V. DETAILED BURIAL DESCRIPTIONS

This chapter provides osteological and archaeological data for each burial recovered from the Pepper Hill I cemetery. This section is modeled after descriptions provided in Rose (1985a) for the Cedar Grove Cemetery in Arkansas. This cemetery dates to approximately the same time as the Pepper Hill I group and provides a suitable site for comparison. Osteological analysis includes demographic parameters (age, sex, ancestry), skeletal preservation including discussion of cross-mends, pathology data, and stature estimates. Archaeological findings include mortuary descriptions (general orientation and position), funerary aspects (coffin shape, coffin measurements, casket hardware, and coffin wood weight), and cultural artifacts (clothing and non-personal items). The descriptions are presented in numerical order with relevant burial photographs and drawings. Burials 1/3-5 were recovered during the first phase of archaeological recovery (Hogue and Alvey 2005a) and burials 6 -17 during the second phase (Hogue and Alvey 2005b). Details on the biological analysis are provided in the previous chapter.

BURIAL 1/3

Osteological Analysis:

Demographics:

Age: Adult

Sex: Male

Ancestry: The left lateral shovel-shaped maxillary incisor suggests Native American ancestry although this trait has been observed in much lower frequencies among individuals of African origin (Bass 1995; Scott and Turner 1997). Mitochondrial DNA analysis on the left mandibular molar show patterns similar to the Indian sub-continent but Africa cannot be ruled out.
Preservation:

**Condition:** Good preservation although the lower limbs had been disturbed during construction and consists of the lower limb bones and foot bones.

**Cross-mends and Matches:** The lower limbs articulated with the *in situ* feet labeled as Burial 3. A right humerus and maxilla/mandible collected by the contractor matched in size and color to these remains.

Paleopathology:

**Dental:** Linear enamel hypoplasia and dental calculus. Mandibular left second molar sacrificed for mtDNA study.

**Infections:** Periostitis tibias, fibulas, and left calcaneus.

**Degenerative Joint Disease:** Arthritis on left calcaneus and talus.

Figure 15. Burial 1/3. Right tibia and fibula with periostitis.

Figure 16. Burial 1/3 left calcaneus. Arrows show arthritic remodeling.
**Anomalies and Developmental Pathology:** Left lateral maxillary incisor exhibits shovel-shaping.

![Image of shovel-shaped tooth with arrows pointing to margin ridges on the lingual side](image)

Figure 17. Burial 1/3. Shovel-shaped left maxillary lateral incisor. Arrows are pointing to margin ridges on the lingual side of the tooth.

**Trauma:** None

**Stature:** Left Tibia $73.6 \pm 3.5$ inches

**Mortuary Characteristics:**

**Physical Aspects:**

**Body Orientation:** This burial was disturbed during construction. The position and location of the foot bones suggest that Burial 1/3 was oriented west to east with the feet in the east.

**Body Placement:** Unknown

**Hand Placement:** Unknown

**Funerary Aspects:**

**Coffin Shape:** Unknown

**Measurements:** Unknown

**Casket Hardware:** The two coffin handles associated with Burial 1 provided a date range for this burial and likely reflects when the cemetery
was in use. The handle, known as a swing bail, is often associated with late nineteenth and early twentieth century burials. The two lugs, mounted to the coffin using screws, held an independent handle or bar, or swing bail. The handle was probably constructed using white metal – a rather inexpensive metal that is easy to cast. There might have been four to six (two to three per side). In a very few instances there might be handles on each end of the coffin, but this seems to be very high status and/or pre-mounted hardware (Norton and Trinkley 1984). Rose (1985a) illustrates similar coffin handles associated with a rural black cemetery in Arkansas. He also places the dates of these handle types between 1890 and 1920. Three square cut nails and five wire cut nails were recovered.

Figure 18. Burial 1/3 coffin handles.

**Coffin Wood Weight:** 38 grams

**Cultural Characteristics:**

**Clothing:** None

**Non-personal Artifacts:** None
BURIAL 2

Osteological Analysis:

Demographics:

Age: 35 to 45 years

Sex: Male

Ancestry: Unknown

Preservation:

Condition: Good preservation. This burial was disturbed during construction. Most of the upper body, including the cranium area and upper arms (humeri), had been disturbed by heavy machinery and excavation in the area by Coroner Merchant on June 7, 2005. No cranial remains or dental remains were present.

Cross-mends and Matches: Both right and left humeri were missing but two humeri collected by the Coroner probably go with this individual.
Paleopathology:

**Dental:** Not Applicable

**Infections:** Periostitis on tibias and fibulas.

**Degenerative Joint Disease:** Both ulnas and radii had arthritic lipping. Arthritis was also present on the articulating surfaces of the two humeri.

![Figure 20. Burial 2. Mild/healed periostitis on right tibia. Note the irregular surface of the bone.](image)

![Figure 21. Burial 2. Proximal right ulna. Arrows show arthritic lipping or sharp edge developing.](image)
Anomalies and Developmental Pathology: None

Trauma: None

Stature: Left femur 68.7 ± 3.7 inches, Left Tibia 67.5 ± 3.5 inches

Mortuary Characteristics:

Physical Aspects:

Body Orientation: West to east with the feet positioned in the east.

Body Placement: Extended supine. The left leg (femur, tibia, and fibula) was turned over so the posterior side was facing upward. The right leg, was positioned with the anterior side up. This was unexpected given the usual supine position of a Christian burial. It may be that the coffin was placed unevenly in the ground positioning the body more on its side rather than back or the body was placed in the coffin on its side rather than supine. In both cases similar bone positioning could occur following body decomposition.

Hand Placement: The arms were angled towards the pelvis and across the chest.

Funerary Aspects:

Coffin Shape: Hexagon

Measurements: 180 cm. (estimated) x 50 cm.

Casket Hardware: 28 square cut nails were recovered.

Coffin Wood Weight: 16 grams

Cultural Characteristics:

Clothing: None

Non-personal Artifacts: None
BURIAL 4

Osteological Analysis:

Demographics:

Age: 35 to 50

Sex: Male

Ancestry: Unknown

Preservation:
**Condition:** This burial was disturbed during construction activities. The cranial and upper long bones left *in situ* were extremely fragmented.

**Cross-mends and Matches:** The right humerus #3 collected by the Coroner matches in size, shape, and color to the left *in situ* humerus. A left ulna fragment mended with the left diaphysis in Burial 4.

**Paleopathology:**

**Dental:** Dental caries, linear enamel hypoplasia, calculus. Supernumerary deciduous canine, left side. Unerupted fully-formed permanent canine.

![Figure 24. Burial 4 mandible.](image)

**Infections:** None

**Degenerative Joint Disease:** Vertebral arthritis and Schmorl’s nodes.
Anomalies and Developmental Pathology: The deciduous left mandibular canine of Burial 4 was in situ while the permanent canine has not erupted.

Figure 26. Burial 4 radiograph illustrating permanent canine in place.
Trauma: Partial greenstick fracture of right humerus. Callus formation indicates healing of the area.

Figure 27. Burial 4 right humerus. Arrow is pointing to callus indicating a healed fracture.

Stature: Not applicable

Mortuary Characteristics:

Physical Aspects:

Body Orientation: Cranial remains positioned in the west so an east-west orientation is assumed for this burial.

Body Placement: Supine.

Hand Placement: Unknown

Funerary Aspects:

Coffin Shape: Unknown

Measurements: Unknown

Casket Hardware: 19 square cut nails were recovered.

Coffin Wood Weight: 20 grams

Cultural Characteristics:

Clothing: None

Non-personal Artifacts: None
BURIAL 5

Osteological Analysis:

Demographics:

Age: Adult

Sex: Male?

Ancestry: Unknown

Preservation:

Condition: This is a single left femur and *in situ* right hand skeletal elements. The femur had been disturbed by construction activities. Bone preservation was considered fair.
Cross-mends and Matches: Right Humerus #2 and Left Tibia collected by the contractor match in color and size to the femur.

Paleopathology:

Dental: Not applicable

Infections: None

Degenerative Joint Disease: None

Anomalies and Developmental Pathology: None

Trauma: None

Stature: Not applicable

Mortuary Characteristics:

Physical Aspects:

Body Orientation: Unknown

Body Placement: Unknown

Hand Placement: Unknown

Funerary Aspects:

Coffin Shape: Unknown

Measurements: Unknown

Casket Hardware: None

Coffin Wood Weight: None recovered

Cultural characteristics:

Clothing: None

Non-personal Artifacts: None
Figure 29. Burial 5 drawing and photograph.

**BURIAL 5A**

**Osteological Analysis:**

**Demographics:**

**Age:** Adolescent (less than 17 years)

**Sex:** Unknown

**Ancestry:** Unknown

**Preservation:**

**Condition:** Fair. Consists of a left femur (Femur # 1 collected by contractor). Epiphyseal union of the lesser trochanter had not occurred.

**Cross-mends and Matches:** None

**Paleopathology:**

**Dental:** Not applicable

**Infections:** None
Degenerative Joint Disease: None

Anomalies and Developmental Pathology: None

Trauma: None

Stature: Not applicable

Mortuary Characteristics:

Physical Aspects:

Body Orientation: Unknown

Body Placement: Unknown

Hand Placement: Unknown

Funerary Aspects:

Coffin Shape: Unknown

Measurements: Unknown

Casket Hardware: None

Coffin Wood Weight: None recovered

Cultural Characteristics:

Clothing: None

Non-personal Artifacts: None

Figure 30. Burial 5a left femur. Arrow points to epiphyseal surface for the lesser trochanter.
BURIAL 6

Osteological Analysis:

Demographics:

Age: 50 +

Sex: Male

Ancestry: Unknown

Preservation:

Condition: Poor. The cranium had been severely damaged by the large excavator during stripping and testing conducted on August 2, 2005. Most of the in situ elements were extremely fragmented and crushed preventing anthropometric analysis. This condition is consistent with the previous use of heavy machinery in the area.

Cross-mends and Matches: None

Paleopathology:

Dental: Dental caries and antemortem tooth loss. Enamel hypoplasia, calculus.

Infections: Periostitis of right and left tibia and left fibula. Appears active.

Figure 31. Burial 6 left tibia with periostitis.
Degenerative Joint Disease: Osteophyte modeling on vertebrae. Glenoid fossa of shoulder had mild arthritic lipping.

Anomalies and Developmental Pathology: The anterior mandibular dentition had labial (buccal) wear bilaterally from the central incisor to the first premolar. The three remaining anterior maxillary teeth, right lateral incisor and the left central incisor and canine had extensive wear on the lingual location.

Trauma: None

Stature: Not applicable

Mortuary Characteristics:

Physical Aspects:

Body Orientation: West to east with the feet positioned in the east.
Body Placement: Extended supine.

Hand Placement: Unknown. Possibly on chest or abdomen

Funerary Aspects:

Coffin Shape: Hexagon

Measurements: Coffin stain 185 x 61 cm.

Casket Hardware: 44 square cut nails were recovered.

Coffin Wood Weight: 123 grams

Cultural Characteristics:

Clothing: None

Non-personal Artifacts: None

Figure 33. Burial 6 drawing.
**BURIAL 7**

**Osteological Analysis:**

**Demographics:**

**Age:** 6 months ± 3 months

**Sex:** Unknown

**Ancestry:** Unknown

**Preservation:**

**Condition:** Poor. This burial was removed *in situ* as a block and taken to the Cobb Institute of Archaeology osteology lab where it was fully excavated. The night before the burial block was moved to the lab it had rained so the site photo is not as clear. While excavating the burial in the lab, cranial and dental remains were located in the western part of the block and a small metal clasp in the east.

**Cross-mends and Matches:** None

**Paleopathology:**

**Dental:** None

**Infections:** Miscellaneous long bone with periostitis.

**Degenerative Joint Disease:** Not applicable
Anomalies and Developmental Pathology: None

Trauma: None

Stature: Not applicable

Mortuary Characteristics:

Physical Aspects:

Body Orientation: West to east with the head to the west.

Body Placement: Probably extended supine.

Hand Placement: Unknown

Funerary Aspects:

Coffin Shape: Hexagon

Measurements: 130 x 40 cm

Casket Hardware: 1 square cut nail and 24 wire cut nails were recovered.

Coffin Wood Weight: 75 grams

Cultural Characteristics:

Clothing: Diaper pin.

Non-personal Artifacts: Rubber comb.

Figure 35. Burial 7 drawing.
BURIAL 8

Osteological Analysis:

Demographics:

Age: Perinatal (0-3 months)

Sex: Unknown

Ancestry: Unknown

Preservation:
Condition: Fair

Cross-mends and Matches: None

Paleopathology:

Dental: None

Infections: None

Degenerative Joint Disease: Not applicable

Anomalies and Developmental Pathology: None

Trauma: None

Stature: Not applicable

Mortuary Characteristics:

Physical Aspects:

Body Orientation: West to east with the head in the west.

Body Placement: Extended supine.

Hand Placement: Probably extending on side of body.

Funerary Aspects:

Coffin Shape: Rectangle?

Measurements: 130 x 40 cm.

Casket hardware: 20 square cut nails were recovered.

Coffin Wood Weight: 75 grams

Cultural Characteristics:

Clothing: 2 white porcelain buttons and 1 blue porcelain button

Non-personal Artifacts: None
Figure 39. Blue button front (left) and back (right) from Burial 8. Note pecking on the back of button indicating reuse.

Figure 40. Burial 8 drawing.
BURIAL 9

Osteological Analysis:

Demographics:

  Age:  6 months ± 3 months

  Sex:  Unknown

  Ancestry:  Unknown

Preservation:

  Condition:  Poor

  Cross-mends and Matches:  None

Paleopathology:

  Dental:  None

  Infections:  None

  Degenerative Joint Disease:  None

  Anomalies and Developmental Pathology:  None

  Trauma:  None
Stature: Not applicable

Mortuary Characteristics:

Physical Aspects:

Body Orientation: West to east with cranium in the west.

Body Placement: Unknown but probably extended supine.

Hand Placement: Unknown

Funerary Aspects:

Coffin Shape: Unknown

Measurements: 125 x 40 cm based on stain and wood remains.

Casket Hardware: 19 square cut nails were recovered.

Coffin Wood Weight: 581 grams

Cultural Characteristics:

Clothing: 10 white porcelain buttons were recovered.

Non-personal Artifacts: Cloth fragments. Could be clothing or upholstery.

Figure 42. Ten white porcelain buttons from Burial 9.
Figure 43. Fabric associated with Burial 9.

Figure 44. Burial 9 drawing.
BURIAL 10

Osteological Analysis:

Demographics:

Age: Perinatal (0-3 months)

Sex: Unknown

Ancestry: Unknown

Preservation:

Condition: Fair, but very fragmented

Cross-mends and Matches: None

Paleopathology:

Dental: None

Infections: Periostitis on most remains. Endocranial periostitis.
Figure 46. Cranial fragment (interior view) showing periostitis.

**Degenerative Joint Disease:** None

**Anomalies and Developmental Pathology:** None

**Trauma:** None

**Stature:** Not applicable

**Mortuary Characteristics:**

**Physical Aspects:**

**Body Orientation:** West to east with head in the west.

**Body Placement:** Unknown but probably extended supine.

**Hand Placement:** Unknown.

**Funerary Aspects:**

**Coffin Shape:** Hexagon?

**Measurements:** 130 x 40 cm

**Casket Hardware:** 15 square cut nails were recovered.

**Coffin Wood Weight:** 786 grams

**Cultural Characteristics:**

**Clothing:** None

**Non-personal Artifacts:** None
BURIAL 11

Osteological Analysis:

Demographics:

Age: Perinatal (0-3 months)

Sex: Unknown

Ancestry: Unknown
Preservation:

**Condition:** Poor

**Cross-mends and Matches:** None

Paleopathology:

**Dental:** None

**Infections:** None

**Degenerative Joint Disease:** None

**Anomalies and Developmental Pathology:** None

**Trauma:** None

**Stature:** Not applicable

Mortuary Characteristics:

**Physical Aspects:**

**Body Orientation:** West to east with cranium in west.

**Body Placement:** Unknown probably extended supine

**Hand Placement:** Unknown

**Funerary Aspects:**

**Coffin Shape:** Unknown

**Measurements:** Not applicable

**Casket Hardware:** 7 square cut nails and 1 wire cut nail were recovered.

**Coffin Wood Weight:** 29 grams

Cultural Characteristics:

**Clothing:** None

**Non-personal Artifacts:** None
BURIAL 12

Osteological Analysis:

Demographics:

Age: 9 months ± 3 months

Sex: Unknown

Ancestry: Unknown

Preservation:

Condition: Poor

Cross-mends and Matches: None

Paleopathology:

Dental: None

Infections: None

Degenerative Joint Disease: None

Anomalies and Developmental Pathology: None

Trauma: None

Stature: Not applicable
Mortuary Characteristics:

Physical Aspects:

Body Orientation: West to east.

Body Placement: Unknown

Hand Placement: Unknown

Funerary Aspects:

Coffin Shape: Unknown

Measurements: 95 x 35 cm

Casket Hardware: 20 square cut nails were recovered.

Coffin Wood Weight: 529 grams

Cultural Characteristics:

Clothing: None

Non-personal Artifacts: None

Figure 51. Burial 12 drawing.
BURIAL 13

Osteological Analysis:

Demographics:

Age: 6 months ± 3 months

Sex: Unknown

Ancestry: Unknown

Preservation:

Condition: Poor

Cross-mends and Matches: None

Paleopathology:

Dental: None

Infections: Periostitis on miscellaneous long bone

Degenerative Joint Disease: None

Anomalies and Developmental Pathology: None

Trauma: None

Stature: Not applicable

Mortuary Characteristics:

Figure 52. Burial 12 photograph.
Physical Aspects:

**Body Orientation:** West to east

**Body Placement:** Unknown

**Hand Placement:** Unknown

Funerary Aspects:

**Coffin Shape:** Unknown

**Measurements:** 100 x 25 cm

**Casket Hardware:** 3 square cut nails and 10 wire cut nails were recovered.

**Coffin Wood Weight:** 540 grams

Cultural Characteristics:

**Clothing:** 4 white porcelain buttons, a diaper pin end, and a copper diaper pin were recovered.

**Non-personal Artifacts:** None

Figure 53. Burial 13 porcelain buttons.       Figure 54. Reconstructed diaper pin.
Figure 55. Burial 13 drawing.

Figure 56. Burial 13 photograph.
BURIAL 14

Osteological Analysis:

Demographics:

   Age:  6 months + 3 months
   Sex:  Unknown
   Ancestry: Unknown

Preservation:

   Condition: Poor. This burial was removed *in situ* and excavated in the lab. The skeletal remains were very fragmented.

   Cross-mends and Matches: None

Paleopathology:

   Dental: None
   Infections: None
   Degenerative Joint Disease: None
   Anomalies and Developmental Pathology: None
   Trauma: None

Stature: Not applicable

Mortuary Characteristics:

Physical Aspects:

   Body Orientation: West to east with cranial remains in the west.
   Body Placement: Probably extended supine
   Hand Placement: Unknown

Funerary Aspects:

   Coffin Shape: Unknown
Measurements: 115 x 35 cm

Casket hardware: 5 square cut nails were recovered.

Coffin Wood Weight: 9 grams

Cultural Characteristics:

Clothing: None

Non-personal Artifacts: None

Figure 57. Burial 14 drawing.

Figure 58. Burial 14 photograph.
BURIAL 15

Osteological Analysis:

Demographics:

Age: 18 years ± 3 years

Sex: Female

Ancestry: Morphological characteristics suggested this individual as African American. FORDISC 2.0 indicated white female and the Giles and Elliot (1962) formula for females places this individual within the Native American range, but just below the sectioning line for African Americans.

Preservation:

Condition: Fair

Cross-mends and Matches: None

Paleopathology:

Dental: Linear enamel hypoplasia.

Infections: None

Degenerative Joint Disease: None

Anomalies and Developmental Pathology: Maxillary dentition stained.
Figure 59. Central incisors, Burial 15, illustrating stains. Arrow shows example of linear enamel hypoplasia.

Figure 60. Location of tooth staining for Burial 15.
Trauma: None

Stature: Left femur $61.8 \pm 3.1$ inches; Right Tibia $61.8 \pm 3.4$ inches

Mortuary Characteristics:

Physical Aspects:

Body Orientation: West to east with the cranium in the west.

Body Placement: Extended supine. This individual seemed to have been placed in a coffin that was too small. The cranium had been shoved in the south-west coffin corner and the tibias and femurs over-lapped. The latter would have resulted from the individual being placed in the coffin with knees bent upward. Overlap of the lower limb bones would have occurred with decomposition, collapse, and repositioning of the elements.

Hand Placement: The hands were positioned on the chest/abdominal area but during decomposition, the lower limbs had fallen to either side of the individual.

Funerary Aspects:

Coffin Shape: Hexagon

Measurements: 170 x 50 cm

Casket Hardware: 35 square cut nails were recovered.

Coffin Wood Weight: None Recovered

Cultural Characteristics:

Clothing: None

Non-personal Artifacts: None
BURIAL 16

Osteological Analysis:

Demographics:

Age: 9 months ± 3 months

Sex: Unknown

Ancestry: Unknown

Preservation:
Condition: Fair

Cross-mends and Matches: None

Paleopathology:

Dental: None

Infections: None

Degenerative Joint Disease: None

Anomalies and Developmental Pathology: None

Trauma: None

Stature: Not applicable

Mortuary Characteristics:

Physical Aspects:

Body Orientation: West to east.

Body Placement: Head in the west.

Hand Placement: Unknown

Funerary Aspects:

Coffin Shape: Rectangular

Measurements: 75 x 30 cm

Casket Hardware: 30 square cut nails and 22 wire cut nails were recovered.

Coffin Wood Weight: 1,914 grams

Cultural Characteristics:

Clothing: Pendant, white porcelain button, diaper pin fragment with cloth, and cloth fragment were recovered.

Non-personal Artifacts: None
Figure 63. Cloth fragments, Burial 16.

Figure 64. Diaper pin fragment and cloth, Burial 16.

Figure 65. Pendant (metal unknown) and straight pin found with Burial 16.
BURIAL 17

Osteological Analysis:

Demographics:

Age: 15 years ± 3 years

Sex: Unknown

Ancestry: Unknown
Preservation:

Condition: Poor. This burial was not recognized in the field. It was given the field designation Feature 1 and was observed as wood discard. After screening the fill in the lab, several human remains were identified. This burial was likely disturbed by activities in the area prior to the 2005 Weyerhaeuser construction.

Cross-mends and Matches: None

Paleopathology:

Dental: None

Infections: None

Degenerative Joint Disease: None

Anomalies and Developmental Pathology: None

Trauma: None

Stature: Not applicable

Mortuary Characteristics:

Physical Aspects: Unknown

Body Orientation: Unknown

Body Placement: Unknown

Hand Placement: Unknown

Funerary Aspects:

Coffin Shape: Unknown

Measurements: Unknown

Casket Hardware: 6 square cut nails were recovered.

Coffin Wood Weight: 221 grams
Cultural Characteristics:

Clothing: None

Non-personal Artifacts: None

Figure 68. Drawing of Feature 1 and 2, Burial 17.
Figure 69. Photograph of Feature 1 and 2, Burial 17.
VI. DISCUSSION AND CONCLUSIONS

The seventeen individuals recovered from the Weyerhaeuser Pepper Hill I cemetery, provided an ideal opportunity to better understand the health and life-ways of Mississippi’s poor rural class of the late 19th and early 20th centuries. Skeletal preservation ranged form very poor to good. This differential preservation limited the types of analysis conducted on many burials. Evidence for previous disturbance in the cemetery area, unrelated to the current Weyerhaeuser construction projects, was indicated by the high frequency of old breaks (Burials 2, 6, and 15) created by increased ground pressure. The likely cause for this pressure is the continued use of heavy machinery over the burials. Burial 17, Feature 1, also had been previously disturbed with most of the skeletal elements missing.

Ancestry could not be determined for most of the burials due to cranial fragmentation and funding restricting additional mitochondrial DNA (mtDNA) analysis. Sociologically, the Pepper Hill I sample is considered African American and represents the sharecropper/tenant farmer class of this region. When ancestry is considered for this sample, morphological and metrical methods show ambiguous results, including African American, European American, and Native American ancestry. The mtDNA analysis of the molar associated with Burial 1/3 also provided indeterminate results with possible ancestry linked to India or Africa. Mitochondrial DNA represents ancestry only through the maternal line. What is actually being identified in mtDNA studies is the origin of a female and her female descendents so if a female has only male children, her mtDNA (and her mother’s and her grandmother’s etc.) is not passed on. Further tests are
currently being conducted to discriminate between these two possible ancestor populations.

These uncertain outcomes are not totally unexpected given the long history of miscegenation in the United States. Admixture with slave populations in earlier times was common with estimates of white/black racial mixture in the south ranging from 10.4 percent to 15 percent (Rose and Santeford 1985: 144). Porter (1932), who writes an extensive overview of the relations between Native Americans and African Americans, provides historical support for this conclusion. His work includes descriptions of associations as fellow slaves in North America and the West Indies beginning in 1616. Native Americans and African Americans served as allies and collaborators and engaged in marriage pursuits. In addition to these interactions, the Cherokees, Chickasaws, Choctaws, Seminoles, and Creeks were known to have slaves of African origin, a cultural trait first recorded in South Carolina in 1748 (Porter 1932: 321). Evidence for genetic admixture between African Americans and Native Americans has also been suggested for the Cedar Grove sample in southwest Arkansas (Rose and Santeford 1985).

Demographic profiles of the Pepper Hill I sample indicated the presence of six adults (five males and one female), two adolescents, six infants, and three perinatals or newborns. The number of individuals recovered is far below the suggested size of 100 individuals recommended for demographic studies (Ubelaker 1989). Males outnumber females and adults and adolescents are underrepresented. Further bias is present in the incomplete excavation of the cemetery since the cemetery boundary could not be determined due to previous construction. Although the sample is not representative of a normal population, comparisons with culturally and temporally similar groups are made
to record similarities or differences in mortality frequencies. Mortality data can provide a measure of general population health by distinguishing stress differences among particular age groups or by sex. The average age for the sample is 12.05 years while the average age for adults is 33.1 years. Based on the model table 22.5-30.0 (Weiss 1973), life expectancy at birth for this group would be 13 years, an age that clearly reflects high mortality and physiological stress for this sample. One interesting finding is the high frequency of individuals less than 15 years old identified. These infants and newborns represent 52.9 percent of the sample, while those ages 15 to 50 represent 41.1 percent and 5.8 percent were over 50 years. This incidence of infant/child deaths is similar to the 55.3 percent mortality determined for individuals less than 15 years old at the Cedar Grove Cemetery (Rose and Santeford 1985). Based on demographic profiles, the authors concluded that the Cedar Grove population was highly stressed (Rose and Santeford 1985: 138). A similar statement can be made for the Pepper Hill I population.

Research shows that in 1900 the life expectancy at birth for African American males was 32.5 years and 35 years for females. Infant mortality for non-whites was approximately 275 deaths per 1000 births at the turn of the century (Farley 1970). For southern rural African Americans growth rates declined from +3.3 percent in 1890 to -.4 percent in 1920 (Farley 1970: 51), no doubt a consequence of increased poverty brought about by the boll weevil infestation and the fall in cotton prices and an increase in diseases that occurred during this time span (Farley 1970: 11).

Periostitis affected 40 percent of the more complete individuals recovered from the Pepper Hill I cemetery. The exact causes of the lesions cannot be determined, but at least one case of systemic infection is recognized in Burial 10, where most skeletal
elements, including endocranial surfaces, exhibited periosteal remodeling. Similar lesions observed in the Cedar Grove population have been attributed to congenital syphilis (Rose 1985b: 151). Treponemal infection, specifically venereal syphilis, is likely not the cause of the lesions observed for Burial 10, as other congenital traits, Hutchinson’s incisors and mulberry molars, were not observed (see Ortner 2003). Little is known about syphilis and gonorrhea among African Americans in the late 19th early 20th centuries, but by the Depression era, it is estimated that 20 percent of this population was affected by these diseases (Farley 1970:12).

The high infant mortality observed among the Pepper Hill I sample should not be unexpected given the number and variety of diseases present in the South during their lifetime. Linear enamel hypoplasia on permanent teeth provides further evidence that the population was exposed to less than favorable environments. Other fatal or potentially fatal diseases present during the time are tuberculosis (although more of an urban disease than rural), pneumonia, consumption, diarrhea, typhoid fever, and malaria. An influenza epidemic spread across the United States in 1918 (Farley 1970: 70-71) which no doubt would have influenced infant and older adult mortality. Pellagra, a disease caused by dietary lack of tryptophan and niacin (Wing and Brown 1979), became epidemic in the southern United States in the early 1900s (Farley 1970: 217). The disease causes weight loss, skin lesions, diarrhea, and in severe cases, muscle paralysis. Today, pellagra is found in epidemic proportions in populations that rely heavily on corn as a dietary staple (Wing and Brown 1979: 38).

Malaria was a concern for rural Mississippians especially during years with elevated rainfall. Between 1916 and 1937 hundreds of thousands of Mississippians were
affected by malaria. Brierly (1945) found malaria occurrences to be greatest for those in 
lower socio-economic circumstances. He attributed the high frequency of the disease 
among the rural poor to their inability to provide proper drainage for water runoff and to 
pay for medical services. Low socio-economic status was created by agricultural pursuits 
involving a single cash crop, in this case cotton, and the problems associated with tenant 
farming such as poor soil and increased mobility (Brierly 1945: 459).

Stature estimates is a useful means for measuring health and nutrition during the 
developing years. For the Pepper Hill I sample anthropometric analysis shows male 
stature ranging from 5 feet 4 inches to 6 feet 7 inches or averaging about 5 feet 10 inches 
tall. These figures are consistent with the male stature estimate of 5 feet 9.7 inches for 
the Cedar Grove sample (Rose 1985b:151). Female stature for one Pepper Hill I female 
was shorter at 5 feet 2 inches, but this individual had not reached her full height as 
indicated by lack of lower limb epiphyseal closure. The average stature for females at 
the Cedar Grove cemetery was 5 feet 4 inches, ranging between 5 feet 2 inches and 5 feet 
6 inches (Rose 1985b: 151). These results indicate the height estimated for the Pepper 
Hill I Burial 15 to be in accordance with the Cedar Grove female statures. Rose (1985b: 
151-152) demonstrates that the Cedar Grove statures are greater than those for slaves 
living under the most stressful conditions, suggesting better health for the Cedar Grove 
sample. He further argues that the developing years for the Cedar Grove adult population 
could have taken place during the reconstruction period when conditions had improved 
considerably from the slave lifestyle (Rose 1985b:152). A similar argument could be 
made to explain the stature estimates obtained for the Pepper Hill I sample.
For the Pepper Hill I sample, hypertrophic bone formation was commonly observed in the upper limbs where muscles attached. Limb measurements and robusticity indices point to increased use of the upper arms possibly for lifting (Angel et al. 1985; Turner 1987) or planting and weeding using a hoe (Rathbun and Steckel 2002). This pattern was evident in both sexes suggesting both juveniles and adults were expected to engage in tasks involving upper body strength. Similar patterns of upper limb robusticity have been identified in similar African American groups from Arkansas (Rose 1985a) and Tennessee (Turner 1987:97), and slave populations in South Carolina (Rathbun and Steckel 2002).

Other indicators of mechanical stress observed in the Pepper Hill I sample included Schmorl’s nodes, vertebral arthritis, and degenerative disease of the elbow, shoulder, and ankle. Similar patterns of degenerative joint disease were observed for the Cedar Grove sample with the back being affected the most (Rose 1985a). The shoulder and back areas are often cited as common locations for degenerative joint disease among southern slaves (Rathburn and Scurry 1991:158; Rathbun and Steckel 2002; Rose 1985b: 151).

Not unexpectedly the isotope data for the study series reflects a diet high in C4 plants. Cornmeal and sorghum (discussed in Chapter 3), both C4 plants, are probably responsible for the Weyerhaeuser carbon levels. Using a mass balance equation for carbon (Schoeninger and Schurr 1998) the percentage of the C4 plants in the plant diet can be estimated. Based on the average δ¹³C value of -11.5 (σd = 3.2) calculated for the Weyerhaeuser sample, the C4 contribution to the plant diet is 53 percent but ranges from 26.4 percent for Burial 6 to 67.8 percent for Burial 15.
Typically terrestrial carnivores have $3\%_{oo}$ more nitrogen isotope levels than herbivores but marine animals can have up to $10\%_{oo}$ more (Schoeninger and DeNiro 1984). With terrestrial mammals and catfish values clustering around $6\%_{oo}$ the levels for human samples at Weyerhaeuser should be around $9\%_{oo}$ or $10\%_{oo}$. Based on this argument, the results from Burials 6 ($11.7\%_{oo}$) and 15 ($13.8\%_{oo}$) show higher than expected $\delta^{15}$N levels. These levels could be explained if these individuals recently migrated from a coastal habitat where the diet concentrated heavily on marine resources. Another possible explanation would be the use of freshwater carnivorous fish, such as bass, which could also create high $\delta^{15}$N levels. Unlike the diets recorded in the Virginia studies (Chapter 3, Tables 2 and 3) none of the menus recorded for the 1927 Yazoo-Mississippi Study listed fish (Chapter 3, Table 4). The research conducted by Dickins (1928) was in the winter and early spring. Diets were sparse during this season with no subsidies or money available for buying food. The absence of fish in the records suggests that these months were poor for fishing, or that fishing was not used to subsidize the diet in the late winter. The Virginia County studies, in contrast, were conducted during the spring (Dirks and Duran 2001) and May and June (Dirks and Duran 2001) when fresh fish were more readily caught. The nitrogen levels seen in the Pepper Hill I sample could reflect the seasonal fish use in the warmer months.

Elevated nitrogen isotope levels can also be produced in individuals experiencing physiological stress caused by injury, disease, or nutrition (Katzenberg and Lovell 1999). Under these circumstances, collagen is formed from recycling body proteins resulting in elevated $\delta^{15}$N values (Katzenberg and Lovell 1999:323). The early death of Burial 15 (aged $18 \pm 3$ years) may have been due to physiological stress or soft
tissue injury/infection that did not affect the skeletal system. For now, there is no clear explanation for the $\delta^{15}$N levels recorded for the Pepper Hill I bone collagen.

Poor health is often considered a reflection of the social and economic conditions of a population (Rose 1985a; Turner 1987). The general health of the individuals from the Pepper Hill I cemetery reflects a life of hard work and poor medical and dental care. In addition to the poor health, other indicators of low socio-economic status are observed in the archaeological record. No adult burials contained artifacts associated with clothing suggesting the bodies may have been wrapped in shrouds or clothing was removed before burial. Clothing items were only found with five infant burials. Fragmented diaper pins were found in Burials 7, 13, and 16 and Burials 8, 9, and 13, contained porcelain buttons. An examination of the back of these buttons showed heavy wear and “needle pecking” consistent with attaching and reattaching buttons to clothing (Figure 35). Coffin wood was identified as shortleaf pine ($Pinus echinata$) (Hogue and Alvey 2005a) and only one burial, Burial 1/3, had coffin hardware.

This research project has provided an invaluable opportunity to document the physical effects of segregation and poverty and has provided a more clear understanding of the harsh conditions faced by much of Mississippi’s African American population during the late 19th–early 20th century. The results of the Pepper Hill I burial and artifact analysis clearly reflect a population subjected to severe environmental stresses that resulted in dietary inadequacies, high morbidity, and high mortality.
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