Human Skeletal Remains from Excavations at Brimstone Hill Fortress National Park, St. Kitts, West Indies, June-July 1999

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Introduction

Excavations sponsored by The Brimstone Hill Fortress National Park Society and the University of Tennessee, Knoxville at the Brimstone Hill Fortress National Park during June and July 1999 uncovered a partial human cranium. Recovered from level 8 of unit N201-202, W100-101 at an elevation of 99.05 m, Burial 3 is represented by a fragmentary frontal, fragments of the right greater wing of the sphenoid, and a fragment from the right temporal. Many of the fragments exhibit a continuous cut surface that is indicative of calvarium (skull cap) removal for the purposes of autopsy or anatomical dissection. Two coffin nails were recovered in association with the burial. Unit N201-202, W100-101 is in the general vicinity of other units at BSH 2 that have produced human skeletal elements and it appears that Burial 3 is part of a group of 19th century burials that are present along the W 100 profile (see Schroedl 2000:20-21). Since Burial 3 is accompanied by two coffin nails, it is reasonable to infer that the cranial elements recovered represent a primary interment in a coffin.

Description of Human Skeletal Material

Burial 3 - Skeletal elements recovered include a fragmentary frontal, fragments of the right greater wing of the sphenoid and a fragment from the right temporal. The largest frontal fragment consists of the right orbital roof and supraorbital margin and is still articulated with a small portion of the greater wing of the sphenoid. Based on the morphology of the supraorbital aspect of the large frontal fragment, this individual was a male. The blunt supraorbital margin and pronounced medial supraorbital arch (brow ridge) are indicative of a male (Bass 1997). Most likely this individual was an adult at the time of his death; however, a specific age range, cannot be estimated as no age indicators are available for assessment.

A transverse cut that separated the inferior and superior aspects of the frontal bone is present above the supraorbital margin. Another large frontal fragment with a
transverse saw cut located below the coronal suture matches the supra orbital fragment. Figure 1 illustrates these two fragments with their corresponding transverse cut marks. The temporal line that begins on the supraorbital fragment continues across the transverse cut onto the superior fragment. Other frontal fragments also exhibit this transverse cut as do the fragments of the right sphenoidal wing and right temporal (all of which are contiguous with the supraorbital frontal fragment). This transverse cut would have separated the calvarium from the rest of the cranium allowing access to the brain and internal aspects of the cranial vault. Additionally, “hesitation marks” were noted along the transverse cut (Figure 2). A magnification of the cut surface depicts the striations produced by the saw (Figure 3).

Autopsies were conducted in the Americas as early as the Colonial period for the purposes of determining cause of death (Gordon 1949 and Semmes 1970 as cited in Sledzik and Micoczi 1997). Transverse sectioning of the cranium was and still is a standard part of this procedure. While anatomical dissection for exploratory or educational purposes also generally involves removal of the calvarium, the purposeful interment of this individual in a coffin argues against such a scenario. Evidence from other 17th-century contexts suggests that bodies employed for anatomical dissection were more likely to be discarded as refuse, rather than accorded customary funeral practices (Blakely and Harrington 1997; Mann et al. 1991).

Pathology

The roof of the right orbit exhibits the pitting associated with the condition known as cribra orbitalia (Figure 4). Cribra orbitalia is a form of porotic hyperostosis and has been associated with iron deficient anemia (Ortner and Putschar 1985). The presence of cribra orbitalia most likely indicates that this individual suffered from iron deficient anemia due to dietary stress during life.
Conclusion

In conclusion, the partial cranium from Burial 3 most likely represents an adult male who was interred in a coffin. The presence of cribra orbitalia indicates that this individual may have suffered from iron deficient anemia or a related condition at the time of death. The transverse cut mark on the frontal, sphenoid and temporal fragments indicates that calvarium was removed from the rest of the cranium most likely for the purposes of autopsy.

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References


Figure 1. Right frontal with transverse saw cut.
Figure 2. “Hesitation marks” along the transverse cut on the frontal.

Figure 3. Microscopic view of striations along cut surface
Figure 4. Roof of right orbit showing cribrum orbitalia.