Enslaved Labor in the Gang and Task Systems: A Case Study in Comparative Bioarchaeology of Commingled Remains. William D. Stevens, Department of Anthropology, University of South Carolina.

This study designs and tests an approach intended to confront one of the major problems faced within biological anthropology, the commingling or mixing of human skeletal remains. The first goal of the study is to implement an approach to sorting mixed human remains in order that they can be made amenable to comparative study. Bioarchaeologists depend on an array of measures, preserved in the human skeleton, to assess the lifestyles and identity of past human groups. As many of these measures are preserved within the morphology of different bones, it is imperative that the association and context of remains are known for purposes of study. Frequently, the effects of nature, human activity, recovery by untrained personnel, and long-term storage or curation, cause commingling among samples of skeletal remains, meaning that they often remain unstudied. Many of these skeletal samples have the potential to provide valuable information about past human biology and culture within our recent evolution. This study implements a combined method approach using traditional morphological and osteological methods for sorting mixed assemblages of remains, combined with elemental analysis of bones using portable X-ray Fluorescence (pXRF) in order to test its efficacy in sorting a sample of human remains that were mixed and damaged by modern construction. Elemental analysis with pXRF has shown potential in recent studies, but has not yet been employed within bioarchaeology for the purpose of facilitating comparative studies. The remains under study, the skeletons of enslaved African Americans who labored in the tidal rice fields of low country South Carolina during the mid-nineteenth century, offer new insight into our understanding of the lifestyles and health of the enslaved in South Carolina. Following the implementation of an approach to sort these damaged remains into discrete individuals, this study then includes them in a comparative biocultural study designed to contribute to the growing body of temporal and regional studies of diasporic experiences of African, European, and Native American populations within the historic and formative periods of North America and the Caribbean. This study uses a biomechanical approach based on CT-scan derived images of human bone cross sections, in order to test historical questions using the sorted sample of human remains from a South Carolina rice plantation (Hagley Plantation) in a comparative framework with remains from a Barbadian Sugar Plantation (Newton Plantation). These two historical contexts involved characteristically-different labor regimes and social and economic arrangements according to historical sources. The current study tests questions based on the historical narrative using skeletal measures of functional adaptation designed to assess the effects of lifestyle and forced labor on these two groups within a comparative biohistorical framework.
The goal of this project is to examine and compare the life and labor stresses experienced by enslaved Africans and African Americans between two New World crop systems—rice and sugar, using a biomechanical method in conjunction with historical and archival evidence, considered from a biohistorical and biocultural perspective. Biomechanical studies within bioarchaeology provide a direct means of examining specific stresses placed on the human body which are preserved in the morphology of the skeleton, permitting inference to the types and intensity of habitual activity of past populations. My study is the first to assess and compare evidence for upper and lower limb strength differences between enslaved populations and therefore provides a unique chance to measure differential labor stress endured in different contexts of New World slavery.