perinate and neonate individuals (not scorable for age in months) both recorded as 0 years of age, and elder individuals (those scored at "50+" years), recorded as 50 years of age.

For adults, determination of biological sex was made primarily through consideration of the pubis, with additional standards for sexing from the pelvic girdle, or the cranium if needed (Buikstra and Ubelaker 1994; White et al. 2011). In cases of major ambiguity, or in the absence of these criteria, analysis of the femoral head (Bass 2005) or femoral midshaft circumference (Black 1978) were used as additional support for sex determination. Any individual for whom biological sex or age appeared contradictory between the different indicators was noted for further consideration.

Pathology was then considered as mild/moderate/major path that is age related, and path that is major/not age related. This is due to the recognition that the impacts of pathology can be influenced by cultural norms and systems of support for very young/very old individuals within a group. For example, moderate or even severe arthritis of the spine, wrists, or hips was commonly observed among older adults in this population. Thus, it is argued that any limitations to activity or mobility caused by arthritis in an older adult would likely be experienced and perceived differently than such physical limitations in young adult individuals. In this way, the lived experience of specific pathological conditions would differ greatly based on the complex intersection of numerous identity categories.

Each pathological condition observed was fully documented and described, with particular attention given to possible biological or mechanical cause, as well as any other potentially associated conditions elsewhere in the body. Using this information, a differential diagnosis, and additional considerations are made possible for each individual. For example, cribra orbitalia, porotic hyperostosis and infection of the cranium are all indicators of stress and disease during specific phases of growth and development (Brickley 2018; McIlvaine 2015; Oxenham and Cavill 2011; Rivera and Lahr, 2017; Ortner 2003; Walker et al. 2009). These

changes can be informative relating to overall social status, or past periods of population pressure or stress when identified in adult individuals. Other factors are suggestive of health and status immediately leading up to death. For example periosteal reaction/nonspecific infection provide a general suggestion of disease, physical trauma, or parasitic infection, and can thus be suggestive of periods of famine, or lack of resources at the individual level during adulthood (Aufderheide and Rodrigues-Martin 1998; Buikstra 2019; Grauer 2012; Ortner 2003).

Specific skeletal markers of activity which were observed during data collection were considered in relation to possible daily activities, stress, or strain being placed on the body (Mann et al. 2016; Mariotti et al. 2007; Milella et al. 2012). For example, robust muscle attachment of one shoulder can suggest handedness and use of atlatl or other tool, superfluous facets of joints can suggest extensive squatting, and unique dental wear can support the use of teeth as a tool. For older individuals, patterns of arthritic development can also support specific types, and overall frequency of activity throughout the life-course.

Finally, individuals with observable trauma were considered in relation to possible causes and timing. For cases where trauma was observed, a further score was given for perimortem, antemortem, or both. Each individual with trauma(s) was considered as a whole to parse out possible relationships between injuries. All examples of trauma (cuts, fractures, etc.) were described in detail and classified as “possible violence”, “probable violence”, “mortuary processing”, or “unclear”. For individuals with observable cut-marks, a variable was created for location (cranial only, cranial with missing postcranial elements, postcranial only, postcranial with missing cranium, and both cranial and postcranial).

In cases where trauma was observed, individuals were then scored for “Number of Trauma Zones” (NTZ). This variable included both healed and unhealed traumas (excluding

postmortem/taphonomic damage) through the body. When fractures or other trauma were present in a zone, a value of 1 was added to the total individual score. In this way, multiple or repeated traumas in the same zone were not given greater weight than a single trauma in a specific zone. Unlike scoring for total number of fractures or trauma(s), this approach helped to control for injuries or events which resulted in multiple fractures to neighboring elements; such as a blow to the face causing fractures of numerous facial bones, or a hand injury causing fractures to multiple bones within the hand and/or wrist.

Due to the recognized prevalence of possible trophy taking behavior within this population, particular attention was given to the documentation of any cut marks throughout the body. Generally it is accepted that cuts indicative of trophy taking appear in a "nonrandom" pattern of some kind at the individual or community level. Within this region, previously argued cases of trophy taking have included scalp or facial trophies, along with full heads or other limb trophies. Such interpretations are based on cut-mark location, as well as missing body parts in-situ. It is also acknowledged that certain patterns of cuts on the body are indicative of other processing activities, such as mortuary treatment, rather than perimortem violence (Simpson 2017; Smith 1997). With this in mind, it was necessary to carefully consider the likely formation processes for each observed cut on skeletal elements, as well as the entire biological profile and mortuary treatment of the individual as a whole (De Vore and Jacobi 2016; Passalacqua et al. 2015; Redfern 2016; Ross et al. 2019; Smith 1997; Spencer 2012; Wedel and Galloway 2013; White 1992).

Indirect evidence of trophy taking was also considered, however absence of elements (i.e. cranium, hands, feet) during documentation were corroborated with funerary maps to ensure lab mixing was not responsible. "Probable violence" was assigned for individuals with direct

skeletal evidence of perimortem inflicted trauma and/or cut marks indicating trophy taking. "Possible violence" was assigned for individuals with indirect skeletal evidence of violence. Therefore, even individuals with multiple missing body parts, the designation of "possible violence" was still given if no cut marks could be observed. For example, the individual from Funerary Feature 22 at 1Ct8, upon recovery was observed to be missing much of the left and right legs and arms, as well as the cranium. However, as no cut-marks were observed on the remains present, this individual is still considered "possible violence."

NAGPRA guidelines established by the living descendants of these ancestors prohibited destructive analysis and the transportation of the remains outside the storage facility. The publication of scientific photographs of these skeletal remains or mortuary artefacts would also violate the wishes of the living descendants, although illustrations are permitted. With this in mind, when pre-existing archival photographs were available for review, digital illustrations were be made by hand using a Wacom™ digital tablet and the Adobe Illustrator™ with focus to detail and scale. This will help serve as a record of unique cases within this population and allow for dissemination of visual imagery while still respecting the wishes of descendant groups.

To allow for a full contextual interpretation of each individual as well as the site overall, osteological observation was later supplemented with any available archival documents and records. These records include original funerary diagrams, archival photographs, notes on associations and excavation, as well as analysis of recovered artefacts. Most of these records have not been directly considered in decades.

Results: Life and Death in the Archaic Period MTRV

Demographics: Age and Osteological Sex

Webb and DeJarnette (1948b) describe 163 individuals recovered from Little Bear Creek (1Ct8); after the exclusion of non-Archaic individuals, this project examined an MNI of 134 individuals. Osteological analysis of those with sufficient preservation was performed on 118 individuals (full cremations were excluded). Statistical analysis based on mortuary variables was performed whenever possible, however only 54 individuals had sufficient context and documentation to be factored into all mortuary considerations.

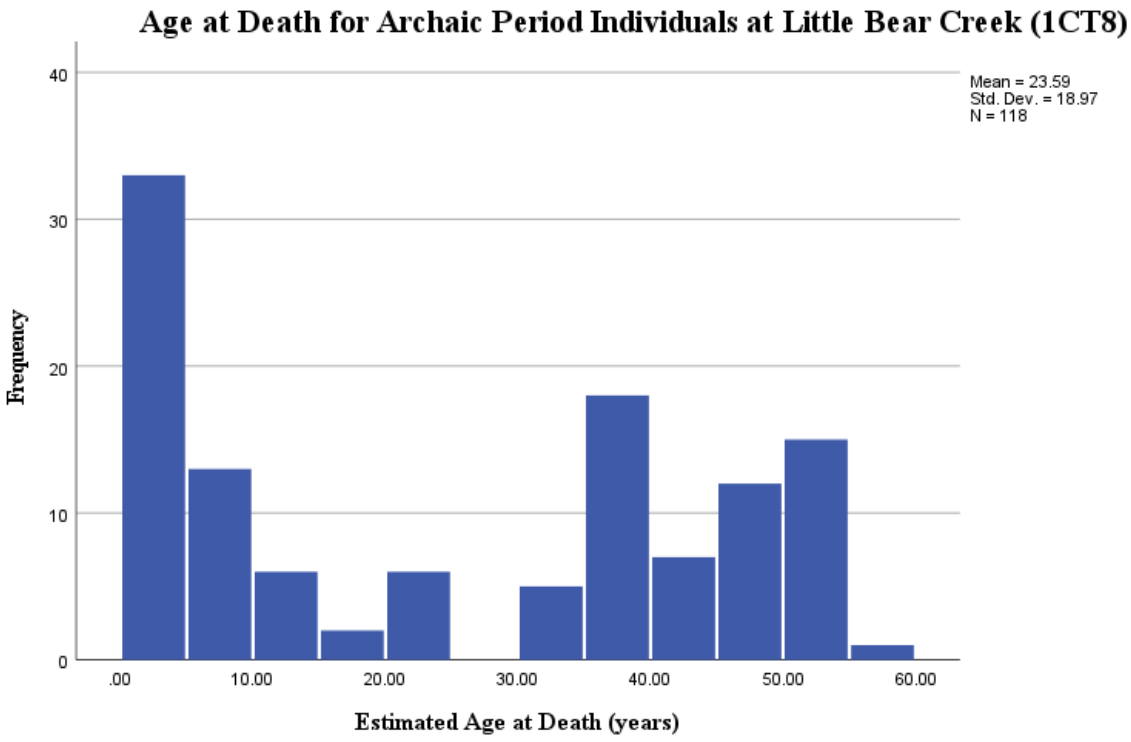

Figure 4.4: Bar graph showing the frequency of different ages at death for the observable Archaic Period individuals recovered from the Little Bear Creek Site (1Ct8).

Of the individuals considered at Little Bear Creek (1Ct8), thirty four were adult males (n=34), twenty seven adult females (n=27), and three adults of unknown osteological sex (n=3). Fifty four individuals were juveniles (for whom osteological sex could not be observed) (n=54). The distribution of age at death, shown in Figure 4.5 above, show the largest age category was made up of infants and children under five years of age at death. It then appears that mortality risk decreased through childhood, and began to increase again through adulthood. This sort of reverse normal curve trend in age data is consistent with many pre-sedentary communities such as this on a global scale. However, the observable spike in the number of individuals of between thirty five and forty years of age at death could suggest an elevated risk for such individuals.

A similar pattern of high infant mortality is observable within the community at Mulberry Creek (1Ct27), shown in Figure 4.6 below, however the frequency spikes observed at ages 10-15, and from 30-45 indicate this community might have been facing different lifestyle factors and survival pressures than those at Little Bear Creek (1Ct8).

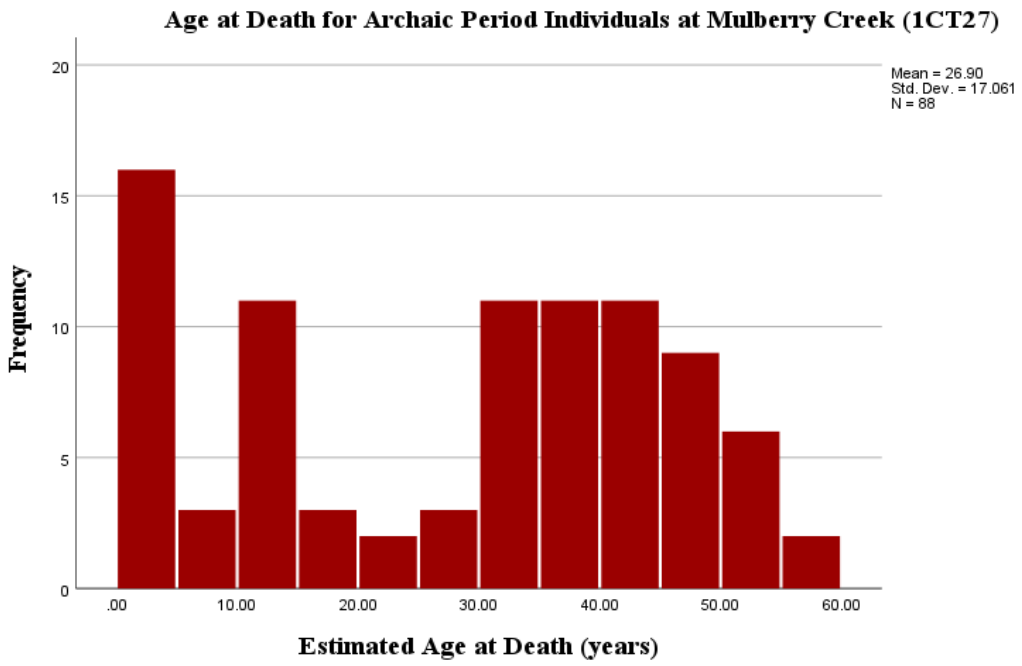

Figure 4.5: Bar graph showing the frequency of different ages at death for the observable Archaic Period individuals recovered from the Mulberry Creek Site (1Ct27).

Pathology: Forms, Frequency, and Severity

Based on known trends observed at other Archaic Period sites, it is not surprising that nearly 80% of individuals showed some form of pathology (see Table 4.3). Conditions such as arthritis, periosteal reaction or dental disease are expected to occur in most adult individuals within an active semi-mobile group such as this. Statistical analysis, using an independent sample t-test, demonstrated that the average age of those with a pathological condition was significantly higher (20.25 years) than the age of those without pathology ($p < 0.001$).

Table 4.3: Number of observable Archaic individuals of known and unknown osteological sex demonstrating pathology, trauma, and perimortem trauma from 1Ct8 compared to 1Ct27.

	Observable Individuals		Individuals with Pathology		Individuals with Trauma	
1Ct8	(n)	%	(n)	% (of obs.)	(n)	% (of obs.)
Male	34	28.81	30	88.24	26	76.47
Female	27	22.88	26	96.30	17	62.96
"Adult"	3	2.54	3	100	2	66.67
Juvenile	54	45.76	35	64.81	19	35.19
Total	118	--	94	79.66	64	54.24
1Ct27						
Male	28	31.5	25	89.29	18	64.29
Female	28	31.5	27	96.43	14	50
"Adult"	5	5.6	5	100	1	20
Juvenile	28	31.5	18	64.29	6	21.43
Total	89	--	75	84.27	39	43.82

In order to account for the high prevalence mild or typical age-related pathological conditions within this community, an additional categorical variable was created to consider severity of all observable pathologies for all individuals. This included mild, moderate and severe age-related pathologies, as well as major pathology a-typical for age. This determination was made through a consideration of individual disease experience or impact, as well as cultural accommodations in much the same way that a determination is made for required care or accommodation within the Bioarchaology of Care framework (Simpson 2022; Tilley 2015; Tilley and Cameron 2014).

Within this categorization, severe arthritis observed in an elderly individual would be considered moderate or severe age-related pathology, within normal culturally specific expectations for older individuals in this active community, whereas severe arthritis observed in

a young adult individual would be considered a-typical for their age. Similarly, evidence of infection, systemic disease, or major developmental disorders was classified as atypical for age. It is particularly of note that seventy-eight percent of the individuals at Little Bear Creek observed to demonstrate severe pathology atypical for their age were juvenile individuals (n=25), most of whom demonstrate evidence of endocranial infection or swelling of the brain (n=20). For some of these individuals, further differential diagnosis was not possible due to poor preservation, however some were also observed to demonstrate porotic-hyperostosis and/or postcranial lesions as well as abnormalities consistent with blastomycosis, rickets, and treponematosis (Aufderheide and Rodrigues-Martin 1998; Ortner 2003).

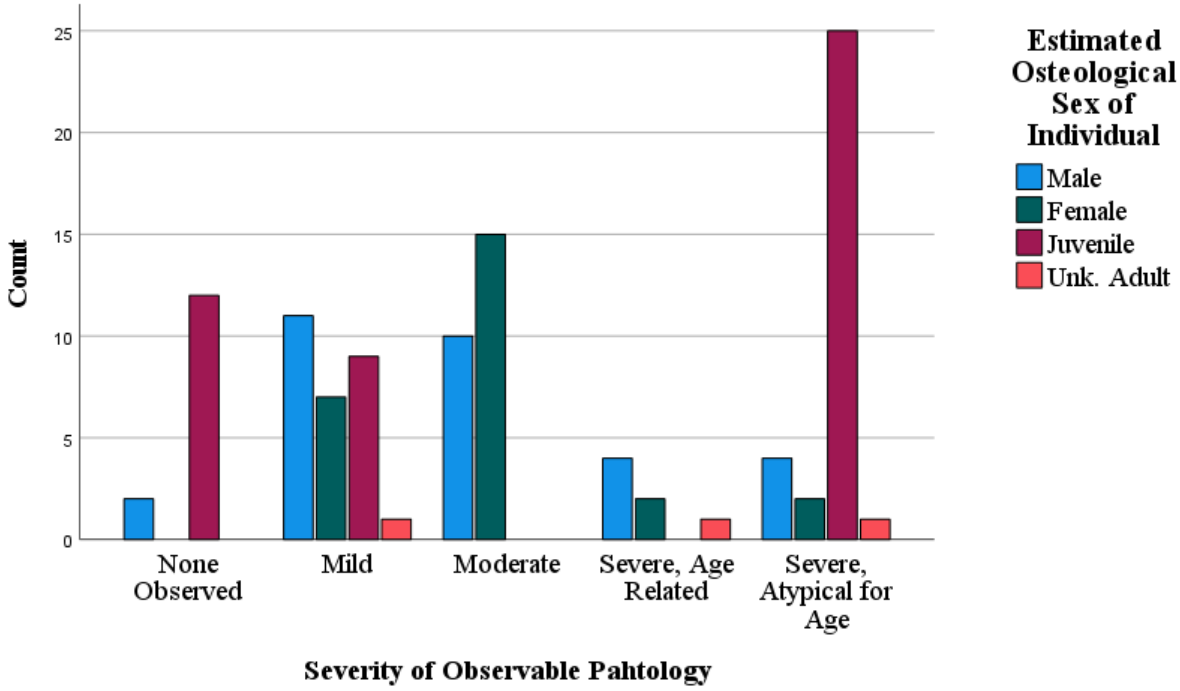

Figure 4.6: Clustered bar graph showing the frequency of individuals of different osteological sex by severity of pathology for the observable Archaic Period individuals recovered from the Little Bear Creek Site (1Ct8).

Trauma: Antemortem, Perimortem, and Possible Violence

The frequency and patterning of trauma indicates that adult males were most likely to suffer trauma in general, as well as perimortem injury of any kind. However, females and juveniles were not excluded from risk of injury (see Table 4.4 below). Statistical analysis did indicate significance for presence of trauma between males, females and juveniles, however, a further comparison between male and females only (excluding juveniles) did not yield significant results. This suggests that, as with pathology, this difference is likely also the result of the increasing probability of suffering some form of injury as age increases. The majority of antemortem injuries observed are fractures suggestive of accidents and/or falls, or overuse. This includes both single and multiple fractures of the lower extremities and thorax, and compression or dislocation.

Statistical analysis demonstrated that depth within the mound (a proxy for time of occupation) did not differ significantly for those with or without trauma of any kind, or for those with perimortem trauma specifically. This suggests that the risk of suffering injury was equivalent throughout the Archaic Period occupation within this community.

Table 4.4: Showing the number of observable Archaic individuals of known and unknown osteological sex demonstrating antemortem trauma, perimortem trauma, and both antemortem and perimortem trauma from 1Ct8 and 1Ct27.

	Antemortem Only		Perimortem Only		Both	
1Ct8	(n)	% (of obs.)	(n)	% (of obs.)	(n)	% (of obs.)
Male	10	29	8	24	8	24
Female	9	33	2	7	6	22
"Adult"	0	0	1	33	1	33
Juvenile	2	4	16	30	1	2
Total	21	--	29	--	16	--
1Ct27						
Male	5	18	8	29	6	21
Female	6	21	4	14	4	14
"Adult"	0	0	1	20	0	0
Juvenile	0	0	6	21	0	0
Total	11	--	19	--	10	--

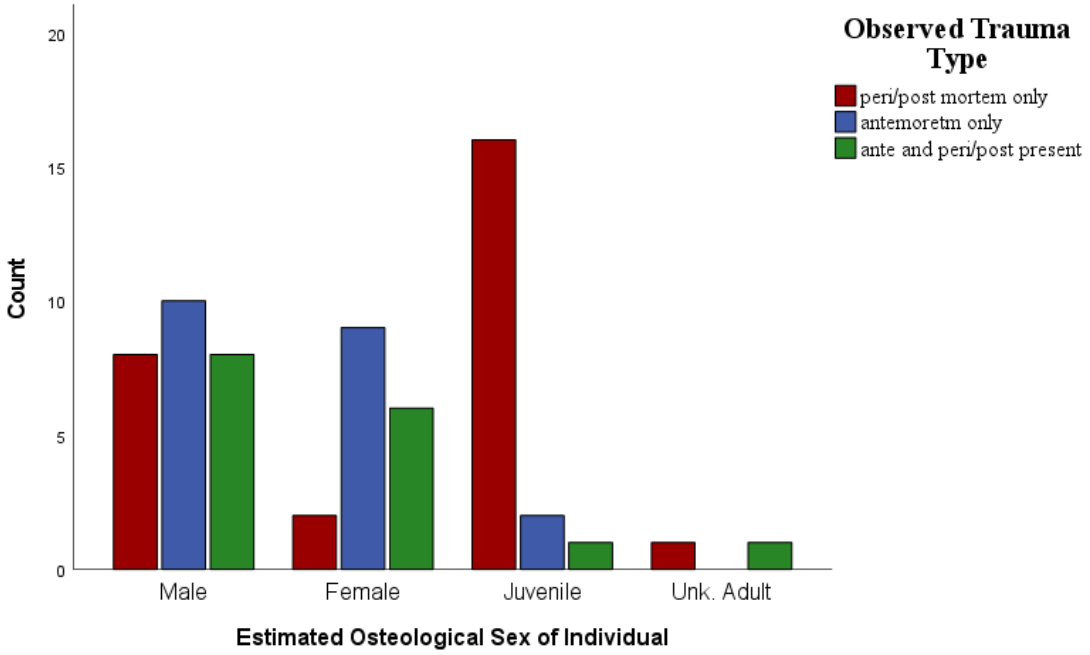

Figure 4.7: Showing the frequency of different types of trauma observed for each osteological sex at Little Bear Creek (1Ct8).

Similarly, a chi-square test of independence conducted between osteological sex and perimortem trauma for the site demonstrated no statistically significant association between the two. Still, as shown in Figure 4.7 and Table 4.4 above, a high frequency of perimortem traumas were observed in juvenile individuals when compared to the juvenile individuals from the Mulberry Creek site (1Ct27). Perimortem traumas observed included fractures, cut marks and general sharp and blunt force traumas.

Among the Archaic individuals at Little Bear Creek (1Ct8) cuts were observed on the crania of 15 individuals, one of whom was also missing postcranial elements, on the postcrania of 6 individuals (two of whom also had missing crania), and in both locations for 3 individuals.

Table 4.5: Showing the location (cranial, postcranial, both cranial and postcranial) of cut-marks observed on Archaic individuals of known and unknown osteological sex from 1Ct27 and 1Ct8.

	Cranial Only	Postcranial Only	Both
1Ct8	(n)	(n)	(n)
Male	4	1	3
Female	4	1	0
"Adult"	0	2	0
Juvenile	7	2	0
Total	15	6	3
1Ct27			
Male	9	0	2
Female	5	1	0
"Adult"	1	0	0
Juvenile	2	2	0
Total	17	3	2

Variability in Funerary Features

In keeping with the culture-history approach common to the first half of the 20th century, descriptive categories were created to allow for the classification of the observed type of each funerary feature. These categories were primarily descriptive in nature and based on the physical position of the individual at the time of recovery.

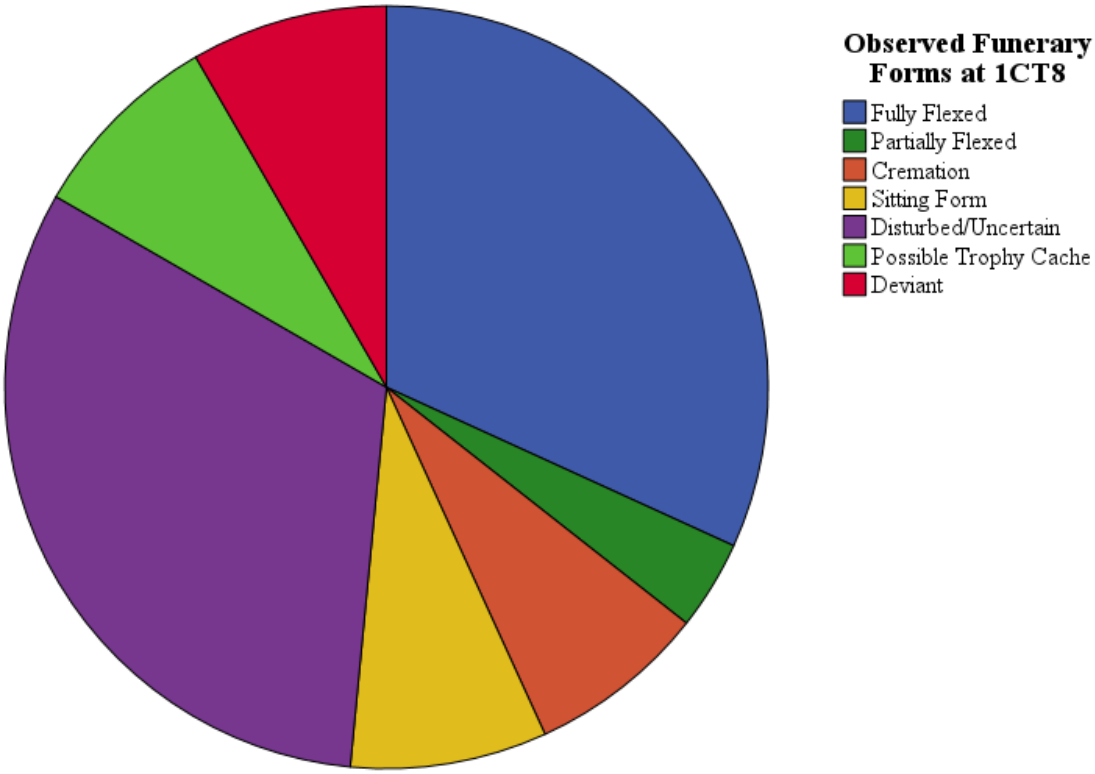

Figure 4.8: Pie chart depicting the frequency of various funerary forms from the Archaic Period at Little Bear Creek (1Ct8) as interpreted by the author using archival sources.

Table 4.6: Showing the frequency of various funerary forms from the Archaic Period at Little Bear Creek (1Ct8) as interpreted by the author using archival sources.

	Frequency	Percent
Flexed	42	31.3
Partially Flexed	5	3.7
Cremation	10	7.5
Sitting Form	11	8.2
Disturbed/Unknown	42	31.3
Possible Trophy Cache	11	8.2
Deviant	11	8.2
Total	132	98.5
Missing	2	1.5
Total	134	100.0

Funerary features in which the individual is placed flexed on the left or right side is generally considered to be standard body position within the SMA overall (Claassen 2010), and there is little agreement as to any possible significance of left vs. Right side. Such individuals range from loosely flexed (similar to a relaxed "fetal" position), to an almost extreme level of flexion; a position which indicates the presence of wrappings of some kind supporting the body during burial.

Flexed on the back is also a common position described by WPA reports, however this designation is problematic without direct re-examination of the individual funerary feature. In particular, any individual placed with their spine inferior, touching the ground directly, who also demonstrated flexion of any leg joints was given this classification. Modern observation demonstrates the problematic overgeneralization of this category. For example, two individuals recovered from Funerary Feature 12 and Funerary Feature 135 at Mulberry Creek (1Ct27) were both originally classified as "flexed on back" during recovery. As shown below, the individual from Funerary Feature 12 seems to fit this general description, being carefully and tightly flexed on the back, however, the individual from Funerary Feature 135 does not (see Simpson 2017, 2022).

Instead this individual can be described as "haphazard" in placement- more characteristic of expedient deposition and burial of the body of a recently deceased individual than a complex, deliberate mortuary ritual. In addition, this individual is observed to be missing much of the lower limbs and is now known to show osteological evidence of scalping, suggesting a probable victim of violence.

Using data from SMA sites throughout Ohio, Kentucky, Tennessee, and Alabama, Claassen (2010) has suggested that placement on the back was connected to violence surrounding death. However, based on osteological evidence of perimortem trauma, this pattern was not observed among the individuals at Little Bear Creek (1Ct8). As shown in Figure 4.9 the largest portion of individuals with perimortem injury were individuals placed on their right side (n=8) followed by sitting position (n=6), with five such individuals being placed on their back.

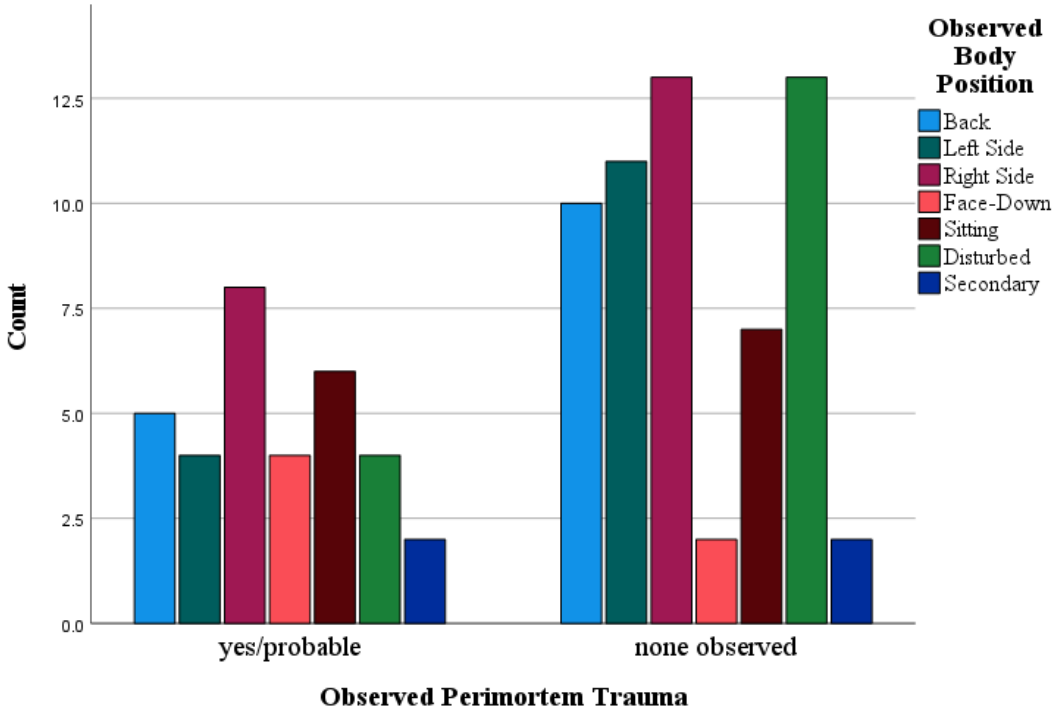

Figure 4.9: Clustered bar graph showing the frequency of different body position for those with and without observed perimortem trauma among the observable Archaic Period individuals recovered from the Little Bear Creek Site (1Ct8).

Sitting Form

Within the original WPA basin reports and documents, individuals were described as "sitting" if multiple arm and leg bones were in a vertical or near-vertical position in-situ (Webb and DeJarnette 1942). This type is not uncommon at SMA sites, but also is not observed universally at such sites. The intended meaning of this position is unclear, however it does appear to be observed only during the Late Archaic Period of SMA sites. Claassen (2010) has suggested that individuals placed in a sitting position could represent a different ethnic group, possibly from communities in Florida which have a similar practice of constructing shell rings during this time period.

It must be acknowledged that from a purely functional perspective, the "sitting" form of interment would have required the smallest disturbance of surface space, while also likely minimizing the chance of disturbing any existing funerary features within the mound. Such concerns would likely be relevant if individuals were being interred in the floors of dwellings or specific ritual spaces.

In some instances observed at Little Bear Creek, the state of articulation depicted in archival documents made it clear that the individual was tightly bundled or buried while fully fleshed. In other instances field notes also observe significant slumping, and in some instances, that the "cranium had fallen forward into the lap." In reassessing drawn maps and photos of such funerary features in situ, it seems that standard biological processes and ultimate soil shifting following decomposition do not provide sufficient explanation for many cases of such "shifting".

Because of this, certain individuals of the eighteen initially described as sitting have been reassessed as secondary funerary features based on archival information resulting in eleven individuals characterized as sitting position (n=11) during this reanalysis, eight of whom demonstrate some form of perimortem trauma or processing.

Using examples from the Green River area of Kentucky, R. Berle Clay (2022) argues that is correct and many Archaic Period individuals were preliminarily processed and curated for some time or even buried elsewhere and moved (to avoid the biological reality of storing a deceased body for a length of time), prior to transportation and interment in the mound. He suggests that individuals would have been bound incredibly tightly in skins or other wrappings prior to curation, which explains why they are not consistent with bundle remains or other forms of secondary funerary features. In this way, the exact position of the body could be of secondary importance, as it might not have been clearly observably by the time final interment occurred.

If this is the case, these sitting funerary features could represent extended rituals surrounding the body of the decedent before final interment. If the deceased individual were positioned in a confining cavity soon after death, the pit could have been left open, or closed and re-opened over a period of time. This would account for the distortion and slumping seen with certain body parts such as the cranium, even in individuals where all post-cranial elements appear to be in full articulation.

Secondary Funerary Features and Cremations

The identification of secondary or bundled funerary features has been comparatively rare within the Shell Mound Archaic. At Little Bear Creek, reinterpretation of funerary maps and documents revealed nine individuals with indicators that interment was secondary, with four individuals who appeared clearly consistent with bundled remains. However, it is acknowledged that a large portion of funerary features could not be interpreted (n=42), many of whom were juvenile individuals for whom in-situ documentation was often lacking. Additionally, if the above argument made by Clay (2022) is correct, then it is likely that a much larger portion of the funerary features at Little Bear Creek are secondary in nature.

Cremations at these sites are not uncommon, however, total cremations are generally considered rare from WPA sites. This could be due to collection bias, as the near-total destruction of the remains observed in the individuals present for observation indicate it would have been difficult to distinguish between an isolated individual cremation and the numerous hearth pits also observed at the sites. Amanda Owens (2010) examined all cremation features noted by field reports and publications (Webb and DeJarnette 1942, 1948b) from a total of nine different sites in the MTRV including 1Ct27 and 1Ct8. At Little Bear Creek there were ten individuals considered to be high temperature or full cremations (n=10), with a further five individuals observed to demonstrate a level of partial cremation.

Directionality

The significance of directionality of the body has proven a contentious and confounding factor for interpretations of the Southeastern Archaic. First of all, it is not clear which part of the body dictates "direction." Claassen (2010; 2015) provides a compelling argument for the top of the head at midline (the skeletal point of bregma), as this location, where fontanelles are present during infancy, is linked to the site at which the soul escapes the body.

Based on a traditional belief that their ancestors came from somewhere to the West, Choctaw lore and heritage knowledge suggests the afterlife was also located toward the West. By this logic, it was hypothesized that if direction of placement were relevant to mortuary practice and belief, orientation toward the West would likely represent standard or favorable placement to facilitate the soul into the afterlife.

Although possible patterns have been identified at single sites, such patterns do not remain consistent at the regional scale. Some have attributed this to time of day in which a funerary ceremony took place (i.e. when the sun is not visible at night it is difficulty to orient a body based on E/W directions). Others have argued that the moon, rather than the sun might be

the more important feature to consider in relation to directionality. Using this point of bregma to establish direction for the individuals at Little Bear Creek yielded significant variability with very few individuals directed due East or due West. With this in mind, a re-categorization of direction was considered based on the geographic location of the site.

If we extend the significance of a Westerly direction into prehistory where cardinal directions were not in use, we can logically tie the location of the afterlife to the direction where the sun sets. However, it must then be acknowledged that the sun only follows a true East/West trajectory on the solstice days, twice a year. In reality this location fluctuates throughout the year based on geographic location. Within the Pickwick basin of the MTRV, sunset occurs furthest to the North in late June (corresponding to a northwest direction), and furthest to the South in late December (southwest direction) with a due West direction in late March and September (Suncalc N/D). With this in mind, direction of individual funerary features were re-categorized, with "East" and "West" encompassing the intermediate directions (southeast, northwest, etc.). With this in mind, it was possible to visualize possible trends in direction of placement.

Table 4.7: Showing the recategorized frequency of individuals observed to orient in each direction based on sunrise/sunset at Little Bear Creek (1Ct8).

Direction		Frequency	Percent
	East	19	14.2
	West	28	20.9
	North	6	4.5
	South	7	5.2
	Total	60	44.8
Missing		74	55.2
Total		134	100.0

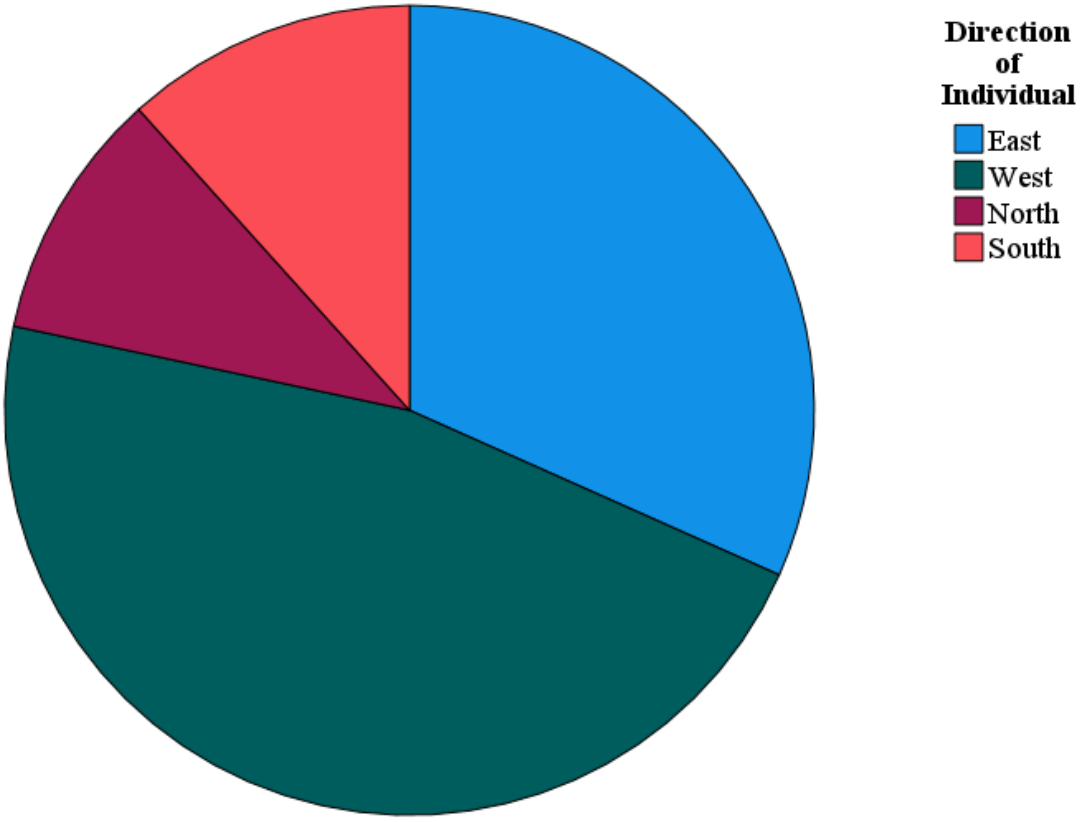

Figure 4.10: Pie chart showing the recategorized distribution of head direction for observable Archaic Individuals at the Little Bear Creek Site (1Ct8).

As shown in Table 4.7 and Figure 4.11 the most frequently observed direction was West (n=28), followed by East (n=19) with North and South direction observed for six and seven individuals respectively. Statistical analysis using Chi-Square examining the relationship between direction and osteological sex, age, disease status, or presence of trauma did not demonstrate significance. This is not surprising due to the large number of "missing" values caused by cremations, secondary, and "sitting"/vertical funerary features which did not allow for determination of direction.

Still, observable trends do suggest that the choice of direction for individual funerary features was not arbitrary. As shown in Figure 4.12 below, it seems that male individuals were more likely to be placed with a West direction, while females were more commonly placed to the East. The patterns observed for juvenile individuals could also extend to this possible pattern based on osteological sex.

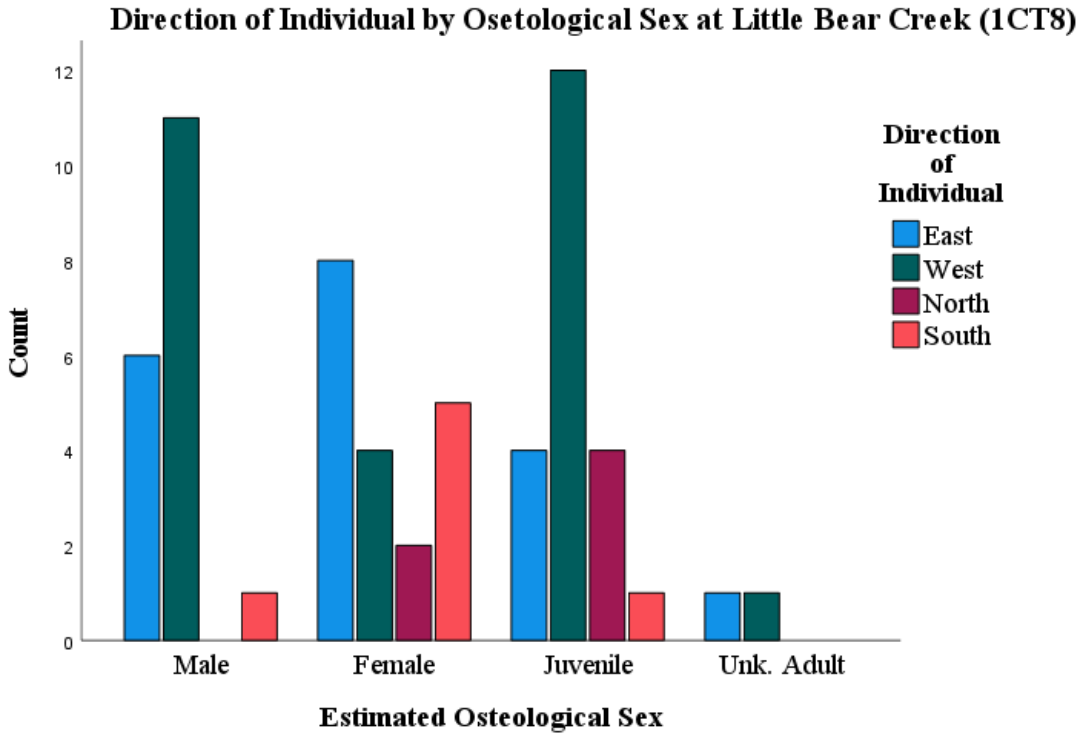

Figure 4.11: Bar Chart showing the distribution of different directions based on estimated osteological sex for observable Archaic Period individuals at Little Bear Creek (1Ct8).

Funerary Objects

Of the thirty two individuals who were noted to have funerary offerings (n=32), eleven were male (n=11), seven were female (n=7), nine were juveniles (n=9), and five were adults of

unknown osteological sex (n=5). Statistical analysis did not reveal significance based on age, health status, or presence of trauma of any kind. It is believed that this could be due to the inability to identify or consider any perishable objects which might have been originally associated with these individuals. In addition, there is some ambiguity about the meaning of certain funerary objects within the mortuary context. Specifically, projectile points are considered to be funerary belongings, however outside of clearly deliberate caches of unused points, the presence of single points could be the result of inflicted perimortem injury with a projectile, rather than an intentional offering included by those enacting the burial.

The meaning behind the inclusion of funerary objects with a deceased individual is likely varied during the Archaic Period. The prevailing view for the later, Mississippian period Southeast is that funerary offerings are likely linked to status during life, with greater number and quality of objects indicating higher status (see Marcoux 2010). However, this model does not appear to directly apply to the Archaic Period of these same sites.

Shell as a Funerary Object

Funerary offerings made from various species of shell became relatively widespread throughout the geographic range of the Shell Mound Archaic beginning in the Late Archaic Period, and continuing into the Mississippian Period. The commonality of shell items in the funerary features of juvenile individuals has led to the suggestion that shell could represent metaphorical or metaphysical "medicine" (Dye 1996). This is due to the high frequency of nonspecific disease and skeletal stress often observed among juvenile individuals, as well as the assumption that the death of a child will always be viewed as untimely. At little Bear Creek, this pattern of shell as a funerary object did not follow this pattern. Specifically an equal number of

adult males and juvenile individuals (n=8) were recovered with shell associated as a funerary object, along with four adult females (n=4).

Figure 4.12: Sketch of the Individual from Funerary Feature 8 at 1Ct8; although unclear in this image, individual was placed face-down. Shell beads are not shown but surrounded the body within the stone ring (Created by Simpson 2019 based on archival documents).

Claassen (2013) argues the type and number of funerary objects during the Archaic Period was linked to manner of death, specifically shell "belts" in a funerary context are posited as representing the Milky Way galaxy (due to the spiral formation of the individual shells), as part of an Archaic version of the Mississippian hunt god rite (Claassen 2015:39; 2013:304; 2019a; 2019b). At Little Bear Creek, one individual, recovered from Funerary Feature 8, was surrounded by over 3,000 shell beads and also demonstrated evidence of extensive perimortem violence and deviant mortuary treatment (see Figure 4.13 and Chapter 2 of this volume for further interpretation).

These observed patterns in health, trauma, and mortuary treatment, although largely not statistically significant, do hint at possible rituals and deeper meanings underpinning the peri/postmortem treatment of individual remains, as well as funerary treatment at the Little Bear Creek Site (1Ct8). In particular, detailed consideration of several specific individuals lend insight into variations in the identity of victims of violence, as well as the likely existence of mortuary treatment which could be mistaken for violence or trophy taking based on osteological evidence alone.

Discussion and Conclusion

At the start of this project, the intention was to focus primarily on adult individuals for interpretation with the information gained through documentation of juvenile individuals used to build a demographic portrait of these two communities. This was due to the recognized recovery bias for juvenile individuals at these MTRV sites. Generally, juvenile funerary features were not photographed or mapped unless preservation was exceptionally good, if notable funeral objects

and associations were observed in-situ, or if they were in close proximity to adult individuals. In addition, the remains of juvenile individuals are much more affected by taphonomic damage making detailed observations difficult. However, during direct observation and data analysis it became clear that interesting patterns of health and mortuary treatment existed for Archaic Period juvenile individuals, particularly at Little Bear Creek (1Ct8).

Explaining Trauma Among Juveniles at Little Bear Creek (1Ct8)

The high frequency of juvenile individuals demonstrating perimortem trauma of some kind could suggest several things. First of all, the presence of cut-marks and fractures could indicate juveniles were at high risk of falling victim to violence and trophy taking behavior. However, due to the inconsistencies between the individuals at 1Ct8 and 1Ct27, two alternative explanations are proposed here.

In particular, individuals observed to have a single visible cut mark (or several in isolation) with no additional perimortem injury, and/or individuals observed to have been fully represented in-situ, must be fully considered through reconstruction of funerary treatment. Cut marks observed at joints or attachment points of major ligaments can indicate removal of trophy limbs but are also argued to be the result of standard funerary treatment or body processing, possibly for disarticulation for secondary/bundling of the remains or to allow for tight flexion of the body within a primary/fleshed interment (Simpson 2017; Smith 1997). Little Bear Creek (1CT8) has a particularly high number of individuals with observable skeletal evidence of perimortem percussion traumas and/or processing which are argued to be the result of mortuary ritual rather than violence.

For example, the juvenile individual recovered from Funerary Feature 21 at 1Ct8; initially observed to be a “sitting burial” (Webb and DeJarnette 1948b), now re-classified as a

probable secondary bundled interment based on archival documents and funerary maps (see Figure 4.14). This individual was observed to have numerous deep cuts and gouges on the internal arch of the second cervical vertebra, as well as several scrapes and cuts on the left femur and fibula.

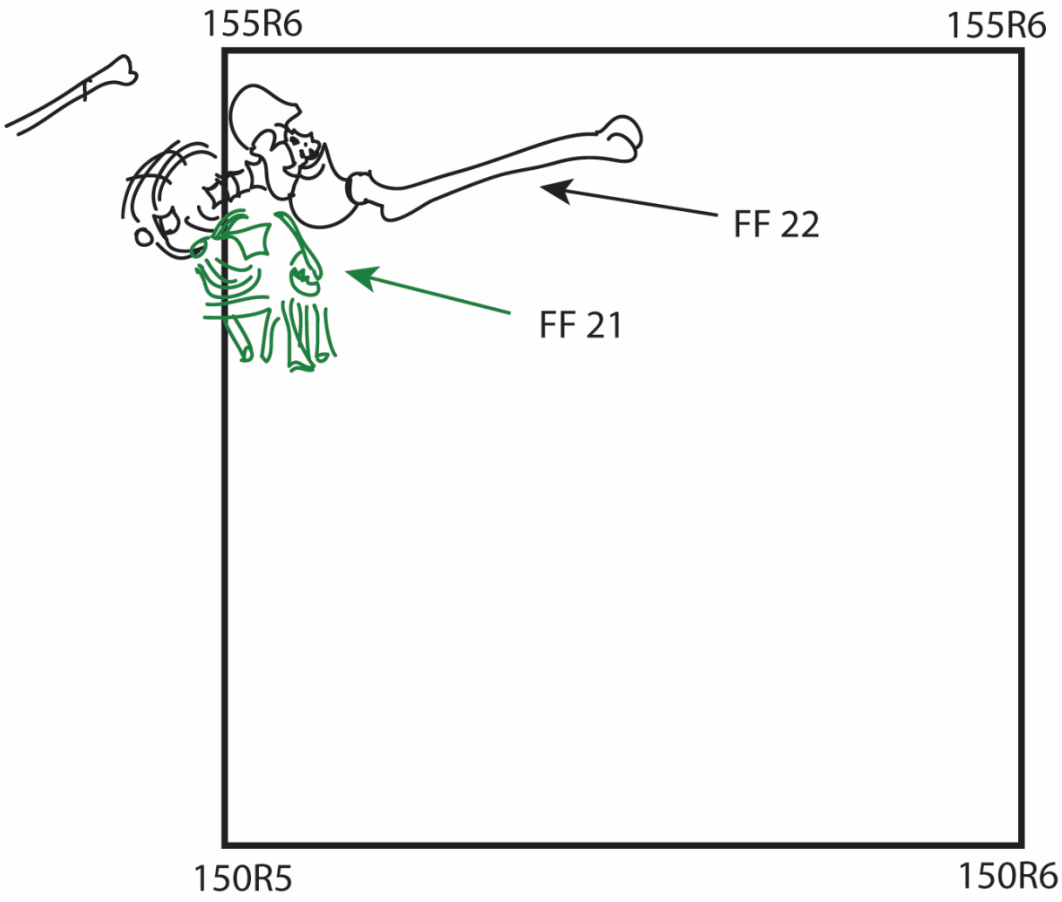

Figure 4.13: Illustration of Funerary Feature 21 from 1Ct8 showing the juvenile individual in close association with the incomplete adult individual recovered from Funerary Feature 22.

Cuts such as these on the cervical vertebra are often associated with violence and trophy taking (i.e. decapitation). However parts of this individual's cranium (mandible and maxilla) and

first cervical vertebra were observed to be present in-situ. This indicates the skull was not fully removed as a trophy. Based on this and the bundled appearance of this juvenile's remains (closely associated with an adult individual in Funerary Feature 22), it is argued that the observed cut marks could represent deliberate postmortem mortuary processes and de-fleshing, rather than trophy taking as a result of a violent encounter.

Ethnographically and ethnohistorically, Southeastern communities are known to have utilized charnel houses to expose the bodies of deceased prior to final interment, particularly within the later pre-contact Hopewell culture. According to Walthall, Early Mississippian funerary practice included "cleaned bones (often rearticulated), bundles, flexed burials, and cremations" (Walthall 1980:200). In addition, descriptions of the "bone pickers" of the Choctaw suggest a specialized role for individuals in the community who were responsible for the removal of soft tissue, and processing of bodies prior to final burial (Cushman and Debo 1999:165; Swanton 1931). This lends credence to the assertion that secondary interment following a period of exposure or processing of the body might have been a standard variation of funerary treatment in the Archaic Period Southeast (Clay 2010; 2022).

There is little doubt that very young juvenile individuals would not have participated in acts of violence as perpetrators or aggressors. With this in mind, interpretations and explanations for inflicted death of such individuals must be considered independently of those for adult individuals. For example, the individuals recovered from Funerary Features 88 and 89 at Little Bear Creek (1CT8), the deepest of the site at a depth of 260-290 cm. The individual from Funerary Feature 88, a juvenile of around 8 years of age, shows evidence of perimortem traumas including cut marks on the cranium, and fractures of multiple ribs, and the spinous processes of

multiple cervical and thoracic vertebrae. The Individual from Funerary Feature 89, in close proximity, was a neonate placed flexed on the right side.

Associated with both individuals but in closer proximity to the individual in Funerary Feature 88 were a broken atl-atl weight (banner stone), a piece of coal, a bone awl, and two projectile points, one of which is identified as Morrow Mountain in form (generally dated to Late Middle Archaic). Notably, cut marks on the cranium are most commonly interpreted as indicators of scalping, and the included projectile point could represent indirect evidence of violence. However, it is also possible that one or both of these juvenile individuals represent secondary interments, with the cut marks and fractures resulting from the processing and preparation of the remains prior to burial.

Alternatively, a possible explanation for the high rate of injury and death could be the practice of intentional infanticide. The practice of assisted death for the extremely ill and elderly has been documented in the Archaic community at Mulberry Creek (1Ct27) (Simpson 2017; 2022), and infanticide during times of famine, disease, or hardship is similarly posited among numerous early Indigenous groups throughout North America (Rubertone 2001). As previously shown, the juvenile individuals at 1Ct8 show a particularly high rate of pathology with over two-thirds of these individuals demonstrating skeletal indicators of systemic disease, parasite overburden, anemia or malnutrition. Alternatively, deliberate infanticide/sacrifice has also been argued to be part of Archaic ritual practice throughout the SMA.

Through a consideration of twenty-one Archaic sites, primarily from Kentucky and Tennessee, Cheryl Claassen (2013) presents an argument for both infanticide and ritual sacrifice of young juvenile individuals during the Archaic Period. Using data from various sources, as well as ethnographic and ethnohistoric analogy, she argues that deviant funerary treatment,

specifically face-down placement, ochre as a funerary offering, and multiple individuals in a single funerary feature are indicative of sacrifice during a rite of some kind ("hunt god rite…rebalancing rite…various fertility rites" (p. 311)). Although this possibility cannot be discounted, it is of note that minimal osteological evidence was employed to argue for definite violence surrounding death, making this generalized conclusion problematic. I have previously argued that, even in instances where perimortem inflicted injury suggests an individual died violently, it cannot be assumed that the intention was malevolent (Simpson 2017; 2022). Particularly in the case of infanticide, the decision to allow or facilitate the death of a young individual can be motivated by a desire to spare suffering for the victim, as well as decrease burden placed on food resources during times of shortage.

Future Directions

A multidimensional perspective is required to create meaningful interpretations relating to mortuary practice within these early pre-contact groups. Unfortunately this does make it difficult to demonstrate significance through statistical testing, however it does not invalidate the interpretive potential of observable patterns and trends in these data. The holistic approach used here provides a superior method to extracting meaning and understanding performance from the perspective of perpetrator, victim, and/or witness. In particular by parsing out the nuance and variation in mortuary treatments for individuals with perimortem inflicted traumas this work contributes not only to our understanding of Archaic Period violence but also mortuary practice. Until we have a better understanding of how the events leading up to and surrounding death

effect treatment of the body by the living, we will be unable to understand the meanings in observable Mortuary variation based on other identity factors for Archaic individuals.

Although comparative analogy between contemporaneous regions during the Archaic Period can be a useful starting point to interpret intention and meaning behind behaviors, overreliance becomes problematic. As advocated by scholars such as Sassaman (2010a) and Kidder (2007), a deeper understanding of ritual, belief and change during the Archaic Period must now focus on detailed interpretation of particularistic details of sites and sub-regions as part of the wider SMA phenomenon. With this in mind, through this interpretation I do not argue that this practice of postmortem processing and secondary interment were ubiquitous during the Archaic Period, however it is suggested that the frequency of trophy taking among these groups, and certainly within the MTRV overall, has been overestimated. In particular, the default assumption should not be trophy taking for all cases of observed cut-marks or fractures.

Despite the massive amount of data generated by the Depression Era WPA excavations of River Shell mound sites throughout the Eastern Woodlands, there still exists a major gap in understanding of ritual, belief, and meaning in the daily lives and deaths of these early Indigenous communities. The general prohibition on destructive analysis common for most of these NAGPRA collections has often been touted as a key reason for our lack of substantive answers, however this is merely a modern scape-goat. It is true that DNA and isotopic analysis could show links to ethnic identity, and intra-group relationships, but only in so far as we are willing to situate such data within our understanding of meaning and practice. Considering the exceptional controversy and distrust held by modern descendant communities surrounding DNA analysis, we must acknowledge that the future of Southeastern bioarchaeology as a whole will not be in such destructive forms of analysis.

Rather, as I have shown with this study and interpretation, focus must be given to existing archival data. Although the analyses of biological anthropologists are no longer relegated to appendices of reports, there still exists a disconnect between complex biocultural skeletal data, and archaeological mortuary analyses (see Cook et al., 2017). In particular, details revealed by holistic interpretations of individuals, factors like disability status, activity patters, life history, etc. provide the greatest heuristic potential for understanding mortuary meaning and behavior both synchronically and diachronically. However, recognizing the potential does not simplify the task facing researchers.

The Southeast has an extensive archaeological record from the early precontact period, however much of the data and even preliminary interpretations (with the exception of specialized books/monographs) is found only in gray literature (site reports), unpublished thesis, or long-forgotten conference proceedings. Due to this, sites are rarely re-visited by analysts, particularly after the individual ancestors have been repatriated. Additionally, Bioarchaeology in North America is moving towards a post-NAGPRA era, where most of the ancestral remains recovered in the depression/post-war era have now been, or will soon be, repatriated.

These remains have overwhelmingly provided the source material for large scale regional study of past human biology and behavior in the region, and their absence will leave a void in museum and research collections. However, the return of these remains after decades of injustice is long overdue, and undoubtably a good thing. Furthermore, although viewed as an impediment by some, there is still exceptional potential for substantive interpretation of the archaeology of this region despite the inability to undertake additional direct analysis.

This sort of research is labor-intensive, in some ways even more so than modern excavation and interpretation. It requires extensive archival research and study, a detailed

understanding of the ethnographic, ethnohistoric, and artifactual record of the region, and also requires The ability to deconstruct and decolonize early archaeological reports of these sites, considering early conclusions in relation to theoretical and methodological paradigms of the time. As others have previously acknowledged, this can yield conclusions of a rougher grain than desired, or prevent certainty in interpretation or conclusion. However, when one accepts this potential limitation and works to move past it, valuable insights can be achieved.

The data collection and interpretations discussed here, which utilized direct observation in addition to considering the extensive archival body of artefactual, mortuary, and ethnohistoric data, demonstrates the utility of reconsidering even the most over studied sites through the lens of modern theory and interpretation. This sort of reanalysis and reinterpretation is well suited to understanding nuance and meaning in Indigenous contexts, even long after the ancestral remains have been returned to their rightful place with living descendant communities. The future of bioarchaeology must proceed in consultation with modern tribes, but without a doubt, it can proceed and yield meaningful insights while embracing repatriation efforts.

CHAPTER 5: Conclusion

This project contributes to a more nuanced understanding of the Archaic Period Southeast, and the role that ritual violence and associated behaviors played within these groups during times of culture change and crisis. Although studies of the frequency and distribution of violence have long been common in the Southeast, such studies have either portrayed such behaviors as inherently negative and malicious, or fully obfuscated any interpretation of value or motivation driving violent acts. Such approaches seek to avoid the inherent bias of early colonial accounts made by European explorers, however, by removing emotion and experience from such events, these studies fall short of their interpretive potential.

Interpretation of violence in the Southeast has moved beyond objective reporting, however the assumption that all individuals demonstrating "violence" represents a victim of attack or sacrifice is also a disservice to the complex lives of these ancestors. An individual who shows evidence of perimortem inflicted trauma or even trophy taking behavior must not be assumed to lack agency as a powerless victim of violence. We must consider that such individuals might occupy a liminal space between perpetrator and victim, perhaps a participant in a raid on the local community who died during the interaction; both perpetrator and victim. Other individuals with observable cut marks could represent complex mortuary processing; not a victim at all, but the subject of ancestor worship or curation prior to interment. Still others could even represent a volunteer for death, as with the individual from Funerary Feature 12 at Mulberry Creek (1Ct27) (Simpson 2022); a victim who exerted agency to control the events surrounding their death.

Using osteological and contextual data, we must simultaneously consider all these possibilities, while also fully recognizing the experience of victims, possibly subject to extreme

emotions or pain leading up to their ultimate inflicted death (Arkush 2008; Hodge 2015). This is clearly a difficult balance, however, as this work has shown, it is possible. What it requires above all else is a fine-grained consideration of each individual in their entirety, prior to a broader consideration of patterns and trends both synchronically and diachronically. It also requires a willingness to adjust our conclusions as new information becomes available.

Through this study of two sites within the broader Archaic Period Southeast I have been able to demonstrate the exceptional potential of a careful approach to bioarchaeological analysis for the identification of complex intersectional behaviors which transcend normative perceptions imposed by modern perspectives. There can be little doubt that precontact human groups have engaged in ritualized violence for thousands of years, although ongoing debate still surround the origins of human conflict behavior, and the progress of the human species towards becoming more, or less violent. Rather, violence has likely always existed within human groups, and is no more, or less, prevalent and meaningful than in the distant past (Keeley 1997; Kissel and Kim 2019).

There is no single causal explanation for all acts of violence through time and space, rather each event is often deeply meaningful and personal, experienced differently by perpetrator, victim, and witness (Whitehead 2004). Archaeologists, as far-removed witnesses must situate each potential case of violence within the context in which it occurred in order to understand the deeper meaning in the intention, experience, and perception/interpretation of these acts. However, this does not preclude attempts to consider the meaning and lived experience of violence in the past.

It has been argued that research into trauma and violence in the past "provide not only a window into the past, but a way to imagine the future as well" (Martin and Osterholtz 2016:487).

Though particularistic archaeological research into frequency and distribution of violence in the past can yield new insights into a particular culture or region, the overarching contribution of violence research must be directed towards the ultimate goal of understanding violence in its many forms in order to ameliorate the impact of violence in the present and future. As Whitehead (2005) has so eloquently stated "until we can acknowledge the culturally-meaningful role that violence can play for ourselves, no less than others, there seems little chance of avoiding our violent tomorrows" (Whitehead 2005:26).

APPENDIX

Table 1: Summary of specific osteological indicators of health and activity of interest for this study

Osteological Indicator	**Location**	**Etiology/Indicative of**	**Sources**
Numerical Age	Pelvis, cranial sutures, dentition	Age determination based on dental eruption and wear, epiphyseal fusion, suture closure, auricular and pubic symphyseal surface	Bass 2005; Buikstra and Ubelaker 1994; Cunningham et al. 2016
Biological Sex	Pelvis, cranium, long bone midshaft	Sex determination made for adult (~18+) individuals based on pubis and overall pelvic morphology, with features of cranium, and long-bone midshaft diameter given secondary consideration	Bass 2005; Black 1978; Buikstra and Ubelaker 1994; White et al., 2011
Cribra Orbitalia (roughening in eye orbits)	Eye orbits	Anemia caused by chronic disease, protein deficiency, endocrine disorders	Brickley 2018; Brickley and Ives 2008; McIlvaine 2015; Oxenham and Cavill 2011; Rivera and Lahr, 2017; Ortner 2003; Walker et al. 2009
Porotic Hyperostosis (roughening of skull surface)	Outer surface of the skull	Expansion of bone marrow during certain developmental periods, can be caused by anemia from disease or genetic condition	
Intercranial Infection	Inner surface of skull	Scurvy, nonspecific childhood disease/infection; widely documented among young children at 1CT8.	
Periosteal Reaction/Nonspecific Lesions	Surface of post-cranial bones	General infection, parasite load, superficial surface trauma, etc.	Aufderheide and Rodrigues-Martin 1998; Buikstra 2019; Grauer 2012; Ortner 2003
		Continued below	

Unilateral Rhomboid Fossa	Muscle attachment for shoulder on the clavicle	Handedness, overuse of shoulder, possibly production or atlatl use.	Mann et al. 2016; Mariotti et al. 2007; Milella et al. 2012
Accessory Facets on Joints	Bones of feet, hips, or wrists	Indicative of extensive squatting, or repetitive motion of hands (production).	
Dental Wear	All remaining maxillary and mandibular teeth	Diet; observed patterns suggesting production (i.e. production of cordage), or possibly pipe smoking	
Osteoarthritis	Throughout the skeleton	Can be age related, but major concentrations support activity/repetitive actions	Aufderheide and Rodrigues-Martin 1998; Buikstra 2019; Grauer 2012; Lovell 1997; Ortner 2003; Redfern 2016
Antemortem Fractures	Throughout the skeleton	Healing/healed fractures of bone; certain locations or fracture types indicate accidental trauma, or inflicted injury	*Sources from previous section, and De Vore and Jacobi 2016; Passalacqua et al. 2015; Ross et al. 2019; Spencer 2012; Wedel and Galloway 2013; White 1992
Perimortem Fractures	Throughout the skeleton	Unhealed fractures of bone; certain locations or fracture types indicate types of inflicted injury; some observed patterns seem to suggest typical mortuary processing for 1CT8 site in particular	
Cut Marks	Throughout the skeleton	Unhealed cut marks on bone; can be suggestive of trophy taking, or typical mortuary processing; key locations such as cranium, neck, arms/wrists, legs/feet, or major joint attachment points.	

Table 2: Overview of available data sources, analysis undertaken, and interpretive value.

	Data Sources	Origin	Analysis Undertaken	Questions to be answered
Osteology	Documented from direct observation	Direct analysis of two sites completed at UA in 2017 and 2018, respectively.	Examination of patterns of trauma and perimortem violence/processing; Input/analysis of demographics (age, sex), select indicators of overall health (co, ph, nonsp. Infection, arthritis), and activity markers (ware on teeth, indication of squatting, "handedness").	What are the site demographics, health, and activity patterns, in relation to direct violence/inflicted trauma? Does this suggest possible structural violence occurring among these groups? What is the intended/perceived meaning or motivation for the confirmed physical violence taking place?
	Complete demographics for the region through time	Other skeletal reports/analyses including recent (2019) basic NAGPRA inventory.	Provide site population (MNI), as well as age, sex, and major pathology/trauma observed for the entire WPA collection.	How do the patterns observed in the above data compare to other sites nearby and/or in other river-basins?
Mortuary	Archival photos	UA Museum Collection	Documentation of body position, directionality, depth, (dis)articulation, associated funerary and non-funerary objects (i.e. stones placed on/around body).	What forms of interment are taking place? Does mortuary treatment map on to temporal category? Does it vary between sites, or by individual/by biocultural category?
	Funerary diagrams and descriptions			
	Original site reports	Published/gray literature	Any interruptions of excavation, observed non-mortuary features at sites.	What are the possible sources of bias (recovery, failure to document, theoretical assumptions)
			Continued below	

	Funerary Objects	Documented in 1930s/40s, recently documented by specialists at UA	Consideration of location of objects (beads around neck vs. waist, points in chest cavity vs. next to body); typological chronology; local vs. nonlocal goods.	What are the frequencies, distributions, of certain items/item types among individuals in mortuary settings through time/between sites?
Ideology/ Meaning	Ethnohistoric accounts	Published by early Europeans in the SE	Considering how observed patterns/trends in health, biological identity, violence, mortuary treatment, might relate to documented explanations from the past.	What is the possible deeper meaning, ideological motivation, perceived value of all above features/behaviors?
	Ethnographies	Recorded by researchers of the 1700's		
	Surviving lore among descendants	19th century documentation and historical records		

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