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A BIOARCHAEOLOGICAL INVESTIGATION OF THE COURTNEY-ANDERSON CEMETERY

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by

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ABSTRACT

Located in Perry County, Mississippi, the Anderson Family Cemetery represents an abandoned turn-of-the-century Piney Woods cemetery. The cemetery is located on land once owned by the Courtney and Anderson families, who farmed the area until it was taken under eminent domain by the United States government in 1942. The purpose of this thesis is to present three osteobiographies created from human remains and material culture recovered from three graves excavated from within the cemetery in 2022 to explore the lifeways of rural Piney Woods families of Mississippi at the turn-of-the-century.

Among the graves explored, one did not contain evidence of human remains. The remains from the other two graves were poorly preserved, making establishment of a detailed biological profile difficult. However, one individual was a middle-aged male, and deposits of barium were recovered in the burial fill. This is consistent with him being Elisha Anderson, the family patriarch who died of stomach cancer; the barium was possibly from an x-ray procedure. The other individual identified was a likely middle-aged female who had an extensive injury to both tibiae; she also wore dentures. Both individuals were quite tall. The material culture recovered included coffin hardware, such as bail handles, third generation thumb screws and escutcheons, and wire nails. Items of apparel were also found, including composition buttons, cuff studs, a cufflink, and a hair pin wrapped in hair and ribbon. Access to medical care and burial goods suggests that the Anderson family was not as poor as previously suspected.

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DEDICATION

I would like to dedicate this thesis to the many friends and family members who have gone on this journey with me. To my parents, Tom and Tammy, you have always supported me in every adventure I set myself towards without hesitation or concern. You have seen the best in me and have pushed me to becoming an individual who sees the best in themselves. To my sister, Sara, thank you for always laughing at my dumb jokes and supporting me in your own way.

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CHAPTER I - INTRODUCTION

Bioarchaeology lies at the intersection of biological anthropology and archaeology, allowing researchers to better understand the complex and dynamic nature of past human lives by recognizing how the body was modified by culture. One method employed to reconstruct the past is osteobiographical analysis. Instead of emphasizing how the burial represents the overall population, the osteobiography allows us to focus on how the burial represents the life of that specific individual. Using osteology, we can not only learn the age, sex, ancestry, and stature of the person, but if they had any disease, malformation, stress markers, or injury. These features and clues can add up to create a timeline that details portions of that individual's lived experience. When combined with material culture, osteobiographies become a gateway for understanding not only how the individual lived, but how this individual was treated in life and after death.

Osteobiography often observes cases of the unusual or outliers. Rarely is this technique used in studying "common" folk. This is an underutilization of the full capacity of bioarchaeology. Osteobiography can, and should, be used to also study the remains of those who were average or typical of their time. This thesis aims to do just that by applying this technique to the study of lifeways of rural farmers in the Piney Woods of the American South at the turn of the century. Many historic sites, especially rural postbellum homesteads, have been ignored by the archaeological community working in the region. By not studying these sites, aspects of the past are lost. Many of these families were experiencing an ever-changing world in the wake of Reconstruction within the South, yet their experiences have been forgotten. Even until the Great Depression, many

rural families struggled to adjust to their situation. The lives, successes, and failures of these folks is a story worth telling.

Therefore, the osteobiographical theoretical perspective was applied to the study of the Anderson Cemetery (31°07'01.1"N 89°01'53.2"W) in Redhill, Perry County, Mississippi. This project emerged following a discussion with archaeologists at Camp Shelby Joint Forces Training Base about the value in preserving older cemeteries. Realizing that that Anderson Cemetery had long since been forgotten, it was determined that unearthing more about who was interred there would be a valuable contribution to the history of the community Now abandoned, this cemetery was at one time part of a larger homestead owned by two pioneering families, the Courtneys and the Andersons, until it was taken under eminent domain in the 1940s to be used as training grounds for Camp Shelby. While the identity of those buried in the Anderson Cemetery is unknown, the graves are oriented in a tradition most commonly associated with Christian burial, and they appear to date to the late 1880 to early 1900s (Rita McCarty, personal communication). The cemetery contains around 12 graves in three rows, and each is mounded with oyster shells and pea gravel.

This research explores the life and death ways of rural farming families of the Piney Woods of the American South through the bioarchaeological study of the Anderson Cemetery. To do so, three graves were excavated, and the contents, both osteological and archaeological, were analyzed. Aspects of culture that can be readily seen in funerary settings, such as mortuary practices, were documented. Coffin furniture, as well as personal items, were recorded and sorted into typological and chronological groups to determine not only the age of the artifact, but how the aspects of social culture and

traditions of the time were represented in the material culture. Items that are placed with the dead, such as grave goods and grave furniture, tell us not only about the individual, but also the community that prepared the individual for burial. Human skeletal remains were recovered, as well. The osteological data collected not only provided information about the health of the family, but also how their environment may have impacted them. Information, such as age-at-death, trauma, and the embodiment of race, gender, and socioeconomic status, are evident on the skeletal remains. Biological data combined with material culture paints a full portrait of an individual's life.

As much of the lives of these individuals was not documented in the historic record, archaeological and bioarchaeological research is essential to fill in the gaps. The information gathered by conducting this type of research can often augment and even contradict the historic record. Not only is some information excluded and omitted from the archival record, but methods of understanding and interpretation can change over time. This study shows that areas of the historic record that have previously been ignored by historians and archaeologist can offer new and interesting information about the lives of those who lived and died in the past. It also opens avenues of interest to further the study of the rural, turn of the century, families in the Piney Woods continues, deepening the shallow depth of knowledge currently available.

CHAPTER II – LITERATURE REVIEW

This chapter details the historical background and methodological framework for this thesis. The history of the area and mortuary practices are described, and the theoretical and methodological framework is defined, including a comprehensive list of each potential pathological ailment that would have left osteological lesions or changes on the remains.

Historical Background

The archaeological field site for this thesis is the Courtney-Anderson Cemetery. It is located in Redhill, Perry County, Mississippi (31°07'01.1"N 89°01'53.2"W). No trinomial has been assigned to this cemetery, but it is in association with the neighboring house site (22PE987). The cemetery, occasionally referenced as the Anderson Cemetery or Courtney-Anderson-Lambert Cemetery by some, was a part of a larger homestead that once occupied that area. The land was owned sequentially by two pioneering families, the Courtneys and the Andersons, until it was taken under eminent domain in the 1940s to be used as training grounds for Camp Shelby. The cemetery can be seen outlined in an aerial photograph taken by the U.S. Army shortly after its occupation in 1942 (Figure 1). At this time, the cemetery was referred to as the Oyster Shell Cemetery (personal correspondence with Rita McCarty).

Figure 1. 1942 aerial photograph of Anderson farm.

Cemetery is outlined in yellow, courtesy of Camp Shelby and altered by the author. Mississippi https://www.printableworldmap.net/preview/ms_blank_l

The Anderson Cemetery is located deep in the woods of Perry County, Mississippi, approximately five miles from New Augusta, the county seat. Perry County is in the heart of the Piney Woods in southeast Mississippi. It was officially formed in 1820 (Dunbar 1907, 408), though the land boundaries were altered many times over the last two centuries. As the county was being settled, very few roads connected the inhabitants to the surrounding areas. Instead, many of the communities within Perry

County relied on the Leaf River for trade and transportation. Traveling traders would paddle along the river, bringing the frontier towns supplies from Pascagoula (Robert and McCardle 1891).

The Courtney and Anderson Families

One of the early settlers of this land was Micajah (Micagia) Ellis Courtney. Micajah was born in Sumter, South Carolina in 1852 (U.S. Census 1910). After moving to Perry County, Mississippi, Micajah purchased land to farm around 1882, though the specific date is illegible on county records. The property occupied 161.44 acres and was purchased for $10 under the Homestead Act, application 13559 (Gray, Albertson, and Summa 2022). Per a patent listed in 1887, Micajah's property occupied the SE ¼ of Section 19, Township 2N and Range 10W. In 1889, a deed of trust was created as collateral for a loan; in case Micajah was unable to repay a debt of $60 by November 1, 1889, 40 acres of his property (the SE ¼ of the SE ¼ of Section 19, Township 2N and Range 10W), all the corn and cotton produced, and a pony would be transferred to Collins & Eaton of Hattiesburg. This same parcel was sold to B. Stevens on January 15, 1890, for $100. At this time, Micajah also completed his payment for the Homestead Act application that included the entirety of the 161.44-acre property (Gray, Albertson, and Summa 2022). Further detail as to who lived on this property is unknown, as it fell between census periods.

The 40 acres in the SE ¼ of the SE ¼ of Section 19, Township 2N and Range 10W were purchased by Elisha R. Anderson (Micajah's brother-in-law) from B. Stevens for $250 in 1897, (Gray, Albertson, and Summa 2022). Little else is known about B. Stevens nor how the land was utilized between ownership of the Courtneys to the

Andersons. Elisha was born in Brooklyn, Mississippi, in 1867 (U.S. Census Bureau 1910), and married Tenia Isabella Lambert (born in 1872) in 1890 (Gray, Albertson, and Summa 2022). Per the U.S. Census records of 1900 through 1920, Elisha worked as a farmer. The family is listed on the 1900 census as having four children: Oliver (born in 1891), Enoch (born in 1894), Bertha (born in 1895), and Newton (born in 1899). Additionally, Micagie (Micajah) E. Courtney is listed as living on the property as a farmhand. By the 1910 census, the family had grown, introducing Gracie (born in 1902), Scott (born in 1906), and Martha (born in 1910). Micajah no longer lived on the property, having moved to another farm with several of his children. According to the 1920 census, the family was still living on the property, with the last child, Arthur, born in 1910. Enoch, the second oldest son, and his family are listed immediately following his father's household, indicating that he lived close to the home he grew up in. Enoch is identified as a farmhand.

Following Elisha's death in 1923 (McSwain and McSwain 2017, Mississippi Certificate of Death 1923), the land was transferred to his beneficiaries. In 1927, G. Scott Anderson transferred his one-eighth portion of the property to his brother, Oliver Anderson. In 1929, Gracie Anderson (now Lambert) sold her portion of the estate to her mother and Oscar Lewis (Tenia's new husband) for $50. In 1937, Tenia and Oscar sold the mineral rights for the property to Gulf Refining Company for $20 (Gray, Albertson, and Summa 2022). While the land was held legally by the heirs of Elisha, the 1930 and 1940 censuses show that only Newton Anderson and his family occupied the home. The property of 80.4 acres was acquired by the U.S. Government on July 31, 1941, for $2000.

The Courtney-Anderson Cemetery

Concerning the specific family members buried in the cemetery, no record has been located detailing to whom each of the graves had belonged. Only one obituary has been found to discuss the cemetery. On October 23, 1923, the Perry County News reported:

> Death always brings sorrow, heartache, and tears of anguish but when it ruthlessly fells two loved ones in the home within a week, it is doubly sad. Such is the case in the home of Mrs. E. R. Anderson, who lives about seven miles south of town. Last Saturday morning a son, Enoch died after ten days illness with pneumonia, and Tuesday morning of this week the husband and father of the home, Elisha R. Anderson, succumbed to an illness of several months duration, He was confined to his bed, however, less than one week. Both bodies were laid to rest in the family cemetery near the home. The Anderson family is one of the most prominent in their community, and these two good men will be sadly missed. Rev. M. W. Matthews conducted the funeral services of the son, while that of Mr. Anderson was held by D. L. G. Gates, who is conducting a meeting at the Baptist Church here this week. The News extends its sincere sympathy to the bereaved family. (McSwain, Jr. and McSwain 2017, 37)

The death records for Elisha and Enoch confirmed that they were interred at the Anderson Country Home Family Cemetery (Mississippi Certificate of Death 1923). The death records also included cause of death for each. Elisha perished from “carcinoma, pylorus of the stomach” (presumably, carcinoma of the pylorus of the stomach). Enoch died from pneumonia developed from bronchitis.

The *Cemetery Records of Perry County, Mississippi* Volume 3 (1980) includes the Anderson Cemetery. However, two Anderson Cemeteries existed simultaneously in the area, differentiated by county. The Anderson Family Cemetery that was excavated for this project was located on the family farm, Section 19, Township 2N, Range 10W. In

this record, the cemetery is identified as being in Section 33, Township 2N, Range 10W, which must be an error on the account of the authors. A second Anderson Cemetery, of no relation to the source of this research, is located in Forrest County, Section 18, Township 1N, Range 12W. The Anderson Family Cemetery, of this research, is described as having no markers and containing approximately 16 graves, though no information is given how that count was calculated. The *Cemetery Records* claim that Elisha, Enoch, and Tina (Tenia) Anderson were buried in the cemetery, as well as several unnamed Posey children. The *Cemetery Records* also comments that the individuals may have been reinterred in Brooklyn, Mississippi, at one point (Strickland and Strickland 1980, 184). While evidence is consistent with both Enoch and Elisha having been interred at the Courtney-Anderson Cemetery, the grave of Tenia Anderson (later Lewis) is in Brooklyn, Mississippi (Rita McCarty, personal communication). The Posey children mentioned may have belonged to Grace (Gracie) Anderson, the daughter of Elisha and Tenia, and Lewis Posey, married in 1922 (Perry County Marriage Records 1922). However, both seemed to have remarried by the 1930 Census, and no children were recorded between this couple.

One of the most notable features of the cemetery is that all of the graves are covered by a bed of oyster shells and pea gravel. As a mortuary practice, the use of seashells to mark grave locations can be traced to an early African American tradition (Jordan 1980). This tradition was most likely brought to the South during the slave trade as an ode to the mortuary traditions of West Africa. In areas like Nigeria, it was common for cowrie shells to be thrown during the funeral, and in Ghana, shells were offered to the dead (Jordan 1980). However, neither of these groups explicitly used shells to cover their graves. Instead, in most cases the tradition of covering a grave with seashells seems to

have stemmed from a pagan European ritual. The practice originated as a way to make offerings to their gods to protect the dead (Jordan 1980). As Christianity spread throughout Great Britain, the custom was repurposed by the Christian Welsh and English, which they carried with them when they immigrated to the United States in the 1800s. It was perpetuated for a century by families across the South, as it had been done by the family that came before them.

Because the Courtney and Anderson families lived approximately 75 miles from the coast, it would have been a difficult task to retrieve shells to decorate their graves. However, their proximity to the Leaf River may have aided in the transport of seashore goods. Local folklore provides two potential solutions. One local woman on a Perry County History forum claims that the shells were used by a family who lived on the property, headed by Samuel Martin, who suffered from an ailment that was resolved by brewing a tea from oyster shells. Once the shells were discarded, the family would have used them for their grave coverings. However, upon archival research, I was unable to locate Samuel Martin who lived on the property. Another story told by local amateur genealogist and historian, Glenda Prine, is that the shells were placed by E.J. Anderson and his wife, though no date was specified; additionally, Mr. Anderson told the historians that he knew to whom every grave belonged. Both Mr. and Mrs. Anderson have since passed away, and this information was not recorded (Glenda Prine, personal correspondence).

The Mississippi Piney Woods

The Piney Woods is an expanse of land located between southern Virginia and eastern Texas. Lying north of the Gulf Coast, the Mississippi Piney Woods stretches

across sandy soils that bore longleaf pines. However, this same soil was not suitable for growing many other types of crops, and the only fertile areas existed along the bottomlands of the Chickasawhay, Leaf, and Pascagoula Rivers (Wilson 2018). By the late-1800s, the Piney Woods was home to prospering lumber industry, taking advantage of the miles of pine growth across the land. While this timber boom was responsible for the growth of many Piney Woods towns across Mississippi, by the early 1900s, the industry was responsible for the deforestation of the virgin yellow pine forests, leaving a desolate expanse of stumps in their wake. By the 1920s, most of the lumber infrastructure began to be abandoned.

Aside from a detailed history of the lumber industry, very little has been recorded about the culture of those living in the Mississippi Piney Woods (Polk 1986). Noel Polk (1986) argues that the Piney Wood has been so often ignored because of its geographic location. Polk writes, "The Piney Woods has an identity problem, it lies in its very *placelessness*, in the perception that nothing has really ever happened here; the Piney Woods has suffered from being located *between* such extraordinary places…with their rich, colorful, dramatic histories; historians, like suitors, tend to court the flashier sisters first" (1986, xi). However, he argues, the absence of intense battles or major political institutions should, in itself, be a triumph, as the people of the Piney Woods have maintained relatively frontier lifestyles well into the 1900s.

What has been written down is often from the perspective of outsiders, painting those who lived in the region as poor, ignorant, and lazy. The accounts range from the mid-1800s to the current era, extending even through periods of economic growth associated with the timber industry. Per the Federal Writers' Project of the WPA writing

about Mississippi in 1938, “the Piney Woods people are economically poor, politically unpredictable, and in a constant state of economic transition” (6). This perception is not much different from the those shared in 1906 by John Claiborne. When traveling through Augusta (the pre-cursor to New Augusta), he described the town as a miserable and dilapidated place, with few occupants living in poorly constructed dwellings (McWhiney 1986, 48). Even though many of these accounts were written over a century ago through biased eyes, these preconceptions still taint the academic perception of the rural Piney Woods of the nineteenth and twentieth centuries.

Lifeways in the Piney Woods

Very little is known about the daily lives of the Courtney and Anderson families, as no archival records have been found detailing such information. Of note, per the 1920 Census, both families were literate. While I cannot report the absolute of their world, archival records and oral histories can provide an overview of the culture of families that would have lived in a similar style. One such account was recorded by David Heflin for Ruth Mohundre Gunn in 1973. Mrs. Gunn grew up in Tippah County, Mississippi between 1895 and 1902. In her personal account, Mrs. Gunn details the log cabin that was constructed by her grandparents, which she describes as “the typical farm home. We were proud of it and satisfied with what we had. We had no luxuries, but no one else did in our community” (Gunn 1973, 89). Even though the home was of simple construction, her parents made an effort to keep the home clean and tidy. Over the years, the walls were brushed with “white dirt”, a mixture of dirt, water, and salt, though later the dirt was replaced by lime. The home was cleaned using a mop constructed from corn shucks dipped in lye soap.

Most farming families fed themselves directly from food grown on the property. Mrs. Gunn reminisced, “The farmers raised almost everything that they ate. I remember when my daddy would plant a field of wheat. It ripened in early summer and was a beautiful sight waving in the breeze” (1973, 90). In other areas of the Piney Woods, staples like corn, peas, and okra were grown alongside cotton fields (Mary Fuller, oral history interview conducted by author on April 1, 2022). Most farm animals served two purposes, beasts of burden and as a food source. Mules pulled plows, wagons, and planters. Cows were both milked and slaughtered, though hogs were more commonly used as a meat animal. Chickens provided families with eggs and meat (Fuller, 2022).

The families of the Piney Woods were also largely self-sufficient in their medical practices. Until the early 1900s, diagnosis was often centered around the symptoms and not the cause (Walker 1990). This was due to the low level of diagnostic ability of early physicians. Depending on proximity to urban centers and degree of illness, many families in the Piney Woods would treat themselves, often using folk medicines. Residents would access the medicinal plants that grew all around them. Common conditions, such as sore feet, constipation, or fever could be remedied by an herbal blend. This knowledge was passed on from generation to generation (Abrams 1998, Fuller 2022, Snyder 1973). People made do because access to modern medicines was made difficult by distance. When one doctor serviced a large territory, it was often quicker to treat ailments using items at hand.

Records, including census data, mortality schedules, personal communications, and medical records can be used to reconstruct the health patterns in the South a century ago. However, it must be pointed out that records from the past can often be

misconstrued or misrepresented. Common bacterial infections, such as staph and strep, were not properly attributed to a bacterium until the latter half of the 1800s. Diseases that affected the population as a whole or contributed to mass disfigurement, such as Hansen's disease, had a higher chance of being recorded because they were so visual (Roberts and Manchester 1997).

Many dental hygiene habits did not develop consistently in the United States until the 1940s (Messina 2016). Additionally, if the individual did not have access to dental care, such as provided through a dentist or doctor, they may have not been aware of the issues caused by their diet or lack of hygiene. Dentistry began in America in the 1840s, though the specialty of dentistry only became common in the 1920s in the United States (Messina 2016). If the diseased tooth was not pulled, the caries may have been filled by gold or dental amalgams, an alloy of mercury introduced in 1820. Though most fillings would have been metal based, porcelain or ceramic fillings may have been used as they blend better with the natural enamel (Messina 2016, 22).

Other cultural habits can be seen in the teeth that are not the result of diet. Non-masticatory function of teeth as tools can been seen globally. As stated by Scott and Turner, "used as pliers, vises, or a third hand, the anterior teeth often show patterned wear unrelated to chewing food. This wear may take the form of grooves or notches on the occlusal surfaces; or the distal and mesial margins of two adjacent teeth may be disproportionately worn" (1988, 112). Practices, such as the construction of baskets and nets or sewing, have been shown to produce consistent wear marks on the teeth as they are used as tools. Additionally, habits like pipe smoking can be traced by observing the wear patterns on the teeth. By clenching down on the pipe consistently, a distinct ovular

hole develops in the upper and lower teeth (Scott and Turner 1988, 112). While many groups across the globe purposely modify their teeth for cultural practice, it was not common during the post-bellum period among Americans.

Deathways of the Piney Woods

Per the Mortality Schedule of 1880 (the last mortality schedule conducted in Perry County), 36 people died in Perry County within the timeframe of the census. Of note, those buried in the Courtney-Anderson Cemetery most likely died in the years following 1880, but lack of data argues for the use of this mortality schedule for a starting point for research. Of those 36, congestion (an accumulation of liquids within the body) claimed the lives of five individuals and consumption (tuberculosis) was the reported cause of death of four individuals. Pneumonia killed two, with teething and croup killing one child each. Four people died from undiagnosed fevers or inflammation. 21 of the deaths occurred with individuals under the age of 18, with approximately 40% of those deaths belonging to babies or infants aged a year or less. Three individuals, all adult males, died from accidental causes, including a snake bite and drowning. One adult female died during childbirth, and one neonate died from premature birth.

More broadly, the Department of Commerce records the mortality statistics for the entirety of the United States. In 1920, the year most closely relevant based on the known interment of Enoch and Elisha in 1923, 1.14 million deaths were documented for the record period, at a rate of 13.1 deaths per 1,000 people. At this time, the registration area was comprised of 34 states plus the District of Columbia. Of note, 16 cities located in non-registered states provided data, as well. Mississippi is included in the registration area for 1920. As stated in a summary of the mortality statistics:

> The death rate from pneumonia increased from 123.5 per 100,000 in 1919 to 137.3 in 1920. For chronic diseases of the heart, the rate increased from 131 to 141.9; for cancer, from 80.5 to 83. Some of the other diseases for which the rate increased are whooping cough, measles, cerebral hemorrhage, congenital debility and malformations, puerperal fever, scarlet fever, and appendicitis. The fatalities caused by automobile accidents and injuries show an increase from 9.4 per 100,000 in 1919 to 10.4 in 1920.
> A marked decrease is shown in death rate from tuberculosis, which was 114.2 in 1920 as compared with 125.6 in 1919; also in the death rate from influenza, 71 in 1920 as against 98.8 the year before. The death rate from suicide declined from 11.4 in 1919 to 10.2 in 1920. There was a decline also in the rate for typhoid fever and in that for accidental drowning. (*Public Health Reports* 1921, 2723-2724)

Disease claimed the highest rates of death. Pneumonia, heart disease, and tuberculosis accounted for 30.1% of deaths for this period. Comparably, these diseases accounted for 31% of deaths in Perry County in 1880, suggesting the data from the mortality schedule may be appropriate for use in this research. This does not account for changes in the vocabulary or advances in diagnosis between these two periods, however.

Mortuary Beliefs and Practices

How a community buries their dead speaks to what is valued within a society. Cemeteries are windows into a culture and "are central to community life and to the continuity of families within communities….where historical, kinship, and social ties are affirmed and maintained" (Davidson and Mainfort 2011, 203). These ties often dictate the practices associated with how an individual is interred. As with life, social status is often reflected in death. Attributes of identity, such as gender, sex, race, religion, social class, and socioeconomic status, can often be inferred by the mortuary context of a burial. In a traditional burial, grave markers, orientation, and location share this identity on the surface.

Designs of surface markers emulate symbolic imagery representative of customs and traditions of the time but may not have represented the personality of the deceased (Baugher and Veit 2014, Springate 2015). How they are designed and constructed are reflections of the bereaved, as decedents do not typically design their own graves. Grave goods, however, can be intimate representations of an individual's life, identity, and beliefs. While surface markers are designed to be seen by anyone, items interred with the dead are personal, "often placed there by family members, close friends, and/or morticians. The material included in the coffins or simply with the bodies reflects what grave goods families wanted to be placed with their loved ones" (Baugher and Veit 2014, 35). Without observing both the surface and subsurface items of material culture, only portions of an individual's identity can be inferred.

Surface features and grave goods cannot be used exclusively to reconstruct an individual's life. In fact, depending on the era of interment, items in mortuary context can often be misleading. Of note, the culture of the rural South would not have changed as quickly as those in urban areas. Though, much of the literature surrounding death culture has been curated from urban sources, which is presented here. Beginning in the late 18th century, Americans moved away from the colonial practices of a burial, often shrouded in feelings of guilt and impending judgment, and began romanticizing death (Bell 1990, Douglas 1975, Springate 2015). Through the beautification of death movement, "death became more of a romantic idea, and increasingly celebrated as an escape from our imperfect world—a literal domestic haven populated with departed family and friends that promised respite from the instability and uncertainty of an increasingly capitalist world" (Springate 2015, 60). Death was now associated with the positives of the afterlife.

As the philosophy surrounding death shifted, so did death culture. Instead of being a terminus, death was a transition from the mortal world to the immortal (Bell 1990). This shift led to many changes in how the deceased was prepared and interred. New techniques and technologies emerged to better preserve the dead, including airtight coffins and embalming (Springate 2015). Outwards displays of grief were customary for this period, often culminating in lavish funerals and heavily decorated coffins (Bell 1990). At the same time, improvements in technology led to advancements in metallurgy. This innovation extended the theater of death to include the poor and working class, as inexpensive, mass-produced furnishings could now be purchased to adorn coffins (Baugher and Vert 2014, Bell 1990, Springate 2015).

The innumerable dead bodies scattered across the country from the battles of the Civil War led to changes in death culture. Left reeling by the carnage of the Civil War, Americans turned away from the beautification of death culture (Rosenow 2015, Springate 2015), causing "doubt to creep into American minds about the nature of the human soul and the existence of a benevolent deity" (Rosenow 2015, 3-4). Still, the death industry flourished post-bellum, leading to the professionalization of death care. Though undertaking and preservation procedures existed prior to the war, the need to transport bodies long distances revolutionized the industry and spurred rapid advances in the process. Even though embalming became an increasingly common practice in this era, most of the war dead were buried in mass graves on the battlefields, if they were buried at all. Only those of status or rank were embalmed to be sent home for burial. When possible, soldiers would record the location that their fellow men fell, allowing families to recover bodies following the battle, but most bodies were decomposed beyond

recognition by the time they could be collected. Having been forced to confront status and social order during the war, many Americans turned to funerary customs to instill one's place in the social structure. The introduction of new technologies and improvements in mortuary practice allowed people access to a wider variety of choices of how to memorialize the dead.

From the 1880s forward, Americans have distanced themselves from death. Instead of partaking in the mourning process directly, death care has been handled by professionals. The dead and dying are removed from the home, and people often die under the eye of healthcare professionals in hospitals. Death in the 20th century has become a "private, professional experience that only briefly intruded on [American's] daily lives" (Rosenow 2015, 4).

By observing the patterns that are left behind on the remains by cultural practices, a clearer picture of life in the past can be understood. Studying medical practices and lifeways provides a much-needed context that, when combined with mortuary archaeological data, supports a narrative of lifeways of turn of the century frontier families of the Piney Woods.

Theory and Method in Social Bioarchaeology

One increasingly prominent approach to study this reconstruction of lifeways is to employ a biocultural perspective, which "attends to both the intertwined biological and cultural aspects of any given human phenomena, explicitly emphasizing the dynamic, dialectical interactions between humans and their larger physical, social, and cultural environments" (Zuckerman and Martin 2016, 7). This approach leans into the idea that just as humans shape the world around them, the world at large can shape humans, and

this mutual interaction can be reflected in the bones. Incorporating the biocultural approach, social bioarchaeology emerged as a wave of bioarchaeology in the early 2010s (Agarwal and Glencross 2011). Social bioarchaeology is founded on the idea that the skeleton is caught within the duality of biology and culture. The method is interested in the multidimensional aspect of identity. This focus is mainly on the individual, not the population.

Social bioarchaeology expanded upon the ideas from previous bioarchaeological theories to form a more well-rounded paradigm, most easily seen in the work of Agarwal and Glencross (2011) and Agarwal (2016). Within this, both the empirical and theoretical components of the individual are studied. Collaboration is also a key aspect of social bioarchaeology, both with the living community and the neighboring sciences. Researchers want to understand the lived experience of those whose body is being studied. Life Course Theory (LCT) is an example of this paradigm (Agarwal 2016). LCT looks at the impact of an individual's life on their body, particularly in studying how the external environment and behavior influence growth and development. Plasticity, or the ability for an individual to adapt to stressors, and developmental trajectory, or the course an individual's body takes to adapt to said stressors, cumulate within an individual's body, leaving a map of that person's past on their bones. This map can be read through stature and dental enamel issues (like Linear Enamel Hypoplasia).

Social bioarchaeology suggests that context and collaboration between living descendants and the hard sciences are pivotal to understanding the lived experience of an individual. By doing so, a clearer picture of an individual's identity can be seen. While

based in both science and informed assumption, many argue that this methodological approach is successful in creating a picture of the past.

What is an Osteobiography?

Osteobiographies are narratives created to share a depiction of the life of an individual excavated from an archaeological site. While the approach requires careful interpretation, the methods are firmly based in the scientific analysis of human skeletal anatomy. The term was coined in 1972 by Frank Saul, but in these early biocultural projects, the research questions were founded on observing the population as whole (Zuckerman and Martin 2016). This meant that interesting individuals who deviated from the rest of the group may have been left out of the research as outliers. Their identities are forgotten or modified to fit. By telling their story apart from the group, being an outlier is highlighted, and their life histories are shared. Osteobiographies as reimagined by the emerging social bioarchaeology field began to do the opposite. Those who were buried in an interesting way or show a different osteological profile are showcased, as the narrative shared through their remains is just as important as the normative. Instead of representing the deceased as a specimen, separated from humanity, the individual is represented as a person who had a life and story (Stodder and Palkovich 2012).

This method, however, does have its potential shortcomings. When creating an osteobiography, the researcher must be careful that their own biases and assumptions do not overshadow the truth of the past. Because it is told in a narrative way, the same humanization that makes it successful can be harmful. If the researcher is not careful, their own opinions and interpretations of the past may be presented through the osteobiography instead of what the data shows. In addition, because osteobiographies

rely on the social aspects of culture to provide evidence (part of that collaborative system established by social bioarchaeology), it is at risk of not contributing substantively to the field. If the biology is simply being studied to support the recorded history, then nothing is gained. This pitfall can be avoided by accounting for bias and critically examining the questions being asked and how they will be answered.

In contrast, one of the strengths of this method is the ability to humanize the deceased. This makes life history theory more approachable for non-archaeologists and more interesting for those already in the field. It helps bring the past to life in a way that was previously denied by the need to produce strictly scientific research. A large portion of the osteobiography is founded on informed assumption but is supported by either scientific method or historic accounts (Stodder and Palkovich 2012). It answers questions in a way that differs from previous approaches. While this approach has been critiqued for the bias introduced by the narrative aspect, the crux of the osteobiography is founded on scientific method and based in evidence. Its strength comes from its accessibility. Anyone can pick up an osteobiography and understand the story it is trying to tell. It does not bypass the science, but it does help to make the deceased's life feel real to the reader.

Osteobiographies can also be used to detail the lives of the common folk. Their stories are just as valuable. The skeletal remains can be analyzed, using methods tested and proven to have a high rate of accuracy, to determine age, sex, ancestry, and stature. Additionally, if the individual experienced any stressors throughout their life, it may have left lesions on the remains. For example, lack of nutrition while a child is growing can lead to permanent markers on the long bones or teeth noting points of growth disruption. Similarly, chronic disease or injury could have led to characteristic lesions on the bone;

for example, areas of bone proliferation, such as osteophytes, could point to areas with extensive joint usage or arthritis. Cultural markers, such as dental fillings or unusual tooth wear, can suggest socioeconomic status or participation in certain activities such as smoking a pipe. Each area of bone modification (or lack thereof) provides a small piece of the narrative.

Osteological Health Markers of the 19th and 20th Century American South

Often developing hand-in-hand, stress markers and nutrient deficiency are prevalent identifiers for determining health of a population. In times of extreme stress, such as during war, famine or drought, and pandemics, health has been shown to decrease, often leaving osteological markers.

Linear Enamel Hypoplasia

Linear Enamel Hypoplasia (LEH) is used to pinpoint times of stress during childhood when the teeth were forming. These stressors could range from the trauma of birth to times of extreme malnutrition or disease (Langsjoen 1998). The LEH, characterized by macroscopic horizontal lines or furrows in the enamel of the tooth, develop when growth is disrupted during formation. In order for the LEH to form, the individual must live through an event that the body deems potentially life-threatening, as it diverts energy away from nonvital processes (Langsjoen 1998). As the hypoplasia are permanent, pending the tooth is not shed or eroded, they provide a general summary of an individual's overall health since the frequency of and the age at formation of episodes can be determined. However, not every individual will develop LEH during times of stress, and even if they do, they may not develop them during each contact with the stressor.

Additionally, LEH are non-specific markers of stress, and thus cannot be used to determine the stressor (Langsjoen 1998).

Anemia

Anemia is a term used to describe disorders associated with red blood cells. As the cells are manufactured in bone, changes to their health can have an impact on skeletal wellbeing. Anemia specifically refers to the conditions that result when too little blood is circulating within the system. One cause of anemia is a deficiency in iron, a mineral necessary for proper hemoglobin function (Aufderheide and Rodriguez-Martin 1998; Walker et al. 2009). Symptoms of anemia can include pale skin, fatigue and weakness, difficulty breathing and maintaining a steady heart rate. Osteological reaction to blood disorders is often nonspecific. However, anemia is characterized by an increase in area to accommodate more blood cell production through a condition called hyperplasia. Specifically, the medullary cavity is widened, thinning the cortical bone. In flat bone, as the diplöe widen to accommodate for the increased blood cell production, the general thickness of the bone increases (Aufderheide and Rodriguez-Martin 1998).

Until recently, two types of lesions, porotic hyperostosis and cribra orbitalia, have only been associated with anemia. Though the conditions have become more general symptoms of multiple conditions, they are still used to support interpretations of anemia. Porotic hyperostosis (PH) is specifically characterized by increased porosity of the bone, though the definition has been limited to describe lesions on the cranium, most commonly affecting the external laminae of the parietals and frontal (Aufderheide and Rodriguez-Martin 1998; Ortner 2003, Walker et al. 2009). Similarly, cribra orbitalia are small lesions located only on the superior portion of the frontal orbits. Cribra orbitalia

(CO) tends to be bilateral in almost all cases. Additionally, in many populations, CO is more common than PH (Aufderheide and Rodriguez-Martin 1998).

Pellagra

Pellagra is metabolic disease shown to have a high correlation to populations living with stressors. It tends to manifest in populations whose diet is limited to foods high in proteins. This condition develops when the body does not receive enough niacin and tryptophan to maintain proper function. Pellagra is often found in communities that rely heavily on corn to supplement their diet. While corn does contain niacin, for the body to utilize it, it must first be processed with an alkaline solution (Davenport 2017). Historically, populations that relied on corn and did not have access to meats often encountered additional stressors from the symbiotic nature of nutritional conditions. For example, the inmates of the Mississippi State Lunatic Asylum in the 19th and 20th centuries were subjected to this type of diet, and many residents were recorded to have suffered from pellagra (Davenport 2017).

Pellagra is characterized by runny stool, skin issues, dementia, and, eventually, death. Just like anemia, the osteological changes for pellagra tend to be nonspecific modification. Nevertheless, two case studies (Paine and Brenton 2006) using a South African population with documented cases of pellagra have shown that within the bone, as the rate of metabolism decreases, the bone becomes osteoporotic. This is mainly because the remodeling of the bone slows with metabolic changes, meaning the bone cannot keep up with the modifications needed to maintain bone density. In general, individuals with pellagra will experience thinner than average cortical bone; lesions of

the tibiae and fibulae were common. Additionally, rates of alveolar bone loss were increased (Paine and Brenton 2006).

Infection

Infection is the invasion of the body by a foreign body, often a bacteria, parasite, virus, or fungus (Ortner 2003). As an infection begins to affect the bone, lesions will develop. and may be either osteoblastic or osteolytic. Both osteoblastic (the addition of bone) and osteolytic (the removal of bone) functions are part of heathy bone maintenance, but in instances of infection, they can be pushed into overdrive (Roberts and Manchester 1997).

One area of concern with understanding infection in osteological remains is the osteological paradox. Coined in Wood et al.'s 1992 article, the osteological paradox suggests that the "facts" of the past shown on the skeleton are not as concrete as previously imagined. For example, lesions and other signs of disease can show that an individual was ill, but they do not always form before death; an extremely sick individual might have only suffered from an acute condition, resulting in death before any long-term damage was done to the bone. Those who lived a long time with their conditions arguably were healthier to sustain the amount of osteological destruction found in many burials. The osteological paradox also suggests that our methods themselves can be biased. Assumptions made about a population based on the excavation site can be tremendously flawed, especially when we assume that a population's demographic does not change, individual's susceptibility to illness is ignored, and believe that the entire population that suffered from a disease must have died from said condition (Wood et al. 1992). These circumstances could drastically alter the data gathered of any burial ground, but are often

ignored within bioarchaeological research, particularly before their landmark publication.

Non-Specific Lesions. In some situations, paleopathology can only identify that bone was modified by an infection but cannot pinpoint the specific cause. These lesions are categorized as non-specific and are still formed in the same manner regardless of causative agents. Bacteria from the *Staphylococci, Streptococci,* and *Pneumococci* genera are estimated to be the most common causes of many of the non-specific bony lesions found in antiquity and today (Roberts and Manchester 1997). However, as seen in the current era, many of these infections run their course before they can make permanent modifications to the osteological systems. While it is possible today to determine the causative agent of many bacterial infections through sampling and genetic analysis, it is very rare for the infectious bacteria to survive in the archaeological record (Roberts and Manchester 1997).

Infection of the bone is categorized per the level of infection. Among the most severe levels is osteomyelitis. Osteomyelitis is characterized by "the solid compact wall of a bone, together with the relatively loose and bloody marrow or medullary cavity in the interior, are affected by the infection" (Roberts and Manchester 1997, 127). It is also assumed that the infection will alter the periosteum, a fibrous sheath surrounding the bone. Osteomyelitis can develop from many different bacterial infections but is most often associated with *Staphylococcus aureus* (Ortner 2003). The infection can reach the bone though several ways, including direct infection, infection of the adjacent tissue, and through the blood supply (Ortner 2003). In this type of infection, the bone reacts with increase osteoblastic and osteoclastic function. In addition, the infection can cause the

bone to develop holes, called cloaca, to aid in the expulsion of pus (Roberts and Manchester 1997).

Tuberculosis. One of the most common diseases of the era and location was tuberculosis, also referred to as consumption. Tuberculosis is a disease caused by the human-to-human spread of the bacteria, *Mycobacterium tuberculosis* (Ortner 2003). *Mycobacterium bovis* is also known to cause tuberculosis infections by means of infected cattle, but only human-to-human infections will be discussed in this research. Tuberculosis affects both the soft and skeletal tissue, though the disease must progress to make modifications to the osteological material. As one of the oldest diseases, tuberculosis has been affecting humanity for thousands of years. The bacteria was first identified in 1882 (Roberts and Manchester 1997). Tuberculosis first infects an individual by respiratory transmission. In most cases, the infection is removed by the immune system before the disease is allowed to progress (Ortner 2003).

As the infection is transmitted through respiratory droplets, the lungs are often the first set of tissue affected. In healthy individuals, during the primary infection, the body reacts by enveloping the infected and damaged tissue. However, the surviving bacteria can still infect the individual later if it is released again during a secondary infection (Aufderheide and Rodriguez-Martin 1998). If this occurs, the individual's immune response will perform at a heightened level, as it has already encountered the bacteria before. This can lead to increased damage to the infected areas, however. During a secondary infection, the individual can be more infective, as well, as the immune response can result in coughing fits (Aufderheide and Rodriguez-Martin 1998). If not treated, the infected individual may alternate between periods of sickness and healing

while their immune system battles the bacteria. Additionally, during this period, the disease can spread to surrounding tissues, including the stomach, kidneys, and genitalia, and can eventually spread to the brain and meninges (Aufderheide and Rodriguez-Martin 1998).

Osteologically, once the tuberculosis infection begins to spread, it most often attacks the bones closest to the lungs, most commonly the vertebrae. Of all of the skeletal modifications made by tuberculosis, 40% or more involve the spine (Aufderheide and Rodriguez-Martin 1998). In addition to their proximity to the lungs, ribs and vertebral bodies, particularly the lumbar, are well-suited for tuberculosis infection, as they are mostly composed of spongy bone and have a high oxygen supply (Aufderheide and Rodriguez-Martin 1998). Once the bone is infected, the bone begins to break down from osteolytic reactions. This can result in modification of the vertebral column as the vertebral bodies begin to collapse inwards. It must be noted that this infection rarely affects the neural arch (Ortner 2003). As the bodies collapse, a condition called kyphosis can develop. Kyphosis, observed in approximately 60% of pre-antibiotic tuberculosis cases once it has progressed to the bone, is the severe deformation of the spine into a sharp, unnatural angle. In some instances, this condition may be preserved permanently by the individual as the bone attempts to repair itself through fusion of the vertebrae (Ortner 2003).

Secondary to spondylosis, or wear to the vertebral column, the hip is the most affected joint, followed by the knee, sacroiliac, ankle, shoulder elbow, and wrist (Aufderheide and Rodriguez-Martin 1998, Ortner 2003). Infection of the joint most commonly manifests as intense destruction to the bony regions. In the hip, the head of the

femur and the acetabulum are broken down along the joint surface, with the weight-bearing portions following behind. As this occurs, the remnants of the head of the femur can be forced upwards, dislocating from the joint, eventually fusing in this position as the bone attempts to heal the injury. This immobilization is called ankylosis (Ortner 2003; Roberts and Manchester 1997). Just as in the hip, the other joints experience similar modifications as the bone becomes infected.

Dental Disease. As a part of the body that encounters the outside world often, the mouth and dentition are especially prone to infection. A large portion of dental disease is the result of the lack of dental hygiene or care. As teeth are worn away, by diet or use, the dentition becomes more vulnerable to disease (Ortner 2003). As a result, dental disease can manifest from small caries to shedding of dentition as the infection progresses to the alveolar processes of the mandible or maxilla. The most common dental disease is caries. More commonly known as cavities, caries are the "result of fermentation of food sugars, especially sucrose, in the diet by bacteria that occur on the teeth" (Roberts and Manchester 1998, 46); unlike the rest of the skeleton, the lytic reactions among the teeth are the result of the acid produced by the bacteria, and not a process of the bone itself (Ortner 2003). Thus, caries are ultimately the result of a combination of dental morphology and human variation, cultural practices, and the environment, most often affecting the molars (Ortner 2003; Roberts and Manchester 1998).

If the caries is allowed to progress, the infection can penetrate the pulp cavity. Generally, this implies infection of the surrounding tissue, as the inner tissue of the tooth provides a pathway. Once the bone becomes infected, the condition is upgraded to an abscess. As this occurs, alveolar bone around the tooth is destroyed, and the infection

begins to produce pus (Ortner 2003). When enough bone is lost, the individual may shed the tooth. If the tooth was lost around the time of death, the loss cannot be differentiated from a tooth lost after death. However, if the site of infection began to heal by reabsorption of the cavity, an approximation of how long ago a tooth was lost can be created. This will be discussed in more detail in Materials and Methods.

Additional infections of the mouth include periodontitis. Periodontitis develops when an existing inflammation of the gums (called gingivitis) progresses to the bone. Archaeologically, periodontitis would have been common (Ortner 2003; Roberts and Manchester 1997). As with abscesses, periodontitis becomes an issue because it is the result of degradation of the alveolar bone, along with the soft tissue attachments that anchor the tooth. However, in instances of alveolar loss without the co-occurrence of tooth loss or caries, the bone is most likely being affected by periodontitis not associated with abscessing (Ortner 2003).

As teeth cannot heal in the same way the rest of the skeletal system can, they can provide an abundance of data to understand how someone lived within their space and time. Diet heavily modifies one's teeth. Without proper dental hygiene, foods heavy in carbohydrates and sugars are prone to damage to the teeth, as discussed in the dental disease section. Diets that rely on stone ground food items, such as corn and flour, also contribute to dental damage, as small pieces of stones remain in the food item as it is consumed, grinding against the teeth. The process of enamel removal is called attrition (Ortner 2003; Power 1990; Scott and Turner 1988). Additionally, as food is consumed, dental plaque begins to build up. If it is not removed, mounds of food debris begin to develop across the teeth and gums and the plaque is mineralized, resulting in dental

calculus. Calculus is most often caused by soft foods and can be very aggravating to the soft tissue (Power 1990). These conditions can help piece together the type of diet consumed, as the proportion of dental calculus to attrition may point to the proportion of soft to hard foods consumed (Power 1990).

Trauma

Trauma is the experience of physical injury to the body, and can be caused by multiple instruments, including blunt force, sharp force, and projectile. Blunt force trauma is identified by an injury caused by a (relatively) slow moving, blunt object. These types of injuries can be caused by objects like hammers or clubs or associated with vehicular accidents and falls. Sharp force trauma is caused by an object with a sharp or beveled edge coming into contact with the bone, often in a similar manner as blunt force trauma. Traditionally, objects like knives and saws are responsible for most of sharp force injuries, but non-traditional objects, like glass shards, can also create a similar injury pattern (Christensen, Passalacqua, and Bartelink 2014). Examples of dismemberment, by definition, are always associated with sharp force trauma. Projectile trauma in modern times is typically associated with injury caused by firearms (referenced as ballistic trauma). These injuries are sustained when the bone comes into contact with an object with a high velocity, such as a bullet (Christensen, Passalacqua, and Bartelink 2014). Trauma caused by exposure to high heat and blasts can also be found in certain settings, though they will not be expanded upon in this research.

Given that the bone has the potential to repair itself, most researchers believe that rate of traumatic injuries reported in the archaeological record is an underestimation (Ortner 2003, 119). Traumatic injury to the skeleton can be represented in four ways:

fracture (both partial and complete), dislocation, disruption of soft tissue function, and change in shape (Ortner 2003). Traumatic injury can be caused by both accidental and violent acts, though this is not always the cause. Other conditions, such as non-violent cultural practices, pregnancy, and disease, can greatly increase the chance of developing a traumatic injury to the skeleton (Ortner 2003). Analysis of trauma (to be discussed further in Chapters III and IV) observes the pattern of bone regrowth or loss, though some pathological lesions can resemble the bony callus of a healing fracture, so researchers must be careful to determine the cause when possible (Ortner 2003).

Fractures are a common traumatic injury that is represented in the osteological remains. The term fracture is used to describe any disruption of the normal continuation of bone, often caused by increased stress (Ortner 2003). While this includes the commonly noted injuries, such as a Colles fracture of the radius caused by a fall, it also encompasses alterations to the bone by medical procedures and violent sharp force trauma. One type of fracture commonly associated with manual labor is compression fractures, which are caused by adverse compression of the bone, usually along the vertebral column (Ortner 2003). Most often, fractures will heal, as seen by an abundance of active bony growth or callus. However, in cases of extreme injury, a fracture may never heal, resulting in nonunion of the bony pieces. This can alter biomechanical function and, potentially, increase susceptibility to infection (Ortner 2003).

Dislocation (or luxation) is characterized by the disjunction of the bone from its joint, most often associated with traumatic injury. If the bone is only partially separated from its joint, the condition is referred to as subluxation. On some occasions, fractures can be accompanied by dislocation of the joint, though this is not always the case (Ortner

2003). Unlike fractures, dislocations are only visible in a bioarchaeological setting once they begin to heal, so recent antemortem injuries will not be detectable. Of the joints in the body, the shoulder and hip joints are the most often affected (Ortner 2003). This can be visualized by modification of the joint surface, often through the formation of a secondary joint surface.

Trauma can result from violence, which is defined as an "act of physical hurt deemed legitimate by the performer and illegitimate by (some) witness" (Riches 1986, 8). Often associated with standard social and political norms, violence is always tied to a cultural meaning. In fact, the relationship between society and culture is where the power of violence is derived (Perez 2012, 14). Violence can range from small scale interpersonal violence, such as a fist fight, to large-scale raids, such as warfare (Harrod, Lienard, and Martin 2012).

Bioarchaeologically, damage to the bone caused by acts of violence can be difficult to differentiate from unintentional injury. While individuals of the past would have encountered unintentional injuries frequently, violent injury has been recorded to have been more severe, resulting in greater traumatic injury to the bone than accidents (Harrod, Lienard, and Martin 2012). Often, if an individual has been the victim of acts of violence in the past, they are more likely to have encountered violence multiple times, a concept known as recidivism (Harrod, Lienard, and Martin 2012). Violent injuries are most likely to occur to the head, as "cranial trauma serves as an effective means of marking a victim and establishing the perpetrator's dominance" (70). In injury to living tissue, head wounds are known to bleed profusely and are extremely visible to rest of the community. Because of this, by studying recidivistic injuries (in conjunction with

archaeological, ethnographical, and archival records), clearer images of violence in the past can be revealed (Harrod, Lienard, and Martin 2012).

Trauma can also be the result of unintentional actions. Accidental injury occurs when an individual experiences unexpected trauma not related to violence. Some common unintentional injuries that can affect the skeleton include damage from falls and trauma from vehicular accidents (Christensen, Passalacqua, and Bartelink 2014). As previously mentioned, the differentiation between accidental and violent injury in osteological remains can sometimes be impossible. Though there is not a consensus, some osteological researchers argue that injuries to long bones, particularly along the elbow, can be more commonly associated with non-violent injury (Ortner 2003). This argument is founded on the idea these bones are most commonly affected by fall damage Additionally, some fracture types, such as compression fractures and stress fractures, tend to be associated with workload or accidental causes.

Additional Bony Modification

Occupation Markers. One of the most common modifications to bones found in archaeological contexts is osteoarthritis. Even today, approximately 50% of individuals aged 60 and over experience osteoarthritis in their lifetime (Ortner 2003). The condition is characterized by the destruction of the articular surface and osteoblastic reactions, specifically along the joint margins, called osteophytes (Ortner 2003). Osteoarthritis is caused by the long-term abuse of a joint, which is why it is often associated with labor-intensive lives, though it can occur as the result of some diseases. It can affect most areas of the skeleton that experience stress, including the bones of the hip and shoulder joints.

Unlike most bony markers thus far discussed, entheses are a skeletal feature that is present in every living individual. As a structure, entheses are the attachment points for the musculoskeletal system (Foster, Buckley, and Tayles 2012). Extra-skeletal changes that occur to entheses can occur as a reaction to disease or bony modification, called enthesopathies, or as a response to physical stress, called robusticity, though the term varies depending on which study is observed (Foster, Buckley, and Tayles 2012). Modification of the enthesis has been linked to correlate with activity markers in those under age 50. As a person uses a specific muscle group for work, most often hard labor, the muscle load applies more stress to the enthesis, increasing the mass (Roberts and Manchester 1997). However, an enlarged enthesis does not always correlate to occupational status, and osteologically, it can be difficult to determine whether changes occurred due to cultural or natural function.

Conclusions

Many factors would have affected the biological remains of the Anderson and Courtney families. In the Piney Woods of Mississippi during the turn of the century, healthcare was likely managed by the family, often enacting folk medicinal techniques to stave off disease and heal injuries. However, as will be shown by this thesis, the family would have had access to professional medical care. Historical records, though there are few, show that many individuals of this class and period made do with what they had available to them within their immediate surroundings. By analyzing the mortuary remains of these individuals, a glimpse into how they lived and survived in this poorly recorded era is revealed.

CHAPTER III - MATERIALS AND METHODS

This chapter discusses the methods used in the excavation and analysis of burials 1, 2, and 3 from the Anderson Cemetery. This chapter shares the bioarchaeological field methods and lab methods of this study.

Field Methods

The source material for this thesis was collected through bioarchaeological excavation. Before excavations began, the area was carefully cleared of debris and overgrowth to provide a clear and safe working environment. Three graves were chosen for excavation, selected by increased shell count evident on the surface and evidence of intentional mounding of the soil. The selected burials were probed to determine which areas had been disturbed during interment. A one-meter by two-meter unit was laid over each burial of interest using a collapsible unit frame. Excavation proceeded one grave at a time. Excavation continued between January and May 2022 and was made possible by the many volunteers who helped throughout the dig. The artifacts and skeletal remains were reinterred in the Anderson Cemetery in June 2022.

Burial 1 was excavated in 10-centimeter arbitrary levels. The excavation strategy was modified to increase the arbitrary levels to 20 cm for Burial 2, though some levels were excavated in 15 cm intervals to account for soil changes. All matrix was dry-screened using one-eighth inch hardware cloth fitted to sifting-screens. Levels were excavated by shovel skimming until the artifact count began to increase or signs of burial were observed. Then, the levels were excavated using trowels and wooden tools.

The floor of each unit level was photographed, and soil conditions were documented. Soil texture was noted, and soil color was recorded using the value and

chroma standards set forth by the *Munsell Soil Color Book* (2000). Any noticeable changes to soil texture or color were recorded throughout the levels as a feature, which were photographed and mapped in plan-view. If warranted, the unit was expanded to expose the perimeter of each of the features. Features were excavated and screened independently of non-abnormal soils in 20 cm levels. If the feature was determined to be of non-cultural origins, such as root disturbance, we resumed excavation of the unit level. The excavation of the grave shaft was ended when sterile soil was observed.

Burial 1's excavation was concluded at 135 cm. Evidence of Burial 2 and 3 were found at a depth of a little more than 150 cm. Once we reached this level of organic material, excavation was completed using wooden tools to not damage the remains. Within each level, after the artifact was mapped and photographed (when possible), it was carefully removed and placed into an artifact bag. Organic material was stored in paper bags to allow it to dry, while non-organic material was stored in plastic bags. Provenience data was noted on each bag. Bone was recorded separately and was excavated in block to protect the fragile material.

Laboratory Methods

Once the human remains and associated objects were excavated, they were transferred to the University of Southern Mississippi (USM) Bioanthropology Lab. Because the bones were removed from the field in block, they were excavated in the lab using bamboo tools and a brush to gently remove the excess soil, which was then screened using one-eighth inch hardware cloth. Once cleaned, each fragmented element was refitted when possible, using Elmer's Glue. Metal artifacts were cleaned using a dry brush, with either plastic or copper bristles. Delicate pieces were cleaned using a

toothpick. Wood and charcoal items were immediately laid out to dry and any excess dirt was removed using a soft brush.

Mortuary Archaeology

To analyze the mortuary artifacts, identifiable furniture and decorative pieces were dated using online resources, including *Remember Man Thou Art Dust: Coffin Hardware of the Early Twentieth Century* (Hacker-Norton and Trinkley 1984) and "The Historical Archaeology of Mortuary Behavior: Coffin Hardware from Uxbridge, Massachusetts" (Bell 1990). Material makeup of the metal hardware and soil aggregates was determined by using a portable X-ray florescence (pXRF) device when its composition was not visibly identifiable.

Osteology

The methodological standards used to analyze and document these remains were chosen from the estimation techniques listed in the *Standards for Data Collection from Human Skeletal Remains* (Buikstra and Ubelaker, 1994). These methods encompassed estimating age, sex, ancestry, and stature. When analyzing the remains, priority was given to age and sex indicators located on the os coxae as they are most reliable. Elements of importance for aging were the pubic symphysis, auricular surface; the cranial suture closure and dental wear were used as secondary aging indicators. For sexing, elements of importance included the greater sciatic notch, subpubic angle, cranial morphology such as the brow ridge and mastoid process, and long bone size. The bone was analyzed using both qualitative and metric observations. Additional visual observations were made to record the appearance of the surface of the bone.

Individual health and socioeconomic status markers that were recorded included stature, linear enamel hypoplasia (LEH), and dental disease. Stature was estimated *in situ*, measuring from bregma to an approximation of the inferior surface of the calcaneus. This was done several times, and an average was calculated for the approximate height of the individual. The remains were also studied for signs of pathology, trauma, and nutritional deficiency using standard indicators outlined in Buikstra and Ubelaker (1994).

Dental health was recorded for each tooth. The number of LEH observed was recorded. Caries and dental wear were documented using methodology provided in *Standards* (Buikstra and Ubelaker 1994). The total number of caries present were recorded for the individual and by tooth type; severity of the decay and location on the tooth was also noted.

Each osteological and archaeological element was recorded and analyzed for all possible indicators present. As many of the skeletal remains were highly modified by taphonomical decay, analysis was contingent on the preservation. The following chapter discusses the analysis, and findings will be included there.

CHAPTER IV – RESULTS AND DISCUSSION

The results of this study are presented in five sections: necrogeography, grave morphology, material culture, osteology, and osteobiography. Necrogeography details the geographical elements of the cemetery, including how it was organized and modified by the families. Grave morphology describes the archaeological features of each burial. Material culture encompasses each of the material items left purposely by the family during the burial process and items left unintentionally by parties unknown. Osteology reports the biological features of the burials, specifically the human remains. The osteobiography discusses how this data works together in detailing the individual.

Necrogeography

As it stands today, the cemetery is difficult to access, as it has been reclaimed by the forest. The cemetery is surrounded by a chain-link fence, though several portions have fallen inwards or been toppled by trees. It contains approximately a dozen graves, oriented along an east to west axis. A topological map was created of the cemetery in 2005 (Figure 2) showing three distinct rows of graves. The western-most row contains three mounded burials of a size and shape typical of those seen in historic American cemeteries, with a possible fourth in the southwestern corner of the lot. The central row contains four piles of shell and gravel, and the eastern-most row contains five. Each grave is dressed in oyster shells atop a mound of soil and pea gravel and measures approximately five feet by two feet in size. During excavation, approximately .02 cubic meters of shells, filling a five-gallon bucket, were removed from each burial. Of note, caretakers of the cemetery have re-mounded the shells over the last century, so it is likely that many of the shells have been moved from their original location.

These shells are the only identifier remaining within the cemetery. According to Rita McCarty, the cultural resource manager at Camp Shelby, several of the graves were

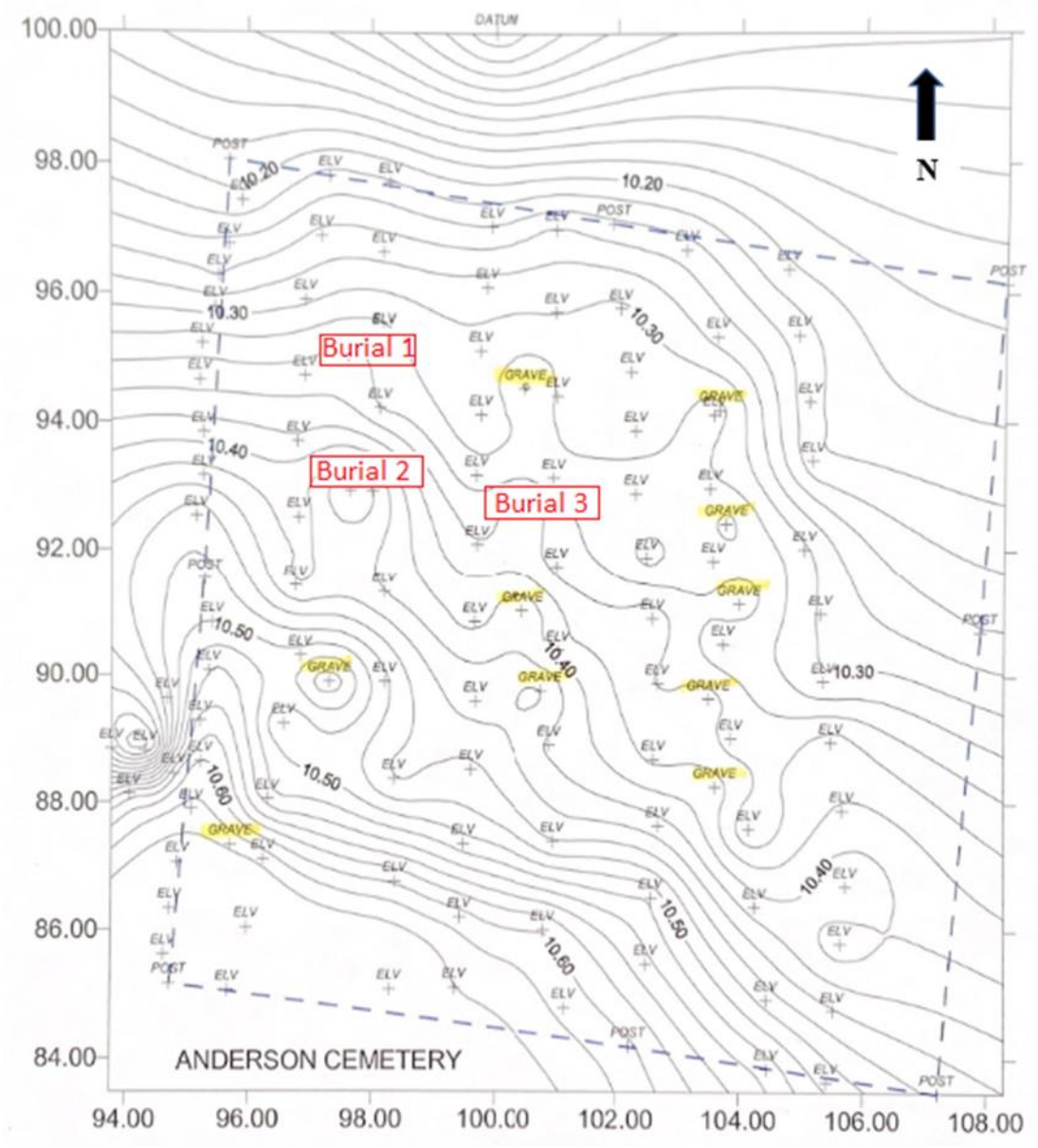

Figure 2. Topographic map of the Anderson Cemetery from 2005.

Locations of Burials 1-3 are superimposed (drawn by Edwin Jackson, modified by author).

marked by wooden stakes at one point that have since decomposed or have been burned in one of the controlled burns of the area. A few stakes remain, scattered across the

ground and no longer in their original context. Remnants of nails are found in each of the stakes, suggesting they may have formed crosses at one point. In addition, graves may have been adorned with commemorative plants at one time since an ornamental rose bush was growing at the northwestern corner of Burial 3.

Grave Morphology

Three graves were excavated within the cemetery (Figure 2). Burials 1 and 2 were selected because they were the most well-defined mounds and had the largest amounts of shells on the surface, clearly delineating the precise location of the burials. It was also assumed that they possibly represented the graves of Elisha and Enoch because they were the largest mounds. When it was found that Burial 1 did not contain an individual, a third grave was selected to provide additional data about the cemetery. Originally, the third burial was to be dug south of Burial 2 in the western most row to fully excavate the first row. However, heavy foliage made accessing this burial difficult, so the excavation was moved to the burial to the east of Burial 2 in the middle row.

Burials 1-3 were similar in morphology. Each grave was clearly defined by the grave shaft, distinguished from the sterile soil by intense mottling, and dimensions of each stain is summarized in Table 1. Each grave shaft was careful dug by the gravediggers in well-defined rectangles with very straight edges, suggesting the burials were done with care. Of note, no grave goods, hardware or remains were recovered from Burial 1, but it did have a well-defined grave shaft. This may be suggestive that the individual was buried without a coffin or that the grave was never used. Additionally, *Cemetery Records* (1980) suggest that there "is a possibility that the graves have been moved to another cemetery in the Brooklyn, Forrest County, area" (184), so it may

follow that Burial 1 was devoid of any burial because it was moved. However, the size of the grave shaft suggests that is unlikely that it was re-dug following burial.

The unit grid for Burial 2 was placed perfectly in line with the grave shaft dug by the original grave diggers. Because I did not realize the grave shaft was not completely exposed until I discovered the coffin, I did not expand the unit to the south and north. This made excavation difficult and resulted in the borders of the feature not being well exposed, contributing to the estimation of the grave shaft dimensions. Taking note of this error, I ensured that the entirety of the grave shaft of Burial 3 was exposed prior to continuing excavation. While this did require extra time, I think the decision was correct. By exposing the entirety of the grave shaft, it was discovered that the third burial was exceedingly long, measuring 280 cm (9 feet). This would have been ample space to burial the deceased, so it is interesting that the gravediggers took the time to dig such a large hole.

As the surrounding forest had been periodically burned since the 1940s, the level of bioturbation was low. However, where trees had existed, fire spread through the roots, leaving large deposits of charcoal. These deposits are present throughout the cemetery, causing small pockets of charcoal to occasionally emerge in the grave shaft. Additional disturbance from human or animal interference was not observed. Of note, during the excavation of Burial 3, the water table had risen, flooding the unit. This may have affected the preservation of the burials as they had been exposed to changes in the water level through the last century.

Table 1 Grave Shaft Dimensions of Excavated Burials

Burial no.	Length (cm)	Width (cm)
1	155	59
2	200*	100*
3	280	83-85

*Approximation based on unit measurements

Material Culture

Some 268 artifacts were collected and catalogued for this site. The majority of artifacts encompassed only a few types, primarily originating from the construction and adornment of the caskets. While most artifacts were placed intentionally, several of the inclusions, such as unassociated nails and wire and a lithic flake, were most likely unintentionally introduced to the burial as it was being refilled by the gravediggers. Items were photographed with a centimeter scale.

Pre-Contact Period Artifacts

Only one artifact was recovered in association with the pre-contact occupation. This artifact was a small tertiary chert flake (Figure 3) recovered in the grave fill of Burial 2. Based on coloration, the flake had not been heat treated. The flake was likely unintentionally included in the grave fill.

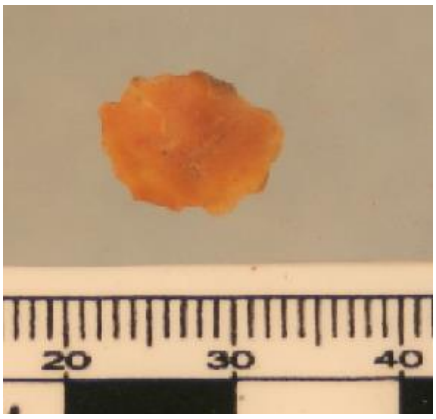

Figure 3. Tertiary flake recovered from Burial 2 grave fill.

Non-Mortuary Artifacts

As the graves were dug on the edge of a working farm, it follows that items may have been left behind unintentionally throughout the course of the family's occupation of the site. While this was infrequent, wire nails and wire were found several feet above the terminating level. These were observed at a higher frequency in Burial 1. Material was located on the surface, and when the burial was refilled, accidently included in the backfill. This is further supported by the identification of shells below the surface (Figure 4). This discovery suggests that Burials 1, 2, and 3 may not have been the first burials in the cemetery, as they contain shells from the surface. These shells must have already been in the cemetery before they were interred, suggesting graves existed here beforehand.

Mortuary Context

Figure 4. Shells below surface of Burial 2.

Of the entire cemetery assemblage, 98% of artifacts belonged to the mortuary context. These artifacts included nails, tacks, thumbscrews and plates, and handles (Table 2). This assemblage also encompasses the items found on the person, including buttons, fasteners, and medical accompaniments. Of note, Burial 1 did not yield any mortuary artifacts.

Table 2 Summary of Artifacts Associated with Coffins

Burial No.	Nails and Tacks (including Fragments)	Thumbscrews and Plates	Handles
1	0	0	0
2	139	10	6
3	54	7	6

Based on relative locations of handles and nails, the funerary boxes contained within Burial 2 and 3 were similarly constructed. Though changing soil conditions and poor preservation make identification of shapes difficult, these individuals may have been buried in a hexagonal coffin. This coffin style was popular in the mid-19th century, though it fell out of style in the late 1800s and became obsolete in the 1920s as families preferred heavily adorned caskets to bury their dead (Bybee 2003, Springate 2015). Several fragments of the coffin wood were collected (Figure 5), with preservation faring better underneath and near the coffin handles. Perhaps the corrosion of the handles decreased the acidity of the soil. The coffins were constructed of pine (identification

courtesy of Dr. Thomas Patterson), as would be expected since it is the predominant species in the area.

Figure 5. Coffin wood collected from Burial 2.

Both coffins were constructed with steel wire nails. Because of preservation levels, all the collected nails displayed some level of degradation and concretions (Figure 6). Concretions were not removed as initial efforts resulted in a loss of integrity. While most nails were unaltered, several clenched nails were recovered, most likely modified during the construction process. To close the coffins, both Burials 2 and 3 made use of thumbscrews and escutcheons (thumbscrew plates). The escutcheons are constructed of a flat, decorative plate with three holes: two holes to attach the escutcheon to the coffin and one larger hole in the center to "as a guide for the thumbscrew. After the lid was placed on the coffin, the thumbscrew was inserted through the escutcheon and lid and screwed into the coffin side to hold the lid in place" (Woodley 1992, 47). The thumbscrews have a flat head designed to be turned by hand, representative of the third generation of thumbscrew development. First patented in 1874 and used continually into the 1950s, the

third generation of thumbscrew quickly became the most popular variety and often was ornately crafted (Hacker-Norton and Trinkley 1984, Springate 2015).

Figure 6. Selection of nails showing varying states of corrosion

Ten thumbscrews of three different designs were collected from Burial 2 (Figure 7). Two of the thumbscrews were constructed of an iron head and body. Eight of the thumbscrews were constructed of an ornate white metal head and iron body; these thumbscrews were accompanied by an escutcheon. Six thumbscrew and escutcheon pairs were collected from Burial 3, all of the same design (Figure 7). The six thumbscrews in Burial 2 were identical to six of the thumbscrews in Burial 3, but the escutcheons are different. This is unusual, as thumbscrews are usually sold as matching pairs (Springate 2015, 21), suggesting that the thumbscrew and escutcheon were sold separately or changed their design over time.

Figure 7. Thumbscrew and plate (upper left) and box screw (upper right) from Burial 2. Escutcheon (lower left) and thumbscrew (lower right) from Burial 3. Note the design of the thumbscrew is identical to those found in Burial 2.

Decorative screws were also incorporated into the coffin design. Like the thumbscrews, the head of the decorative screws were an ornamental white metal attached to an iron body. In Burial 1, a screw with a crown motif was recovered from the head of the coffin (Figure 8), while a screw with a floral motif was recovered from the head of Burial 3 (Figure 9). The position and shape of these screws suggest they may have been caplifters. Used to open the coffin lid before the advent of more balanced lids with hinges, caplifters were traditionally ornate, depicting flowers, birds, and other shapes (Hacker-Norton and Trinkley 1984, Springate 2015).

Figure 8. Decorative screw with crown motif from Burial 2.

Figure 9. Decorative screw with flower motif from Burial 3 (left, top view; right, side view).

Six bail handles, three on each side, adorned each coffin (Figure 10). These handles were iron, constructed of two attachment points, called lugs, and a movable bar between. As small wood fragments were found on one of the bars, it is likely that they would have been reinforced with a wooden shaft (Hacker-Norton and Trinkely 1984). Though minute details are concealed by concretions, both coffins seem to have been fitted with handles of the same design. Small brass tacks attached the handle to the coffin.

Figure 10. Coffin handle from Burial 2 (inferior and superior views).

Tacks were collected that attached a liner to the coffin from both graves, though the liners no longer remain. Of note, a tarpaper-like material surrounded the cranium of Burial 2, perhaps the remnants of a coffin liner. Both coffins were adorned with a thin, stamped decorative metal plate that would have been positioned on the midsection of the lid. Small screws were found in association with these plates. The plate from Burial 2 (Figure 11) is highly fragmented, and only a small portion was able to be refitted. Based

on what remains, the plate seems to be a rectangle edged in filigree best seen on the posterior surface, most closely resembling a frame that would have held a paper or foil that read the deceased's name (Hacker-Norton and Trinkley 1984). The plate from Burial 3 is also highly fragmented but was pieced back together. This plate reads "At Rest" and is surrounded by a scalloped edge, a design evocative of the beautification of death. (Figure 12).

Figure 11. Metal frame from Burial 2.

Figure 12. Metal plate from Burial 3 reading "At Rest".

The items of mortuary context suggest that the family was of moderate means. The coffin furniture was indicative of mass-produced hardware of the late 19th century and early 20th century. This type of hardware was available to the middle class through catalogue ordering and local general stores. Following the Civil War and the rise of the professionalization of death, many caskets and coffins could be purchased pre-constructed. As both the coffins in Burial 1 and 2 were constructed using the same handles and thumbscrews, it follows that the coffins may have been built or purchased at the same time, with hardware purchased from the same retailer. However, due to the mass production of these items, retailers may have had the same stock for an extended period of time. The items of difference, such as the decorative screws, may suggest that the coffins and the hardware kits were customizable.

The burials in general contain hardware that was very popular in the late 1800s with a terminus post quem (TPQ) of 1877. This design of coffin hardware "was much

more intricate prior to 1900 when an array of design motifs was available, such as cherubs, angel heads and wings, flowers, vines, and background textures" (Hogue and Alvey 2006, 49). Following the turn of the century, styles became much simpler. Swing bail handles, for instance, decreased in popularity in the 1880s, with a static, short bar handle becoming more popular. By 1912, most caskets were adorned with extension handles that ran the length of the box (Hogue and Alvey 2006). Additionally, white metal coffin screws can be found as early as 1865, but disappear around 1920, with third generation thumbscrews coming into popularity around the turn of the century (Hogue and Alvey 2006). Together, these features suggest that the burials would have most likely occurred between 1877 and 1920.

It is important to note that these styles are dependent upon community trends, socioeconomic status, and availability. While an early date of use can be established, attempting to pinpoint the latest use of trends in rural areas can be next to impossible. Often, in rural areas, a stylistic lag occurs, including following burial trends (Hogue and Alvey 2006). While the hardware and style of the coffins point to the turn of the century, it is possible that this area of Mississippi experienced a cultural delay in burial practices. Additionally, poorer families may have purchased older hardware kits at a cheaper price, artificially dating the burials to older than they are (Hogue and Alvey 2006).

Apparel

The remaining artifacts represent personal adornment worn by the deceased. These items likely represent personal wardrobe and decorations owned by the individuals they were buried with. For this analysis, I found it useful to classify items of apparel into two categories: clothing fasteners and adornment (Table 3). Most commonly preserved

because they are crafted of metals, composites, and plastics, fasteners and items of adornment reveal a lot about the individuals of interest, both the deceased and those who interred them. Of note, no evidence of shoes was recovered in this excavation.

Table 3 Fasteners and Items of Adornment

Burial No.	Cloth Fasteners	Adornment	Fabrics and Cloths
1	0	0	0
2	6 buttons	0	0
3	2 studs, 1 buckle, 1 red-glass cufflink	1 hair pin	1 ribbon, cloth fragments

Clothing Fasteners. As with coffin furniture, Burial 1 did not contribute any apparel items. The individual in Burial 2 was laid to rest in an outfit requiring the use of six buttons. Six, two-holed, black composition buttons were collected from the lower thoracic area. Becoming popular in the 1870s, composition buttons were made of "[n]atural plastics, such as gutta-percha, latex with rubber, or wood fibers with shellac binders…Most commonly observed admixtures are metallic flecks and crushed shell, which present as a slightly glittering surface on the button" (Basse 2019, 88-89). This glitter can be seen in Figure 13. Composition buttons were commonly used until the mid-1920s when more modern polymers replaced the organic plastics (Basse 2019, Pool

1991). The placement and size of buttons suggest they would have been from a vest and/or coat. The buttons were the only items of apparel collected from Burial 2.

Figure 13. Composition buttons from Burial 2. Glittering flakes of metal can be seen in the upper right button.

Two small white studs and a buckle were found in Burial 3 (Figure 14). Studs were usually constructed of the same material as buttons, including glass and metal. Often used to attach detachable collars and cuffs to shirts, studs became a popular pre-cursor to modern cufflinks in the late 19th century and were used by both men and women (Basse 2019). Buckles recovered from graves are often smaller than buckles not used for clothing items. During the 19th and 20th centuries, they were typically employed to cinch clothing and were crafted from metal alloys (Basse 2019). The buckle, collected from the

Figure 14. Cuff studs from Burial 2.

center of the grave in the lower lumbar area, is a D-shape, with one side of the buckle a rectangle and the other a semi-circle, separated by a pin. A hook, or movable part of the buckle, was not collected. The buckle may have been used to close a belt. The studs were collected from the southern edge of the grave, approximately above the right hip. The two studs are glass and of a similar shape, but are not identical, suggesting a more bespoke crafting process.

One cuff link was recovered from Burial 3. Though cufflinks, or buttons that linked the cuffs, have been in use for centuries (Basse 2019), the mass manufacture of cufflinks did not begin until the late 1870s (Deakin & Francis 2019). Victorian jewelry was usually extravagantly designed, crafted of precious metals and stones. At this time, because cufflinks could be mass produced, the middle class began incorporating them into everyday styles, and cufflinks continued to be popular accessories into the 20th century (Deakin & Francis 2019). The cufflink recovered from Burial 3 was collected from the lower lumbar area, about 10 centimeters north of the studs. It is constructed of a copper-alloy coated in gold colored coating with a red-glass stone centerpiece (Figure 15). When excavated, the cufflink had a layer of cloth stuck around the stone and bar. This cloth was removed, showcasing the bright gold plating underneath. In general, cufflinks come in pairs, so it is unusual that only one cufflink and one set of cuff studs were collected. This suggests that perhaps one cuff was linked with the studs and one cuff

was linked with the cufflink. Based on the location of the cufflink and the cuff studs, it is likely that the hands were crossed at the waist, with the cufflinked arm on top.

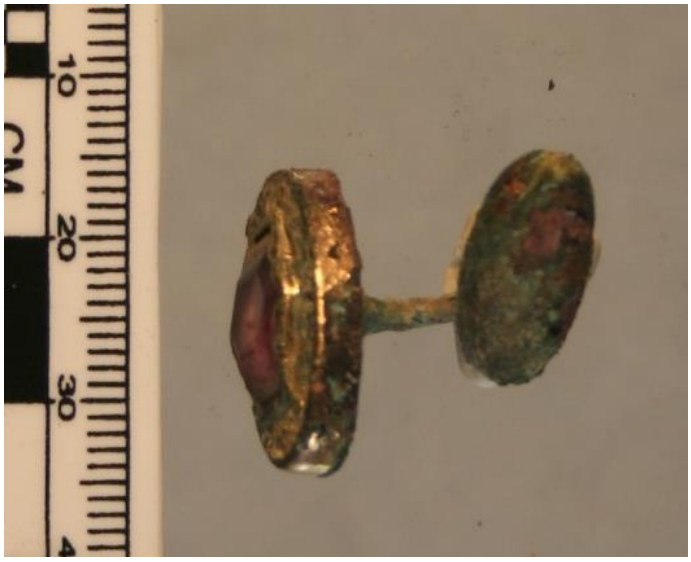

Figure 15. Cufflink collected from Burial 3.

Adornment. Items of adornment are elements of dress that are intended to decorate the individual's garments and body, but can include items with a functional purpose, as well. Burial 3 contained the only items of adornment collected in this series and included a hair pin and a ribbon. Having one or two prongs, hair pins "ranging from highly ornate to relative minimalism in design… were used to secure the hair in simple styles, such as buns, or more elaborate coiffures" (Basse 2019, 109). During the 19th century, hair pins were composed of many materials, including organics, like ivory and wood, metals, and vulcanite. The hair pin collected from Burial 3 was found under the cranium. The pin, made of a copper-alloy, was of a simple U-shape and was found in a clump of hair and ribbon fragments (Figure 16). The ribbon is black fabric with a fringe on one side. The presence of the pin and ribbon suggest that the person in Burial 3 probably had their hair styled before burial.

Figure 16. Hair pin and hair from Burial 3.

Although the sample size is too small to determine any definitive trends, the recovered artifacts of apparel suggest that the Anderson family had the means to participate in contemporary clothing style trends. Diagnostic items include buttons, cuff studs, a cufflink, and a buckle. These items indicate a terminus post quem (TPQ) of 1875 for Burial 2, as composition buttons were first manufactured at that date. A TPQ for Burial 3 was indeterminate. The clothing items found in the burial suggest it dates to, at the earliest, the early 1800s, but most likely later; the cufflink is stylistically similar to designs popular in the 1920s.

Based on the position and style of the clothing fasteners and items of adornment, it is very likely that the individuals in Burials 2 and 3 were interred in their "Sunday Best", more formal items than they would wear on a regular basis. As a common practice in the mid to late 1800s, burying people in their "Sunday Best" can be seen both in the archaeological and photographic record (Basse 2019). However, very few sources exist within the archaeological and archival record as to what people were buried in in the early 1900s. Of note, no jewelry was found in either burial. Additionally, in a c. 1900 photo of Elisha and Tenia posted to Ancestry.com, no jewelry is seen on either

individual. This suggests that the family did not commonly wear jewelry, and if they did at the time of death, it was removed by the family.

While this study has shown that the family spent time, energy, and money ensuring their loved ones were buried in a respectable way following religious and social traditions of the time. Both individuals seem to be buried in nice clothing, and the effort taken to ensure the hair in Burial 3 was styled with a hair pin and ribbon is indicative of an act of affection. The dead here were interred with care and dignity.

Osteology

Burial 1

Age: Unknown

Sex: Unknown

Stature: Unknown

Pathology: Unknown

Burial 2

Age: Adult

Sex: Probable Male

Stature: 181-191 cm

Figure 17. Burial 2.

Burial 2 contained an adult male in a state of poor preservation (Figure 17). Skeletal elements collected for this individual include cranial vault fragments, teeth, the acromial end of the left clavicle, small fragments of the vertebrae, left and right humeral shaft fragments, small fragments of the left radius and ulna, left and right femoral shaft fragments, and left and right tibial shaft fragments. Although the reason was not evident, the bones of the left side were better preserved than the right. Primary aging techniques could not be applied as no os coxae were collected; therefore, age was estimated by cranial suture closure and dental attrition. The sagittal, coronal, and lambdoidal sutures scored between a 2 and 3 using the Meindl and Lovejoy (1985) suture age estimation standard in Buikstra and Ubelaker (1994). Small, isolated patches of dentine exposure were seen (Table 4). Even though both are secondary aging techniques, they are consistent in suggesting that the individual would have most likely died as a middle or older adult.

Sex was estimated as likely male by the presence of a robust nuchal crest. Traditional stature estimation techniques were unable to be applied as taphonomic effects fragmented each of the long bones. Therefore, stature was estimated in situ, measuring from the superior surface of the cranium to an estimation of the posterior surface of the foot. This individual would have stood approximately 181-191 cm (5’11”-6’3”) tall, which was tall for the time. In 1912, the average height for males was 5’7” (Hathaway 1959, 183).

Eight teeth were recovered from Burial 2, each consisting of the crown only: the lower right first and second premolars, lower right canine, upper left central and lateral incisors, upper left second and third molars, and an un-sided, probably first, molar. While

the remaining teeth were likely shed during life, it is impossible to determine as neither the maxillae nor mandible were preserved. The caries of the left maxillary molars indicate that periodontal disease may have been present. The presence of three linear enamel hypoplasia on the lower right canine suggest that this person may have experienced periods of increased stress during childhood (Figure 18).

Figure 18. Lower right canine displaying wear and LEH.

Table 4: Dental Pathology of Burial 2

Pathology	Location	Notes
Linear Enamel Hypoplasia	C_1	Three distinct linear hypoplasia, measuring 1.7 mm, 3.5mm, and 5.7mm from CEJ
Caries	^{2}M ^{3}M	Caries were small and located on occlusal surfaces
Attrition	^{1}I ^{2}I ^{2}M ^{3}M C_1 P_1 P_2	Moderate dentine exposure the occlusal surface of all teeth; greater wear on maxillary compared to mandibular teeth

Analyzing the few bones that remained for pathologies, there was no evidence of any ongoing health conditions having an osteological impact at the time of death. Of note, however, is the presence of small clumps (1-5 mm in diameter) of barium,

confirmed by portable X-ray fluorescence (pXRF), collected from the abdominal area. Barium, while occurring naturally in the form of barite deposits (Brobst 1958), would not have congregated into clumps without human interference. Although barium was used in paint, which could have been used to decorate the coffin, paint would have degraded as flakes, not clumps. When consumed, barium contributes to visibility of the gastrointestinal organs on X-ray to aid in diagnosis of malfunction of the gastrointestinal tract. Depending on the area of interest, patients either consume the barium as a drink or receive it through enemas. Occasionally, patients may retain the barium following the exam, leading to impaction within the gut. If not remedied by surgery, patients may experience severe illness or death (Slastan and Dobrota 2019).

Burial 3

Age: Adult

Sex: Indeterminate, Possibly Female

Stature: 180-190 cm

Figure 19. Burial 3.

Burial 3 contained an adult individual of indeterminate sex (Figure 19). Elements collected include cranial vault fragments, teeth, two thoracic vertebral arches, left and right rib fragments, left and right femoral shaft fragments, left and right tibial shaft fragments, and left tarsals, metatarsals, and one phalanx. Primary aging techniques could not be applied as no os coxae were collected. Instead, age was estimated by cranial suture closure and dental attrition. The lambdoidal suture scored as a 0, the sagittal suture scored as a 2/3, and the coronal suture scored as a 1 using the Meindl and Lovejoy (1985) suture age estimation standard in Buikstra and Ubelaker (1994). Dental wear was not scored for age, but the wear patterns suggest the individual was an adult. The molars of Burial 3 show more wear than those of Burial 2, suggesting that this individual may have been older. This is in contradiction with the generally open sutures, which suggest a younger age; however, suture closure is regarded as a secondary aging method at best and is not always the most accurate indicator (Buikstra and Ubelaker 1994).

Sex could not be reliably estimated as no primary sexually dimorphic landmarks were preserved. The long bone fragments are gracile, consistent with a female. The material items suggest the individual may have presented as a woman. Traditional stature estimation techniques were unable to be used as taphonomic effects fragmented each of the long bones, so stature was estimated in situ, measuring from the superior surface of the cranium to an estimation of the posterior surface of the foot. However, this individual would have been tall for a female of the era, with a height of approximately 180-190 cm (5’10”-6’2”). The average stature for women in the United States was 5’2” in 1900-1908 (Hathaway 1959, 183).

Three teeth were recovered from Burial 3: upper left second molar, lower left first molar, and an un-sided lower first molar. Each molar displayed moderate attrition, with each quadrant scoring between 4 and 6 using the Scott (1979) occlusal surface wear system for molars from Buikstra and Ubelaker 1994. The lower left first molar exhibits the most advanced wear patterns. No caries were recorded. Of note, Burial 3 yielded an upper partial denture (Figure 20), though no other aspects of dental restoration, such as fillings or caps, were discovered. If the wear of the molars was similar to the wear on the anterior maxillary teeth, the individual may have developed an abscess if the pulp cavity were to have become exposed, resulting in the loss of the teeth. However, it must be noted that antemortem tooth loss may have resulted in premature wear of any the remaining molars still in occlusion. The partial was constructed of cast vulcanized rubber.

Figure 20. Vulcanite dentures collected from Burial 3.

Table 5: Dental Pathology of Burial 3

Pathology	Location	Notes
Attrition	^{2}M $_{1}$M UID lower M	Moderate wear on the occlusal surface of all teeth.

Much of the cortical bone from the skeletal remains was extremely degraded. Of note, the left tibia exhibits a callus around the midpoint of the anterior surface of the shaft, indicating this individual recovered from an injury (Figure 21). The callus is located on the middle of the anterior crest, measuring five to six cm in length and two to four cm in breadth. There is no interior modification of the bone, so the lesion was periosteal. The callus has distinct borders as it sits atop the regular bone surface, indicating that the injury was likely relatively recent in occurrence although not perimortem. While it is difficult to discern based on the level of preservation, the right tibia shows some slight plastic degradation, suggesting that the injury was bilateral. Injuries to the tibia can be common, as it is a bone easily damaged when falling or walking. No other osteological elements exhibit pathological modification.

Figure 21. Callus of the anterior crest of the left tibia of Burial 3.

Osteobiography

Burial 1

Burial 1 did not contain any human remains or mortuary artifacts. Based on the size of the grave shaft, Burial 1 may have belonged to a child, as it measured shorter than both Burial 1 and 2. It is possible that the grave was dug but never used, or that the individual interred was removed at some point. However, it is unlikely that this occurred, as the sides of the grave were carefully excavated and an exhumation would have required an expansion of the hole, which was not observed.

Although the burial was absent of any remains, it is still possible to draw some conclusions as to who may have been interred in this space. Though there are claims that Posey children were buried within the cemetery (Strickland and Strickland 1980, 184), there is no record to clarify who these children may have been or when they may have died. Of note, I am not using the medical terminology to denote a specific age group; as the *Cemetery Records* (1980) did not specify, the term child here implies an age under adulthood. The burial measures smaller than the other two graves, so it is consistent with the burial of a child. Specifically, within funeral catalogs hardware marketed for children in the late 1800s often measured less than five feet (Springate 2015, 32). Based on the lack of mortuary artifacts, however, the child may have been laid to rest in a shroud or without covering. This would be unusual, as most documents suggests that coffin burial was normal for the period (Springate 2015).

Around the turn of the century, childhood death was unfortunately common (Institute of Medicine 2003). In fact, in 1900, children under that age of five constituted 30% of all deaths (Institute of Medicine 2003). If a child had been buried in Burial 1, it is

likely that they died from an infection. Childhood infections, such as pneumonia, influenza, tuberculosis, and enteritis were the leading cause of death in 1900 due to a lack of advancements in sanitation and antibiotics (Institute of Medicine 2003).

Burial 2

Of those believed to be buried in the cemetery, Burial 2 is consistent with the grave of Elisha Ryan Anderson, who died at the age of 57 (Figure 22). Not only do the age and sex of the remains correlate with what is known about him upon his death, Elisha's death record states that he died from "carcinoma pylorus of the stomach". While the records do not clarify, it can be assumed that the pylorus of the stomach may have been disrupted by carcinoma, leading to Elisha's death.

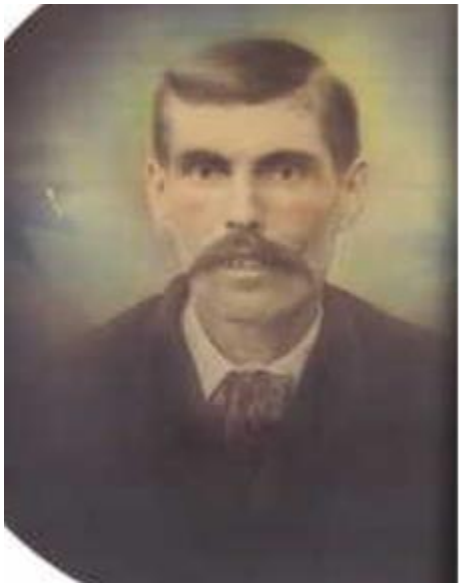

Figure 22. Elisha Anderson pictured c. 1900.

Image from https://www.ancestry.com/mediaui-viewer/tree/153578528/person/282029864599/media/14a96acb-0bed-4ca2-b764-b0d40d8b7ae5.

It is important to remember that medical diagnoses of the past may not be parallel with those of the current era. However, enough information is provided in the obituary and death certificate to make some assumptions based on fact. Elisha died from

carcinoma, the most common type of cancer. Carcinoma is cancer of epithelial tissues, which encompass the organs and lines the body cavity (Cancer Research UK 2020). Adenocarcinoma, or carcinoma of the glandular cells, accounts for 90% of gastric cancer cases (Cancer Research UK 2020; Johns Hopkins Medicine 2013). In modern populations, most cases of gastric cancer are asymptomatic in the early stages. By the time the cancer is discovered, it is often in the later stages of development. Symptoms of gastric cancer can include weight loss, abdominal pain, nausea, loss of appetite, and in patients "with pyloric tumors and tumors located in the antrum, vomiting and gastric outlet obstruction may occur" (Johns Hopkins Medicine 2013, n.p.). Gastric cancer is treated with both resection of the tumor and surrounding tissue and chemotherapy.

While this data has been collected from modern populations, it does provide a glimpse into some of what Elisha may have experienced during his time with cancer. Per his death certificate, Elisha was ill for one year while the obituary claims he was sick for several months and was bed-ridden the week of his death. It is likely during this period that Elisha experienced some of the symptoms associated with stomach cancer. These symptoms would have made continuing function of his daily life more difficult. Elisha was a farmer and would have spent a good portion of his time tending to his land and animals. If he had been handicapped by gastrointestinal symptoms, continuing the function of the farm would become the responsibility of his family or outsiders to accommodate for his condition.

Diagnosis of this condition would most likely have occurred after symptoms developed. As previously noted, most cases of gastric cancer are diagnosed only once the cancer has progressed. While in the current era, this type of cancer is treatable with

success, prior to the 1950s, gastric cancer was the leading cause of cancer deaths in men (Johns Hopkins Medicine 2013). Diagnosis of cancer prior to the 1970s tended to include surgery to collect tissues samples, as most imaging technology had yet to be invented (American Cancer Society 2014). Yet, Elisha's death certificate shows that he did not receive a surgery prior to death. This may be due to the fact that pyloric malfunction can be diagnosed through radiography. Radiography, such as barium X-rays, can be of limited effectiveness in diagnosis of gastric cancer, however, and may only be able to demonstrate malfunction of the stomach (Johns Hopkins Medicine 2013). Of note, it has been recorded that those with a malfunctioning pylorus are more likely to retain barium during these scans, leading to complications or death if not passed (Slastan and Dobrota 2019).

While I was unable to find evidence of the use of radiology in the Piney Woods of Mississippi, X-rays have been used by the medical field since 1896, while barium sulfate has been used as a swallow since 1909 (Iowa State University n.d.; Levine and Rubesin 2017; Slastan and Dobrota 2019). However, just because the technology was available, it was most likely not easily accessible for residents of the Piney Woods, so it is likely that he would have had access to an automobile to have been able to travel to a larger city, such as Hattiesburg, Jackson, or the Gulf Coast.

If the individual in Burial 2 is indeed Elisha, then although the last year of his life may have been marked by illness, his osteological remains suggest that he may have been relatively healthy prior to this event. As a child, this individual experienced several stressor events. This is evident by the three distinct enamel defects on the lower right canine. Many events may cause the growth disruption required to create an LEH, though

disease and illness, social conflict, and famine can be drivers (Armelagos, Goodman, Harper, and Blakey 2009). At the time of Elisha's birth in 1867, the Civil War had ended in the South, and Reconstruction, a period of unease and social turmoil in the South, was just beginning. While the individual experienced some stressors, they may not have been life-threatening, as the hypoplasia are not severe, though some individuals may process these stressors in different ways biologically, so it cannot be conclusively determined to how intense the stressors may have been to the individual sufferer. Additionally, the individual clearly lived through the trauma and well into adulthood.

Other signs of childhood stressors can be observed through the stunting of growth. While the measurements of stature were collected in situ, so it is only representative of an estimate, the stature suggests that this individual was tall for the era. If malnutrition, or the imbalance of nutrient intake, was the cause of the LEH, then we would expect to see stunted growth or other related nutrient deficiencies. Malnutrition often accompanies famine and poverty (Shimizu n.d.). LEH and stunting can also be tied to infectious disease. In the late 1800s, diseases like typhoid fever, smallpox, malaria, and yellow fever appeared commonly (Backus 2022); children in particular may also have suffered from diphtheria, whooping cough, and scarlet fever (Shulman 2004). If a child encountered one of these diseases, it may account for growth arrest.

The remaining dentition is suggestive of a diet of stone ground carbohydrates. When foods like corn or wheat are processed by milling or grinding with stones, "fine abrasives are added to the food that greatly accelerate wear rates" (Scott and Turner 1988, 110). The carbohydrates within the food have also been shown to contribute to dental disease. In addition, areas that are clear cut, like the open fields shown in the 1942

image of the Anderson Farm, can also contribute to dental attrition from mastication, as dust adds abrasives to food (Scott and Turner 1988). Food may become stuck in the molars or, if wear becomes bad enough, dentine is exposed, allowing bacteria to enter the tooth, which may account for the caries located on this individual's molars. However, the wear and caries were not extreme, and this person may not have felt any discomfort.

Unfortunately, no additional osteological markers were observed in the remains recovered from Burial 2. Archaeologically, upon this individual's death, their body was treated with care. The coffin hardware, while outdated, would have cost money and time to secure, especially since the family would have needed to procure two coffins for both Elisha and Enoch. The hardware is decorative, with many pieces serving only to adorn the box. Of note, the crown caplifter is unique to his burial and may be suggestive of gender differences in interment practices. His body was most likely dressed in his good clothes following death, showing that the family cared for him.

Burial 3

The identity of the individual interred in Burial 3 is unknown, and the skeletal elements collected were poorly preserved. Even so, a general biography can be crafted from the data that was collected. This individual, most likely a middle to older adult female based on gracile long bones and material culture interred with the individual, experienced the loss of their teeth and trauma to the tibiae. However, she met or exceeded the life expectancy for the period.

While I am unable to make any definitive statements about the absolute of her youth, this individual was tall. Even though height is determined by genetic factors, it can be stunted by malnutrition. As this individual was taller than average, she probably had

access to nutritious foods, which is consistent with growing up on a farm. Many farming families in the Piney Woods were self-sufficient, growing crops and rearing animals, ensuring the family had access to necessary food groups (Fuller 2022).

It can also be inferred that, if they were indeed female, their life may have revolved around caring for her family and their farm. Around the turn of the century, women of the Piney Woods worked diligently maintaining their homes, preparing and cooking food, tilling and planting the fields, and raising children (Fuller 2022). At the time, women had, on average, five live births during their life. It is likely, if this individual did have children, that she would have spent much of her adult life pregnant or nursing (Preston 1976). This is also consistent with what is known of the Anderson family; per the U.S. Census records, Tenia, the matriarch, had eight living children. Her first child was born when she was 19, and her last child was born when she was 38. While it is unlikely this grave belongs to Tenia, it does suggest that the family was no stranger to large families. While childbirth was extremely common experience for women of this period, it should be noted that approximately one out of every 30 women died during childbirth (Leavitt 1986). Based on the estimated age of this individual, however, they probably did not die from labor.

The damage and healing of the tibiae show that while the individual experienced some sort of trauma, they lived in a community that allowed them to heal from the injury. The Andersons were a farming family, and similarly to Elisha's condition, an injury to the legs would have potentially incapacitated the individual, at least in the initial stages of healing. While the level of injury cannot be determined due to poor preservation and the advanced healing of the callus, it is unlikely that the injury would have been a tibial

fracture. The tibia is the most commonly fractured long bone in modern populations and can be caused by both low-energy and high-energy forces, such as falling, twisting, and car accidents (Johns Hopkins Medicine n.d.; OrthoVirginia n.d.). However, as the wound did not penetrate the interior of the bone, the injury was most likely caused only surface level damage to the bone. Though the injury does not seem to have been severe, the individual in Burial 3 must have had a stable support system to care for them as their legs healed.

As this individual became older, she lost enough teeth to require the use of a dental prosthetic. The tooth loss may have been the result of caries. Carious lesions are consistent with a carbohydrate-heavy diet, such as corn and grain-based meals. The dental prosthetic collected from the burial was cast from vulcanite. This technique emerged in the 1840s and became widespread by the 1860s, replacing the more expensive and time intensive ivory dentures. Molding the patient's mouth and suctioning to the surface, vulcanite dentures were fixed without springs and once hardened, were extremely durable. Dentures were crafted from vulcanite until the introduction of Bakelite to the field of dentition in the 1920s. The simultaneous emergence of anesthetic procedures and the improved denture design permanently moved the use of dentures from an object of high status to one achievable by most people (BDA n.d.).

However, at this time, there were very few dentists in the state. The Mississippi Dental Society was founded in 1920 by six doctors from across Mississippi, though none served the southeastern corner of the state (MDS 2017), and the state's only dental school, at the University of Mississippi, did not open until the 1970s (UMMC n.d.). Of note, a postcard from 1907, labeled "Front Street Looking South from Palace Restaurant,

Hattiesburg, Miss." shows the office of E. J. Mitchell, Dentist (Figure 23) located above a barber shop (Facebook, "Remember When In Hattiesburg"). E. J. Mitchell is not listed on the *Polk Medical and Surgical Register of the United States* (1907), so it is unknown the skill level that this local dentist would have had. This suggests that dentures may have been crafted by local doctors or purchased from out of town. Additionally, while the cost of dental prosthetics decreased around the turn-of-the-century, it is likely that the family spent money and time procuring the device.

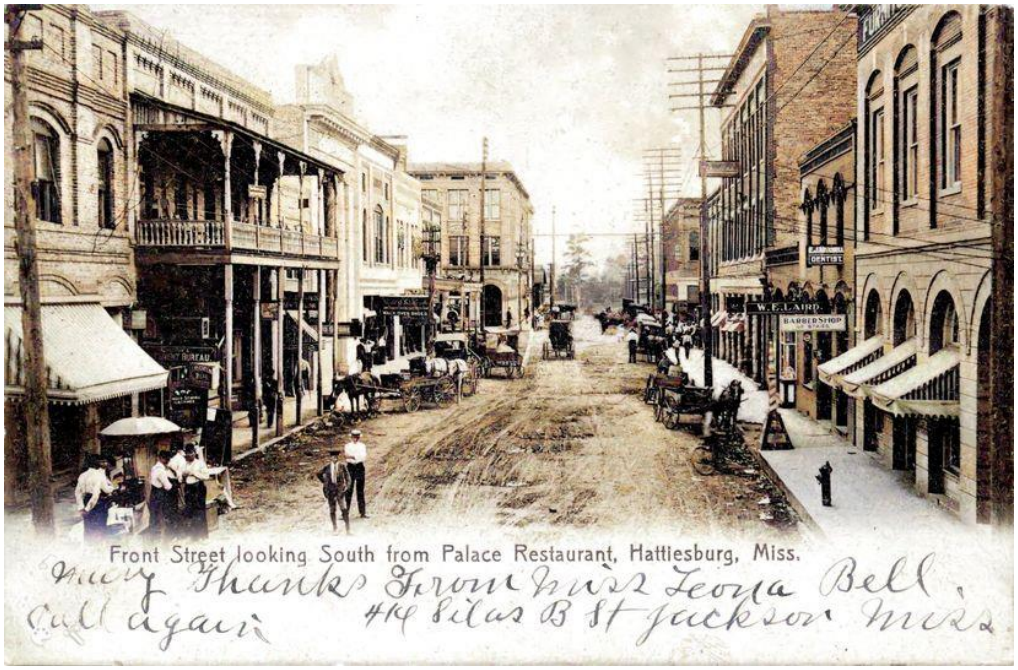

Figure 23. Downtown Hattiesburg, Mississippi in 1907. Note the sign for the dentist's office to the right.

The mortuary context suggests this individual was valued within the family. Much of the hardware is identical to that found in Burial 2. However, some items, such as the escutcheons and the caplifter differ. Based on the styles, it may suggest gender differences in the two burials, as the caplifter and plates are decorated in floral designs. Additionally, this individual was most likely dressed well before burial. The hair was

adorned with a hair pin and a black ribbon, suggesting it had been styled. Additionally, their cuffs, while closed in two different styles, were closed with a decorative cufflink. This shows that the bereaved took extra time to ensure that this person looked their best.

Discussion

At the onset of this project, it was assumed that the family was poor, as they did not have much in terms of recorded assets and it is a common stereotype of the rural South. However, the osteological and material culture show that these stereotypes are not true in each instance. It was likely that these individuals lived past the average life expectancy for their time. In the United States between 1900 and 1920, life expectancy for males ranged between 46 to 53 years and for females ranged between 48 to 54 years (Berkeley n.d.). Both Burials 2 and 3 each contained an individual who was likely of this age or older. If Burial 2 does contain Elisha, it would further support this conclusion, as he died at the age of 57 in 1923.

Further evidence suggesting the family enjoyed good health may be seen in their height. Both individuals recovered would have stood around six feet tall, which, as previously discussed, is much taller than that of the average male and female for the era. Adult height is contingent upon adequate nutrition in childhood. Of note, height is also highly influenced by genetic factors, suggesting that the individuals in Burials 2 and 3 may have been related.

Dentition of both individuals is also suggestive of their lifeways. The presence of LEH suggests that life as a child may have been stressful for the individual in Burial 2. However, the LEH are not severe, and the individual clearly survived the stressors from childhood. Aside from the presence of the dentures, no other modifications for dental

restoration were noted on the teeth. The wear and caries do suggest a diet of stone ground carbohydrates, most likely corn.

The presence of medical equipment in both Burial 2 and 3 are indicative of the family's access to resources and care. Given the location of the family farm in relation to urban centers, the family would most likely have traveled to Hattiesburg, approximately 30 miles away, to receive more intensive medical services, such as the barium swallow. This means that they would not have been as isolated as previously believed. Their world was not confined to their farm and the local town, and the family may have had a car to reach these locations.

This study shows that archaeological data is necessary for understanding the past, and the rural South at the turn of the century is no exception. Without access to proper archival sources, very little is known about the common folk of this era. What has been recorded is often biased and ignores the nuance of the Piney Woods' culture. How they lived and died is not apparent in the historic record, making bioarchaeological research necessary to gain a better understanding about the past. A basic picture of the lifeways of two individuals buried of the Anderson Cemetery in Perry County in southern Mississippi has emerged through such analysis, and through comparison burials can be brought in to further this perspective. Comparatively, there exists no other example of a contemporaneous cemetery study from south Mississippi. Very few post-bellum cemeteries within the South have been disturbed, and few traditionally white family cemeteries have been explored archaeologically.

Of note, a cemetery of similar temporal and special location is the Eddy Cemetery in Fort Smith, Arkansas, dating to the late 19th century. It was excavated by the Arkansas

Archaeological Survey to accommodate the expansion of Lake Forth Smith reservoir in 2001. The cemetery was used by Samuel Eddy and his extended family, and it continued to be used by the family after it was sold to an unrelated buyer. The Eddy family were white farmers. Aside from a few burials, the Eddy Cemetery has "minimal, conservative, mortuary hard-ware displays" (Davidson and Mainfort 2011, 207). The cemetery contained 16 burials, though only 11 were represented by human remains (Davidson and Mainfort 2011). As a comparative sample, the Eddy Cemetery shares some similarities to the Anderson's, including coffin hardware, personal items, and social standing at time of death. Both families were rural white farmers that were well loved within the community. However, aspects of health cannot be compared, as the both the Eddy Cemetery and the Anderson Cemetery were dug in highly acidic soils that degraded the skeletal remains.

Although very few white family cemeteries have been excavated, a larger number of African American cemeteries have been investigated. Traditionally minority communities have not been as protected as white communities. One cemetery from the rural American South that can offer some perspective is the Pioneer Cemetery, established in 1888. The cemetery was the burial ground for two African American churches in Brazoria, Texas, located south of Houston on the eastern border of the state. In 2003, three burials were excavated by Prewitt and Associates, Inc. as the graves were in the right of way of a highway expansion. The first grave contained a younger woman in a tapered coffin. The second individual was an older woman buried in a casket within an outer box, and the third burial contained a young child in a hexagonal coffin. All of the caskets and coffins were similarly constructed of white metal false tacks, iron tacks and screws, and machine cut nails (Tine and Boyd 2003).

The Weyerhaeuser Pepper Hill Cemetery I, located in Lowndes County, Mississippi was in use in the late 19th and early 20th centuries and is also associated with an African American community. This cemetery was excavated in the early 2000s, yielding 13 burials, including five adult males, one adult female, two adolescents, six infants, and three neonates. Only one burial had coffin hardware, and only the babies were buried with clothing items, suggesting the adults were buried in shrouds (Hogue and Alvey 2006).

Of note, each of these cemeteries buried their dead in similar patterns. Aside from the lack of burial boxes in the Pepper Hill I cemetery, coffin hardware was ubiquitous, often including white metal decorations. These white metal pieces consisted of thumbscrews and tacks. As shown by the passage of trends, the tertiary form of thumbscrews was most evident in graves dating to the turn of the century. However, as noted in the Pioneer Cemetery and Eddy Cemetery, coffin hardware can be misleading when observed independently of additional data sources. In rural communities, individuals were most likely buried in coffins with hardware that was out of style at the time of their interment. Researchers hypothesized that the lag in mortuary style may be the result of inability to afford newer styles. As this seems to occur in areas with limited resources, "mutual-aid societies [were not available] to assist with burial services, and individual families had to finance burials on their own when a loved one died. Such factors may account for the sparse and outdated funerary hardware" (Tine and Boyd 2003, 57). Conversely, in the Eddy Cemetery, poor members of the community with close ties to the local Masonic lodge were given better access to burial grounds (Davidson and Mainfort 2011). At each of the cemeteries within this sample, including

the Anderson Cemetery, burials were often simple and, when individuals were buried within funerary boxes, the hardware consisted of inexpensive mass-produced pieces. However, even though each of these communities had similar economic standings, it was still more difficult for those within the Pepper Hill I and Pioneer Cemetery to access these resources. These traditionally Black communities, even though the hardware is similar when used, made use of well-adorned coffins less frequently.

Additionally, personal items collected within these cemeteries were simple. The most common item of apparel was buttons. In many cases, such as the graves in Pepper Hill I and Pioneer, the dead were buried in burial gowns or shrouds. Of note, the likely child burial from the Anderson Cemetery was found without clothing. However, within the same cemeteries, some graves may contain individuals with other clothing items. For example, the older woman in Pioneer was buried in everyday attire. Several children in Pepper Hill I were buried in diapers pins and buttons. Those buried in the Eddy Cemetery were interred in both plain clothes and less casual attire. Of note, most burials in this sample did not contain shoes, including those excavated from the Anderson Cemetery, a folk tradition of the time. Shoes were often not buried with the deceased in the South, partially because it was difficult to fit shoes once the body had set in rigor. Placing shoes on the dead could also invite bad luck, according to some customs (Davidson 2010, 630; Davidson and Mainforth 2011, Puckett 1926, 84). Only seven burials were found with shoes in the Eddy Cemetery.

The presence of jewelry and other items of adornment varied within these cemeteries. In the Pioneer Cemetery the older woman was buried with several items of adornment, including a gold-plated tin hair barrette, vulcanite hair pins, gold hoop

earrings, and a gold finger ring. Aside from the ring, these items would have been mass produced and readily available in a catalog (Tine and Boyd 2003). Several decorative studs were collected from burials within the Eddy Cemetery, including a gold-plated lever-top collar stud, mother-of-pearl cuff studs, and a red glass collar stud; one burial contained a brass Masonic collar stud and a black glass cuff stud. This jewelry is similar in style to the red glass cuff link and hair pin found in the Anderson Cemetery within Burial 3. No burials within the Pepper Hill I cemetery contained items of adornment.

The health status of these individuals buried in these cemeteries varied. Linear enamel hypoplasia was common, with adults in both the Pepper Hill I and Pioneer Cemeteries exhibiting enamel malformations. Of the two individuals found within the Anderson Cemetery, only Burial 2 exhibited LEH and caries, though Burial 3 did not contain any appropriate teeth for the study of LEH; this suggests that the childhood of at least one member of the Anderson family may have been accompanied by stressors. Of note, no hypoplasia were observed within the Eddy Cemetery interments, though additional dental analysis was not completed due to poor preservation. Caries was also widespread, suggestive of diets high in carbohydrates. No evidence of access to dental care was observed in either cemetery. However, the presence of the denture shows that the Anderson family did have access to some semblance of professional dental care

Skeletally, patterns of lives of labor were also observed. No additional pathologies were reported for Eddy Cemetery, as the preservation was poor. The older woman recovered from the Pioneer Cemetery was heavily affected by degenerative disease, and many of the adult burials from Pepper Hill I exhibited Schmorl's nodes, arthritis, and degenerative disease. This level of disease and skeletal modification can be attributed to

the embodiment of trauma associated with post-bellum Black communities. Though preservation was poor, aside from on the dentition, no evidence of disease was recorded on the remains of Burials 2 and 3 from the Anderson Cemetery. Of note, the healed injury of the tibiae of Burial 3, combined with archival records, suggest that the family may have labored, but clearly had the ability to seek treatment when necessary.

Likely, these communities cared for their dead as best as they could within the confines of their economic status. Contemporaneous cemeteries can provide an easy source for comparing life and death ways. The rural communities of the South lived very similar lives and practiced mortuary traditions likewise. However, as shown, even though traditionally black and white communities may have had similar access to resources at this time, Black communities still held the trauma of slavery and lives of hardship. With so many similarities, it follows that the Anderson Cemetery would have been prepared in the same traditions in tandem with contemporaneous cemeteries.

CHAPTER V – CONCLUSION

This study investigated how life ways of rural southern families are seen through their mortuary practices and biological remains through the sample excavated from the Anderson Cemetery. Through osteobiography, three burials from the Anderson Cemetery were analyzed, combining the osteological and material culture to create a fully developed profile of each individual. The Courtney and the Anderson families lived on their parcel of land in Perry County, Mississippi between 1882 and 1941. Sometime during this period, a cemetery was constructed in the northwest corner of the parcel. There are no records recording the onset of construction and use, and there are very few archival sources denoting who is interred within. Using bioarchaeology, three burials were excavated to learn about their ways of life. Understanding who these people were opens up the possibilities to expand our perception of the lifeways of white rural families of the Piney Woods, an often stereotyped and underreported area of academic study. This information is valued because, without studies that investigate the culture, it would be lost. Unfortunately, preservation of the human remains was poor. Items of material culture, such as the coffin hardware and apparel, preserved moderately well. These items, combined with the osteological data, provided a glimpse into the lifeways of this rural white farming family.

Of the three burials excavated, only two held human remains. Burials 2 and 3 contained an adult probable male and an adult probable female, respectively. While the identities of these individuals were not confirmed, the evidence recovered in Burial 2 is consistent with what we know about Elisha Anderson based on biological profile and pathology. Access to medical care was evident in both burials, as Burial 2 contained

barium used to make the digestive system more visible on an X-ray, and Burial 3 contained an upper dental prosthesis. These burials exhibited similar hardware and coffins, suggesting that the family purchased the coffins pre-built or coffin hardware kits around the same time. Additionally, the clothing items are suggestive that the individuals may have been buried in their Sunday Best, though this by no means would have been extravagant. The apparel is indicative of the early 1900s, but the coffin hardware used on both burials was most popular in the late 1800s.

Both the coffin hardware and the clothing items suggest that the family was of moderate means, though the presence of medical equipment argues that this family had more control over their health than previously believed. The coffin furniture is mass produced and crafted of inexpensive metals. The designs were popular in the late 1800s, but based on apparel and archival data, the graves were most likely from the early 1900s. This data suggests that the family was using older, less costly styles. This shows that while the preconception of rural Southern families of the time being less affluent is widespread, they were not as simple or sequestered as previously believed, taking great pains to ensure the health of those within the family. Although the burials are by no means extravagant, the bodies of those family members were treated with much respect and cared for as they would have been in life through the traditions of the time.

Limitations of Present Study

While this project was conducted following proper bioarchaeological methods, there were areas that could have been improved. Burials were excavated slowly, with great emphasis given to ensuring each level met proper standards. Given the chance, the surface of the cemetery would ideally have been removed by excavation equipment,

exposing each grave and taking off some of the surface debris and overburden. This would have greatly increased the speed in which the burials could have been documented and exhumed. Additionally, it would have allowed for easier access to the burials. As it was, the burials were deep, at approximately five feet in depth. This made accessing the graves difficult, and at times, potentially hazardous. By removing the top layers of soil, excavators would be better protected from falls and could more comfortably expose and exhume the remains.

Future Research

This project has paved the way for future students at the University of Southern Mississippi and surrounding institutions to conduct research within the Courtney-Anderson Cemetery. As this study only yielded two burials with remains, more research must be conducted to further fill in the gaps left by the historic record. As the project began to give the deceased more identity, continuing the project would be the most efficient way to do so for the remaining graves. Further excavation may reveal differences in burial techniques and traditions of the time. It could also allow a more definitive date for when the first and last graves were dug. Additionally, as some sources have claimed there are children present, supplementary excavation could expose these remains, expanding the collection to include the burial process for non-adults. This data could be used to further argue that rural families were not as destitute as often believed.

In future excavations, I would modify the excavation process. Before beginning an excavation of a historic grave, I would ensure that the site and graves have been tested for harmful chemicals that are present in many historic graves. Chemicals, such as

arsenic and lead, that are used in the embalming process and decorative pieces can lead to health problems if living people encounter them (Bybee 2003).

For this project, DNA analysis was not conducted because it is destructive. Additionally, in the beginning, we were unsure where to find a sample to compare the aDNA to. As it can destroy skeletal elements and requires samples from living individuals, collecting DNA samples requires additional permissions, from both the National Guard and USM's Institutional Review Board (IRB). Both these processes require intensive paperwork and can take months to be approved. While DNA may not be attainable with this sample because of low levels of preservation, it should not be discounted before all data is collected. DNA may provide us with individual identifications. More importantly, perhaps, DNA could inform us to how each of the individuals relates to each other, better informing our understanding of how family cemeteries of the rural south were organized.

Contributions

Although there have been many cemeteries excavated throughout the United States, very few cemeteries of rural Southern white families have been explored. In many cases, cemetery research ends within the United States around the turn of the century, with most cemeteries excavated following the 1900s consisting of those removed by CRM firms. Additionally, those cemeteries that are excavated and studied are often belonging to disenfranchised communities and minority groups. Within the South, and the United States at large, the graves of Black families have been disturbed without just cause and consent for decades. This disruption is not only disrespectful the living descendants, but it also bypasses the mortuary traditions of white families of the 1900s.

By shifting the research focus to the excavation of 20th century white families, valuable data about life and death ways can be researched and analyzed.

While the sample size of this study was very small (n=3), it does provide us with a basis for mortuary practice and life ways of the rural families in the Piney Woods around the turn of the century. For the descendants of these families, studies like this provide a unique opportunity to see how their ancestors lived and how they were laid to rest. Additionally, this data can now be used as a comparative study for future excavations exploring not only the American South at this time, but within the U.S. at large. Questions about what is traditional within communities during death and burial can now be narrowed down even further. With studies such as this, both the community and academic sphere are benefited.

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