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September 2009 Newsletter

A New Approach to Identifying the African Origins of Enslaved Laborers Using Isotope Analysis of Archaeological Skeletal Remains

By Hannes Schroeder and Kristrina Shuler*

In the September 2006 issue of this Newsletter, we published a brief report on the progress of an isotopic study of 25 burials from the Newton plantation cemetery, Barbados, that were excavated during two field seasons in 1997-1998 by K. Shuler and R. Pasquariello (cf., Shuler 2005). The primary aim of the study was to establish whether isotopic analyses could be used to identify African-born individuals in the burial assemblage and to determine *where* in Africa they may have originated. The results of the study, which were recently published in the *American Journal of Physical Anthropology* (Schroeder et al. 2009), illustrate the potential of the approach, but also highlight some of the limitations. Here we summarise the main findings for the readers of the Newsletter. For a more detailed discussion, we refer the reader to the original article and the doctoral thesis (Schroeder 2008; see abstract in appendix below) on which it is based.

The question of where in Africa the enslaved laborers ultimately came from is one of the most perplexing in the history of trans-Atlantic slavery. Historical documents provide obvious sources of information, but their utility is limited by the fact that they tend to refer to the coastal areas from where the captives were shipped to the Americas, rather than their actual geographical origins, which could lie hundreds of miles inland from the coast (Eltis 2000). Archaeological evidence for the origins of enslaved Africans is hard to find, as the readers of the Newsletter will no doubt be able to attest. Handler (1994) cautiously suggested that individuals with filed teeth were probably born in Africa as opposed to the New World. However, he also argued that the different patterns could probably not be used as particular regional markers, since those practices were not specific to certain ethnic groups or linguistic areas (Handler 1994; see also Handler et al. 1982).

Isotopic analyses provide a reliable way to identify migrants in archaeological populations. Price, Tiesler, and Burton (2006), for example, used strontium isotope analyses to identify several African-born individuals in a 16th century skeletal assemblage from Mexico. To analyse the skeletal remains from Newton, we used a combination of carbon, nitrogen, oxygen and strontium isotope analyses. The aim of these analyses was *not* to establish that Africans were present at Newton. Considering what we know about the site and its history that fact was already established. Rather, we wanted to establish whether the measurements could help identify African-born (as opposed to Barbadian-born) individuals in the assemblage and to determine where in Africa they may have originated. By using several measurements, we were hoping to be able to crosscheck our findings and to gain a more nuanced understanding of the captives' origins.

The written records suggest that by the end of the 18th century the vast majority of Barbados' slave population were Creoles who had been born on the island (Handler and Lange 1978). Therefore, it did not come as a surprise to us that of the 25 individuals analysed, most ($n = 18$) yielded isotopic values that are consistent with a Barbadian origin. Seven individuals, however, yielded enamel oxygen and strontium isotope ratios that are inconsistent with a Barbadian origin, which strongly suggests that we are dealing with first-generation captives who were brought to the island with the slave trade. This idea is also supported by the fact that all seven individuals show marked intra-skeletal shifts in carbon and nitrogen isotope ratios, which suggest that they experienced a major dietary change at some point during their late teens or early twenties – a change that probably coincided with their capture and forced migration to Barbados.

Having identified the African-born individuals in the assemblage, the question remained as to where in Africa they had come from. Unfortunately, the method does not allow us to pinpoint specific locations in Africa in which individuals were born and spent their formative years. However, the data clearly demonstrate that the seven African-born individuals did not all originate from the same part of Africa. Instead, the data suggest that they might have grown up in at least three different areas, possibly including the Gold Coast and the Senegambia (see map below). These findings offer rare insights into the origins and life histories of enslaved Africans and illustrate how scientific analyses can contribute to our understanding of colonial history and the transatlantic slave trade. Current work tries to integrate the results of the study with the

archaeological data from the site and future analyses using ancestry-informative genetic markers might yield further insights into the origins of Newton's enslaved population and their descendants.

Note

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Appendix

Dissertation Abstract

African Slavery and Forced Migration to Barbados: An Isotopic Perspective.
Hannes Schroeder, School of Archaeology, University of Oxford, 2008.

This study explores how the scientific study of archaeological human remains can contribute to our understanding of colonial history in the eastern Caribbean, with particular reference to transatlantic human movements, and to diet. The study focuses on one of the Caribbean islands that is best understood by historical archaeology – Barbados – and thus builds on the pioneering work undertaken by Handler and Lange during the 1970s and 1980s. The first two chapters of the thesis present a brief review of previous work and demonstrate how archaeological fieldwork combined with the study of historical documents has informed our understanding of the colonial history of the island, especially with respect to the lives of enslaved Africans and their descendants. At the same time, these introductory chapters highlight the limitations of discussions surrounding the identity of the enslaved and their African roots. The thesis then sets out to consider to what extent scientific analyses of archaeological human remains can further our understanding of the slaves' physical quality of life and their ancestral links to Africa. The study uses isotopic analyses of human bone and dental tissue excavated from 18th and 19th century contexts in Barbados: 25 burials from the Newton plantation and 10 from urban Bridgetown. Isotopic studies allow archaeologists to reconstruct diets, but also to infer, from changes in diet, human mobility. The study suggests that the diet of the enslaved, both in the city and on the plantation, was largely based on C₄ crops, such as Guinea corn, although the diet of the urban population might have been slightly more varied. Generally, the results seem to support the idea that Barbados's enslaved population was subsisting on a sub-standard diet, rich in carbohydrates but little else. Further, the results suggest that 10 of the 35 individuals experienced a major dietary change during their late teens or early twenties – a change that probably coincided with their capture and forced migration to the New World. Variability in the isotopic signatures of these individuals is interpreted in terms of their heterogeneous origins in Africa. Although it is impossible to pinpoint their exact origins, the data suggest that they originated in at least three different areas, possibly including the Gold Coast and the Senegambia. These findings offer rare insights into the origins and life histories of enslaved Africans and illustrate the potential of isotope analysis for the study of past human mobility. The methodology developed will clearly be of interest and importance for archaeologists working on human mobility but also for historical archaeologists with interest in African identity in the New World.

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