Slavery in the Context of British Fortifications: The Archaeological Evidence

Brimstone Hill Archaeological Project Report No. 19

Report Submitted to
The Brimstone Hill Fortress National Park Society, St. Kitts, West Indies

By

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Invited lecture presented at A Symposium on The Historical Fortifications of the Caribbean, held in conjunction with the ceremony to commemorate the inscription of the Brimstone Hill Fortress National Park as a UNESCO World Heritage Site, Basseterre, St. Kitts, West Indies, October 3-4, 2000

October 2000
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Introduction

Archaeological work at Brimstone Hill is the direct result of the interest of the Brimstone Hill National Park Society and the people of St. Kitts in their African heritage. The Brimstone Hill Fortress is an obvious monument to the British colonial heritage of St. Kitts, but it also embodies the islands African legacy, for the many buildings and massive fortifications that we see today were almost entirely constructed by enslaved Africans.

Unfortunately, historical records provide few references to the lives and accomplishments of enslaved Africans and for this reason there is far more written information about the British officers and soldiers who occupied Brimstone Hill than the enslaved Africans who lived and worked here. Fortunately, archaeological studies reveal evidence of Brimstone Hill's African heritage neglected by historical descriptions.

Project Goals

Archaeological investigations conducted at Brimstone Hill from 1996 through 1999 and ongoing analyses of these data have five goals (Schroedl 1999b):

• discover and document the role African slaves played in the fort's construction and maintenance;
• provide accurate information about the architecture of individual structures used or occupied by slaves, so that, at some future date, they might be properly restored for visitation by the public;

• demonstrate that the heritage of Brimstone Hill is as much African-Caribbean as it is Colonial British;

• provide the people of St. Kitts information which they can use to better understand and appreciate their own culture heritage;

• place the study of enslaved African at Brimstone Hill in the comparative context of Colonial Caribbean culture.

A considerable number of archaeological studies in the Caribbean and North America have examined enslaved Africans in the context of colonial plantations. The Brimstone Hill project differs significantly from these studies by focusing on enslaved Africans in the context of the British colonial military. No other archaeological studies in the Caribbean have done this.

Historic Sources

The strategic importance of Brimstone Hill was first recognized in 1690 when French forces attempted to occupy Charles Fort which had been built by the English in 1672 to protect the harbor at Sandy Point. The British situated a small number of their cannons near the summit of Brimstone Hill and were able to drive the French from Charles Fort. By the early 18th century a series of defensive walls, gun emplacements, and other fortifications had been erected on the summit of the hill and the English had firmly established Brimstone Hill as a refuge from foreign invasion and as a position from which to defend the surrounding countryside (Smith 1992, 1994, 1995).
In January 1782, a French invasion force laid siege to Brimstone Hill and eventually occupied the fortress until it was returned to the English in 1783 under the provisions of the Treaty of Versailles. Thereafter, the English initiated a massive program to enlarge and renovate the fort which they carried out over the next 20 to 30 years. After about 1810, some minor work was carried out and the fort achieved its present plan by 1830. In 1853 the fort was abandoned. Restoration and maintenance of the fort began in the 1960s and continues to the present (Matheson 1987; Walters nd).

The Organization of Slavery

While the English colonial history of Brimstone Hill is generally well documented, the history of the African slaves who labored to construct and maintain the fortress during its occupation is less well known. From the mid-18th century until emancipation in 1834, the fort's construction and maintenance was carried out by a work force of enslaved Africans, including both men and women, who resided at the site. Some of the enslaved Africans were owned by the military (Buckley 1979, 1998), while others were contracted from the owners of local sugar plantations on the island (see Goditive 1965; Cox 1984). Enslaved Africans were essential to the success of the British military in the Caribbean, and the military categorized and organized them according to the tasks and duties they were expected to fulfill (Buckley 1996). Skilled craftsmen owned by the military, were collectively referred to as the "King's Negroes", and consisted of artisans and pioneers. The primary duties of pioneers were to maintain and repair roads, buildings, and fortifications. Artificers, on the other hand, were skilled craftsmen represented, for example, by masons, carpenters, coopers, and blacksmiths. A second category of enslaved Africans, generally referred to as "fort Negroes" and largely hired from plantation owners, were employed to haul water, move supplies, gather wood, work in kitchens, remove trash, and clean latrines. How many slaves lived at Brimstone Hill at any particular time is unknown, but we suspect that
200 or more were present during the major building episode of the 1790s. There is no evidence that slave villages or compounds like those associated with plantations were established within the fortress, and it seems likely that some slaves were housed in military barracks. In some instances these may have been temporary facilities, or in other cases they were more substantial structures such as those used to garrison the all-African members of the Fourth British West India Regiment at the fort in the 1790s (see Buckley 1979; Chartrand 1996). Unfortunately, the specific barracks occupied by enslaved Africans at the Brimstone Hill fortress are unknown from either historical documents or archaeological studies. Archaeological data indicate that some enslaved Africans likely lived in and around the buildings where they worked.

The primary guide to locating excavations at Brimstone Hill is a 1791 British military engineer’s map of the site (see Smith 1994: Figure 10). Not only does this map show buildings and features with extraordinary accuracy, it also labels or color codes them according to their use or who occupied them. Importantly, some buildings shown on the map, were designated or set aside for use primarily by enslaved Africans and this is where archaeological field work has been carried out by the University of Tennessee.

Excavations

Excavations were conducted in two areas of the fortress. The first is the lime kiln complex at the northwest base of the hill adjacent to the entrance road. Here as many as nine buildings may be related to the presence of enslaved Africans. The second area is situated between the Orillion and Magazine Bastions on the west side of the fort.

1 The map illustrated by Smith and found in the Public Records Office (WO78/2596) does not label specific buildings. The version of this map found in the St. Kitts archives in Basseterie, however, provides these labels. Close comparison of the two maps also reveals that some buildings shown on one are not shown on the other. Furthermore, while the map legends are very similar, they imply that there is probably a third version of this map.
Here the 1791 map shows four buildings aligned with the defensive wall connecting the two bastions that were utilized by enslaved Africans.

In all cases, sediments were removed in 1m by 1m squares using arbitrary 10 cm levels. All excavated sediments were sifted through 1/4 inch mesh screen, and the recovered artifacts were placed in appropriately labeled bags for transportation and laboratory processing. Artifacts were cleaned, sorted, identified, described, and coded for computer analysis. Most of this work was done in St. Kitts, but the animal bones and a small number of other artifacts were transported to the United States for further analysis (see Schroedl 1997, 1998, 1999a, 2000a).

The Lime Kiln Complex

Excavations in the vicinity of the lime kiln included recording a wall, and placing small excavations in a lime storage structure, and two other buildings (Schroedl 1997: 5-16). The lime storage building measures 10 m long by 5 m wide and is constructed of rubble-filled walls that are 60-65 cm thick. There is a single entry way on the north wall. The building had a hard-packed lime floor and the structure originally was covered with a slate roof; wire nails suggest that tin or wood was used to construct a second roof in the late 19th century. Two superimposed hard-pack lime floors on the exterior of the building suggest that a porch or verandah was attached to the front of the building. Excavations exterior to the west wall revealed a cache of cannon balls, but the circumstances resulting in this occurrence are unknown. Artifacts associated with the lime storage building are consistent with a late 18th or early 19th century construction date. Although retrofitted at least once, there are no artifacts suggesting domestic occupation of the building.

The second and third structures investigated at the base of the hill are located approximately 50m and 120m further upslope from the lime storage structure along the
tents main access road (Schroedl 1997:11-16). These may represent work sheds of carpenters and masons or the houses of master craftsmen or foremen as shown on the 1781 map. The first of these structures consists of a stone foundation measuring about 5 m wide and more than 5 m long. The walls are 60-75 cm thick. The interior of the building was partially filled with rubble to bring the floor to grade. The structure has a stone and mortar floor. There are identical recesses or notches evenly spaced along the exterior of the foundation that probably held posts that formed the structure's walls. No entry way or other openings were detected in this structure. The few artifacts recovered from it provide no obvious indication of its use for domestic or other purposes. The third structure is represented by a foundation remnant too small to estimate the buildings size. Recesses in the foundation also indicate that posts were used to build the walls.

Although the 1781 map indicates the presence of other structures in the area, any evidence for them appears to have been removed by modern road construction and erosion of Sandy Point ght immediately to the north.

Building Complex between the Orillon and Magazine Bastions

The greatest archaeological effort was directed at the area exterior to the defensive wall connecting the Magazine and Orillon bastions on the west side of the fortress where four buildings, identified as a kitchen, a workshop and two hospital buildings shown on the 1781 map are attributed to occupation by enslaved Africans. The buildings were constructed no earlier than about 1780 and were abandoned in the first two decades of the 19th century. One of the hospital buildings (Structure 1) and most of the workshop building (Structure 2) were investigated and these studies provide important evidence of Afro-Caribbean occupation that is not documented in the context of the British Colonial military at any other site (Schroedl 1997, 1998, 1999a, 2000a). The buildings are less than 4 m from the defensive wall and less than 2 m apart. Both
Structures have low stone rubble and mortar foundations with a mortar sill, indicating that the buildings were probably post and beam or timber frame construction, as suggested by a contemporary water color of the site.

Structure 1 (Hospital Building)

The hospital structure (Structure 1) measures 8.5 m (21 ft) long and approximately 5 m (16 ft) wide. The west wall and 50 percent or more of this side of the building have been lost to erosion. The building consists of a narrow mortar and rubble stone foundation 20-30 cm wide, and a carefully constructed 30 cm wide exterior mortar sill running the length of the east wall. The sill also is present on the remaining segment of the south wall, but was not observed on the north wall. No openings were detected in the building. The structure floor is hard-packed mortar that was directly placed on weathered limestone and mortar rubble which served to level the area for construction of the building. A portion of the wall, mortar sill, and mortar floor is removed at the southeast corner, suggesting that this part of the building was intentionally demolished. Stone rubble scattered across the northwest corner of the structure may have come from the building's demolition or more likely from the kitchen building that stood near it. Stratigraphic evidence and observation of artifact densities suggest that some debris had accumulated in the building before its destruction and that debris discarded over the defensive wall accumulated between it and the structures east wall.

Structure 2 (Workshop Building)

The workshop building is located approximately 2m south of the hospital building (Structure 1). It is approximately 6.3m (21ft) wide and no more than 10.2m (33 ft) long. The workshop thus occupies twice the area as the excavated hospital. The walls of the workshop are stone rubble measuring approximately 60cm thick and there
is a mortar sill, similar to the one associated with the hospital building, at the northeast corner extending along the north wall for 1.1 m and running along the excavated portion (8.2m) of the east wall. A mortar floor occurs on the building's east exterior side, and there is a narrow drain at the base of the foundation. The drain runs along the base of the foundation for about 2m, while the mortar floor follows the east wall from the building's northeast corner for about 5.4 m. The drain continues along a segment of the north wall where a limestone outcrop was partly removed to accommodate the structure's wall and the drain. The structure's floor is poorly defined, consisting of packed small, angular pebbles and hard pieces of mortar. Not enough of the building has been excavated to determine if the structure contains any interior posts, partitions or other features, or if there are any wall openings. The graves of five probable British soldiers, intrude the building's interior floor.

While only a small portion of the building's interior was excavated, the number of artifacts recovered from it suggests that the building's floor was kept comparatively free of debris. In contrast, abundant artifacts, particularly bone discs and the debris from their manufacture, were recovered adjacent to the exterior base of the building's east wall. This suggests that much of the processing of bone and manufacturing activities occurred outside the building. This area would have been shaded most of the day, first by the fortress' curtain wall early in the day and then by the east wall of the building in the afternoon.

Other Buildings

Despite efforts directed specifically at locating the second hospital building and kitchen building, no unambiguous evidence of either structure was detected in the excavations.
Burials

While the focus of excavations has been the structures utilized by enslaved Africans, significant information also was obtained regarding British military mortuary patterning (McKeown 1997, 1998, 1999). Following abandonment of the buildings in the early 19th century, the area was used for the interment of British soldiers. Based on the placement and orientation of the 10 burial pits identified thus far, the approximate locations of the structures were known at the time of the burials. There are at least two rows of burials that parallel the defensive wall (Schoedel 2000a: 20-21). Individuals were interred no more than about a meter from one another, and the two rows are no more than about a meter apart. All the graves have the same general dimensions and that bodies were oriented with the heads to the west. Some bodies were placed in coffins, two graves were marked with plain headstones, and at least one individual was subject to post mortem medical examination. There is no evidence that enslaved Africans were interred in this area of Brimstone Hill. There is no reason, however, to doubt that enslaved Africans were buried at the fortress. We just do not know where this might have been.

Artifacts

The excavations produced nearly 95,000 artifacts, nearly all of which came from the hospital and craftsmen’s buildings (Table 1). Manufacturing dates for the artifacts are consistent with occupation dating to the late 18th and early 19th centuries (see Ahlman and Schoedel 1997: 5-24; Schoedel 2000a: 13-18).

Curved Glass

By far the most abundant artifacts are pieces of glass containers. Most of these are rum, wine, or gin bottle fragments, a great many of which were associated with the
sediments densely laden with artifacts outside the east walls of the hospital and craftsman buildings.

Table 1. Summary of Material Classes recovered at BSH 1, BSH 2, and BSH 3* (from Schroedl 2000a).

<table>
<thead>
<tr>
<th>Material Class</th>
<th>BSH 1</th>
<th>BSH 2</th>
<th>BSH 3</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ceramics</td>
<td>156</td>
<td>25237</td>
<td>823</td>
<td>26236</td>
</tr>
<tr>
<td>Curved Glass</td>
<td>419</td>
<td>42296</td>
<td>598</td>
<td>43313</td>
</tr>
<tr>
<td>Smoking Pipes</td>
<td>47</td>
<td>3221</td>
<td>97</td>
<td>3366</td>
</tr>
<tr>
<td>Metal</td>
<td>583</td>
<td>6702</td>
<td>95</td>
<td>6380</td>
</tr>
<tr>
<td>Nails</td>
<td>356</td>
<td>7712</td>
<td>134</td>
<td>9202</td>
</tr>
<tr>
<td>Construction Material</td>
<td>1584</td>
<td>4586</td>
<td>339</td>
<td>6509</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>15</td>
<td>605</td>
<td>8</td>
<td>628</td>
</tr>
<tr>
<td>Total</td>
<td>3162</td>
<td>89379</td>
<td>2094</td>
<td>94633</td>
</tr>
</tbody>
</table>

* BSH1 refers to the lime kiln area, while BSH 2 refers to excavations between the Orillon and Magazine Bastions. BSH 3 is the area above the defensive wall connecting the Orillon and Magazine Bastions where a surface collection was made and three test pits were excavated in 1998 (see Schroedl 1999a).

Ceramics

The second most frequently recovered artifact class are European manufactured ceramics. Creamware, peastemware, stoneware, and redware are the most abundant ceramics, but the sample also includes whiteware, Chinese export porcelain, British bone porcelain, earthenware, and yellowware.

Smoking Pipes

There are over 3,300 pipes and pipe bowls from European or American made kaolin clay smoking pipes. The decorative motifs and changes in stem of bore
diameter of pipes are especially useful for site chronology studies (see Binford 1962; Harrington 1954; Walker 1965). Dates from pipes items manufactured after 1780, however, are unreliable because the bore diameters do not consistently change after this date. The pipes items dates from Brimstone Hill, as a result, are dubious because most of the excavated occupation dates after the 1780s. Nevertheless, decorations and maker’s marks on the smoking pipes documented their acquisition from a variety of English companies, as well as Dutch and perhaps North American sources. As at plantation sites, smoking pipes were easily obtained by enslaved Africans at Brimstone Hill.

Metal Artifacts

Metal artifacts include items such as tools, horse or mule tack, fragments of barrel hoops, and other miscellaneous or unidentifiable metal objects. Barrel hoops are especially abundant in the Brimstone Hill collection. In addition over 8000 nails were recovered at the site.

Construction Materials

Construction related artifacts recovered at the site are represented by roofing slate, bricks, floor and roof tiles, and flat window glass. Other construction materials mixed during the excavation but not collected or quantified include numerous pieces of mortar and thousands of foundation stones and fragments.

Miscellaneous Artifacts

Other items recovered from the excavations include gun flints, musket balls, and miscellaneous personal items and adornments. Among these are over 100 infantry and artillery buttons and fragments of military uniform badges (see Schroeder and Ahman 1998; Savage and Schroeder 1999; Schroeder 2000b). These represent at least seven regiments that were stationed at Brimstone Hill in the 18th and early-19th centuries.
(Friedrichs 1999). Buttons with maker’s marks represent three London and one Dublin manufacturers (Scroedel 2000a: Table 3). The excavations also produced four coins, two of which are 1789 French Cayenne specimens. Considering the length and intensity of British military occupation at Brimstone Hill it is surprising that so few military related artifacts were recovered during the excavations.

**Afro-Caribbean Artifacts**

Although many items recovered from the hospital and craftsmen buildings were thrown or dumped over the fortress wall by British soldiers or enslaved Africans after the buildings were abandoned, artifacts recovered within and around the foundations are contemporary with the structures and attest to their occupation by enslaved Africans. Four artifact classes relate specifically to the presence of African slaves (Ahman 1997). First, are fragments of pottery vessels, referred to as Afro-Caribbean ceramics, made by people of African ancestry; second are European ceramic sherds modified with scratched patterns most of which are religious marks or personal identifications attributable to enslaved Africans. Third are numerous single hole bone discs or buttons and the debris from their production. Their manufacture surely was an important activity associated with the workshop building. Lastly, artifacts attributable to enslaved Africans from the two buildings include gaming pieces manufactured from European ceramic sherds, retouched glass bottle sherds used to scrape or cut soft material, a scratched brass disc, a money cowry shell, and a blue glass bead.

**Afro-Caribbean Ware**

By far the most abundant class of artifacts attesting to the presence of enslaved Africans is Afro-Caribbean ware. This is a hand-made, low-fired pottery that is found on most Caribbean islands. It represents an amalgamation of West African, Amerindian and European pottery making traditions that came together in the 17th century.
Kittian culture today is the result of this cultural creolization and study of Afro-Caribbean ware can help understand the formation of the Kittian cultural identity. Until recently this pottery was important to Kittian culture because it was used for cooking, food preparation, and food storage. Recovered pottery represents a variety of vessel forms that include Yabbas, jars/pots (like a three legged pot), possibly coal pots, griddles, bowls, and holloware vessels (see Heath 1991). In turn, differences in the vessels indicate a range of uses including food preparation and several forms of cooking, storage of food and other bulk materials, and the consumption of liquids and solids. Many sherds are footed from their use over an open fire.

The vessel forms and their footing suggest that slaves cooked meats in traditional West African manners. For example, always keeping a slow cooking food pot stewing over a low fire is a West African tradition. Animal bones from our excavations suggest that people of African descent were cooking small “pot” fish, much like many Caribbean people do today. Further, fish bones in the archaeological record suggest that both British soldiers and enslaved Africans were cooking and eating Salt cod fish. Salt fish, of course, remains important in the diet of many Kittians. Goat, sheep, cattle, and pig remains also suggest that the methods used by enslaved Africans for preparing these animals were comparable to West African techniques.

The Afro-Caribbean ceramics from the archaeological investigations also contribute to defining patterns of ceramic manufacture and distribution. Unlike Nevis, there is no modern pottery making tradition on St. Kitts and many Kittians remember getting their pottery from Nevis (see Hauser and Armstrong 1999; Heath 1988; Petersen et al. 1999). The pottery recovered at Brimstone Hill suggests that people either made pottery on St. Kitts or acquired it by trade from other islands. In either
case this suggests that enslaved Africans created and participated in economic activities that exceeded the limitations placed on them by colonial British culture. As part of our investigations of Afro-Caribbean pottery we have also identified clay sources on St. Kitts and have instituted preliminary work to determine its suitability for pottery making. We are interested in determining if a local tradition of pottery manufacture once was present on the island.

The use of Afro-Caribbean ware by enslaved Africans and modern Kittians represents a connection to the past, especially to West Africa where a much of the tradition comes from, and to the present, where many people still participate in it. Many Kittian cooking and dining traditions using clay pottery such as cook-up, pot fish, goat water, and dishes that require slow cooking and stewing have their origins in the period of colonial slavery. Studies of Afro-Caribbean ceramics at Brimstone Hill thus help identify development of Kittian cultural traditions.

Modified European Pottery Sherds

Archaeological evidence has been recorded for the religious beliefs, social institutions, and subsistence patterns that African people maintained after they were brought to the New World as slaves. This is seen, for example, in the production of Afro-Caribbean ware ceramics. The persistence of African traditions also is seen in new, alternative, or complementary interpretations of non-African objects or contexts (see Adams 1994; Handler 1996, 1997; Klingelhofer 1987; Russell 1997; Young 1996). Examples of this include European made objects exhibiting personal identifications or religious marks.

The most distinctive group of artifacts representing this pattern at Brimstone Hill are European ceramics showing a variety of scratched lines (Schroedl and Ahlman 1999). Artifacts like these have been reported from only
two other African slave contexts in the Caribbean and none in North America (Finamore 1995; Nasca 1998). The scratched lines, were produced by using a sharp implement to form lines measuring 2.0 to 11.0 mm wide consisting of multiple parallel scratches. The designs represented on the sherds exhibit considerable variety. Individual English letters or initials and “Xs” are represented, but the number of lines that are parallel, perpendicular, acute, and obtuse indicate the occurrence of triangles, rectangles, multi-sided figures, stars, and perhaps other geometric designs. Among these artifacts are two gaming pieces.

A small number of the modified ceramics were produced by British Soldiers in the context of their communal living arrangements primarily to record personal ownership of particular vessels. Most of the sherds, however, were marked by enslaved Africans and many of these marks surely derive from the iconography of West African religious beliefs. As personal identifications by individual slaves, the marks are conceptually the same as those produced by British soldiers.

Living conditions at Brimstone Hill were harsh for everyone, but they were much more difficult for African laborers than for British soldiers. Nevertheless, both groups lived a communal lifestyle where expressions of individuality were largely forbidden or suppressed and found few tolerated outlets. In this context, one way British soldiers showed their individuality was by marking their personal possessions with their initials. This is evident in ceramics scratched with English letters such as “M”, “W”, and “P”. The personal lives of enslaved Africans were even more restricted and controlled than British soldiers, and many of them were neither related by kinship nor by the heritage of a specific African language or culture group (see Halcrow 1982). In this context, African slaves marked their personal possessions by scratching symbols on them just as British soldiers put their names and initials on various objects. For this
African slaves used the religious and social symbols with which they were most familiar. Individuals might have recognized the symbols as religious marks but not all of them would necessarily know their specific religious meanings because of differences in ethnicity. Thus the individuality and ethnicity of slaves were distinguished from other slaves and from soldiers. Because African slaves were no longer restricted by the cultural norms of the societies from which they came, they might also use African symbols in ways that they would not have been permitted before leaving Africa. By using these symbols in new ways on European made ceramics, African slaves created religious and ethnic patterns that are distinctly Afro-Caribbean in nature (Schoepp and Ahiman 1999).

Bone Buttons

As represented by over 1000 artifacts, the manufacture of bone discs or bone buttons is the most visible activity of enslaved Africans in the archaeology of the hospital and workshop buildings at Brimstone Hill. Single-hole bone discs and manufacturing debris have been recovered from numerous late 18th century British and American military sites in North America. Study of these materials at Brimstone Hill, however, constitute the most comprehensive examination of this technology carried out at any site (Kippel and Schoepp 1999).

Discs or buttons were manufactured only from cattle ribs and scapulae (shoulder bones) or the ribs of sea turtles. Ribs of both turtles and cattle were extensively modified prior to disc manufacture. Cattle ribs were trimmed along the thick cranial border with a machete or cutlass. The rib heads were chopped off, after which the piece was divided into two or more rectangular sections which were then split lengthwise. Sea turtle ribs were processed in a similar manner, except that the interior surfaces appear to have been chopped away; rather than split into two rectangular segments.
Cattle scapulae or shoulder bones received less preparation than cattle or turtle ribs. The articular end was chopped free. On most pieces the areas beneath the spines and along the boarders were split prior to disc manufacture. Other portions of the scapulae are sufficiently thick to produce bone discs without prior modification.

The discs were manufactured with a hand-held brace and "button" bit. "Button" bits have a central guiding pivot and two shorter lateral spurs. The area between the pivot and spurs are alternately beveled to form a cutting edge. The length of the lateral spurs determine the thickness of the discs being removed and the guiding pivot produces a central hole as a byproduct of disc removal (see Mercer 1960: 195-196).

At Brimstone Hill there is solid evidence that discs were removed by first drilling from the interior bone surface until the pivot broke through the opposite side then repeating the process from the exterior surface of the bone. Drilling continued until the disc was freed from the surrounding bone. This inevitably resulted in a slight misalignment and formation of a small ridge, or shelf, that is visible on the perimeter of discs and inside margins of holes where the disc was removed. The method of manufacturing bone discs at Brimstone Hill has been generally confirmed by replication experiments using modern cattle ribs, scapulae, and sea turtle ribs.

Bone discs at Brimstone Hill range from 8.5 to 32 mm in diameter, and fall into four distinctive size clusters (i.e. 9.10mm; 12-14mm; and 16-18mm, and 19 - 22mm). Most turtle bone discs are in the 12 to 14 mm range, discs from cattle ribs and scapulae, on the other hand, occur in large numbers in all size clusters (9.10mm, 12-14mm, 16-18mm). Although the use of single-hole bone discs has been debated, there is wide agreement that in the New World they were molds or cores for cloth or thread covered buttons; the single, central hole is merely a by-product of manufacture. Cloth covered buttons were popular in both England and North America during the 18th century (Hinks 1995).
The diameter of bone discs varied with the garment to which they were attached. Large buttons (e.g. > 17.5 mm) were attached to "great coats" while smaller sizes were attached to breeches, trousers, shirts, jackets, and waistcoats. Some garments, such as breeches, were fitted with buttons of a variety of sizes. On British military uniforms of the late 18th century large buttons occur on topcoats with smaller buttons on waistcoats, breeches and trousers (May and Embleton 1974).

Associated with bone buttons and their manufacturing debris at Brimstone Hill are small but significant numbers of metal British military buttons, fragments of uniform and hat decorations, and straight pins. Found in this context, these remains suggest that, among its users, the excavated workshop building may have served as place for the alteration and repair of uniforms and other clothing.

**Faunal Remains**

In addition to bone buttons and their manufacturing debris, the Brimstone Hill excavations produced a substantial number of animal bones from food consumption (Klippel 1997, 1998). Over 80 percent of the identifiable bones are domestic pigs, cattle, sheep and goats. Other mammals from the site include both brown and black rat, dog, cat, rabbit, and horse or donkey. Fish and reptile bones each constitute an additional seven percent of the sample; fish include both local, tropical, species and cod fish imported from the North Atlantic. Most reptile remains are from sea turtles that were used extensively in the manufacture of bone artifacts. Birds, mostly from chickens, only make up one percent of the assemblage. Marine mollusks recovered from the site are mostly West Indian Top Shell and Green Star Shell that enslaved Africans obtained as a food source while fishing (Patterson and Klippel 1999).
Food Utility

Additional research on the vertebrate fauna has used food utility indices and stable carbon isotope analysis to determine whether livestock, particularly cattle, goats, and sheep which were consumed at the site, represent animals raised on St. Kitts or shipped to St. Kitts as preserved meat from England or North America (Klippel 2006). Evaluation of food utility studies for these animals show that lower limbs and, to a lesser extent, heads have relatively low nutritional value (low meat utility) while meat from the spine, shoulder blade, pelvis, and upper limb portions are much higher in potential human nutrition (high meat utility). Roughly 50 percent of the bones in the skeletons of cattle, sheep, and goat reflect low utility portions when the head (i.e. skull, mandibles, hyoids, and teeth) and feet (carpals, tarsals, sesamoids, metapodials, and phalanges) are combined into a low utility category. The vertebrae, ribs, scapulae, pelvis and upper limb bones (humeri, radii, ulnae, femora, tibiae, lateral malleoli, and patellae) constitute a high utility category.

Ninety percent of the cattle bones from the hospital and workshop buildings at Brimstone Hill are high utility. There are at least two possible reasons for the predominance of high utility beef bones in the food refuse of slave contexts at Brimstone Hill. (1) The British military was provisioning enslaved Africans with high utility portions of locally raised cattle that were butchered elsewhere on the Island where many of the low utility portions were discarded as offal, or (2) enslaved Africans were provisioned with at least some baled beef shipped from England or North America. The meat utility patterns for beef contrast sharply with bones from goats and sheep that are 42 percent high utility and 58 percent low utility. The relatively even proportions of high and low utility bones for these animals indicate that sheep and goats were slaughtered at or near Brimstone Hill and were not transported appreciable distances as
carcass parts or preserved meat. This suggests that British soldiers and enslaved Africans were consuming locally raised goats and sheep.

Overall, the findings at Brimstone Hill differ from observations made on slave diets at plantation sites where access to high utility portions of animals was much more restricted. The diet of enslaved Africans at Brimstone Hill appears to have included some or the same foods available to British soldiers.

Isotope Analysis

Analysis of stable carbon isotopes also has been used to determine if some of the cattle bones from slave contexts at Brimstone Hill are from animals imported from England or North America as preserved meat or whether they were raised in St. Kitts (Klippel 2000). This analysis relies on the fact that grasses in cool temperate climates and those in warm tropical climates differ in how they convert carbon dioxide to plant carbon. These differences are measurable in plant tissues. Plant carbon is transferred to the bones of animals in the same proportion as found in the plants they eat. For this reason, it is possible to distinguish the bones of animals raised in tropical areas from those raised in temperate areas (See Schoeninger and Moore 1992; Tieszen 1991).

Stable carbon isotope analysis was conducted on one goat, one sheep and six cow bones from the Brimstone Hill excavations. The analysis indicates that four cow bones represent animals that were raised primarily in cool temperate climates, while the other two were raised in a more tropical climate. These animals were probably raised locally on St. Kitts. Analysis of the single goat and sheep bones are consistent with having been raised on St. Kitts. Both reflect access to tropical grasses and leaves from woody shrubs or trees.

Skeletal part frequencies of animal bones from enslaved African contexts at Brimstone Hill indicate that sheep and goats were raised locally, but that beef may have
been transported to the island as barreled meat. Stable carbon isotopes confirm these interpretations; sheep and goat remains have carbon isotopes consistent with having been raised on St. Kitts while beef bones have isotopes indicating some of the cattle were raised in a temperate climate. Barreled beef, then, can account for the large numbers of high utility cattle bones in slave contexts.

Although historic sources indicate that barreled beef was not shipped with marrow bones, there is clear evidence from Brimstone Hill that at least portions of these bones were included with provisions shipped to the British West Indies during the late 18th century. This may be a reflection of the times when, under sugar monoculture, enslaved Africans and soldiers were often provisioned with inferior quality meat from more northern latitudes.

**Conclusions**

Archaeological studies have contributed significantly to addressing the research goals focusing on the African heritage of Brimstone Hill:

- **Excavations** of the lime kiln complex, while producing important data respecting the architecture of these buildings, yielded few artifacts related to their occupation and use by enslaved Africans.

- **Excavations between the Office and Magazine bastions** have confirmed the presence of two of the four buildings shown on the 1791 map of the fortress. These are identified as a hospital and a workshop. The excavated structures had stone foundations and wood or wood and plaster walls. Domestic occupation and craft production of bone buttons by enslaved Africans is associated with these buildings.

- **The abundant evidence for bone button manufacturing attests to the importance of this activity and its conduct by African slaves.** These materials represent the most
comprehensive information currently available on this topic anywhere, and as such, they have great comparative importance for understanding 18th century European technology and how Africans contributed to its development and implementation.

- Animal bones from the excavations show that the diet of African slaves at Brimstone Hill included animals eaten by British soldiers, but that slaves also utilized other species including local and imported fish more frequently.

- Enslaved Africans had access to imported barrelled beef, and also consumed locally raised goats and sheep.

- Fragments of cooking vessels and the food refuse found in the archaeological record suggest that African slaves prepared their meals consistent with West African traditions. Patterns of food preparation and consumption found in St. Kitts today are detectable in the archaeological record of Brimstone Hill.

- Fish remains not only document food consumption, but also reflect the utilization of marine habitats by enslaved Africans. Understanding past patterns of environmental exploitation by African slaves is directly relevant to the management of St. Kitts’ natural resources today.

- Pottery recovered at Brimstone Hill includes fragments from vessels made by enslaved Africans. Commonly called Afro-Caribbean ware, this pottery occurs elsewhere in the Caribbean including St. Eustatius and Nevis. The excavation at Brimstone Hill, however, is the first time Afro-Caribbean pottery has been well documented in archaeological contexts on St. Kitts. This contributes comprehensive and new understanding about how Africans transferred technology from their homelands and how they adapted it to the institution of slavery. It is also directly relevant to contemporary traditions of ceramic manufacture and use.
• Also found in the excavations at Brimstone Hill are fragments of British-made pottery that has been altered by applying scratch marks to the vessel bottom. Some of these marks clearly represent the initials of British soldiers, but many more surely constitute personal identifications or religious symbols produced by African slaves. Africans used these objects as a visible means to retain their individuality and to express their ethnic and religious heritage. The Brimstone Hill excavations represent one of three places in the Caribbean where such markings have been documented on British pottery in African slave contexts.

• Excavations at Brimstone Hill have produced an abundance of artifacts used and discarded by British soldiers. These materials provide a comparative context for assessing the kind and quality of life that African slaves led at the fortress.

Archaeological research at Brimstone Hill has produced significant new information regarding the lives of enslaved Africans at Brimstone Hill. Among the significant research questions that require future investigations are:

• How did the occupants of Brimstone Hill, including British soldiers, African soldiers, and enslaved Africans function as a community, albeit a highly structured and segregated one?

• Is there evidence for social and economic differences among African slaves at the fortress. For example, were African soldiers treated differently from other groups of slaves? Are there material differences, for example, between "Fort" and "Kings" negroes.

• What evidence is there for social and economic relationships between enslaved Africans at Brimstone Hill and at plantations on St. Kitts?
• Did the majority of enslaved Africans live in barracks at Brimstone Hill and where were these located?

• Did the slave community at Brimstone Hill include women and children and what is the evidence for this?

• How do the patterns revealed at Brimstone Hill compare with the presence of enslaved Africans in British, French, and Dutch military contexts elsewhere in the Caribbean?

Written records may help answer some of these questions, but archaeological documentation or corroborating evidence is either unavailable or not fully developed for addressing them. Considerable effort, using both historical records and archaeological materials, is required to develop the full potential of research respecting enslaved Africans at Brimstone Hill.

When people visit Brimstone Hill, they see a colonial British cultural landscape. Even written accounts of the enslaved Africans who lived and worked at the fort are filtered by what Europeans chose to record. Archaeology at Brimstone Hill is a mechanism for testing the veracity of recorded history at the fortress. More importantly, archaeology reveals human lives in a way produced by no other form of research. Archaeology gives a cultural voice to the African people who lived and worked at Brimstone Hill and who would otherwise remain silent. In so doing, their Kittitian descendants can claim their rightful role in the history of Brimstone Hill.

Acknowledgements

We wish to congratulate the Brimstone Hill National Park Society and the People of St. Kitts on the occasion of the placement of the Brimstone Hill Fortress on the UNESCO World Heritage list. We also wish to thank the Brimstone Hill National Park,
Society, particularly Mr. Larry Armoy and Mr. Cecil Jacobs, for their support of the research. Additional acknowledgment is extended to the Center for Field Research, the University of Tennessee and the government of St. Kitts, especially the Ministry of Tourism, Information, Telecommunications and Commerce under the direction of Minister G. Dwyer Astaphan for their support of the archaeological investigations at Brimstone Hill that we have been privileged to conduct since 1986. This work, and its presentation today, reflect the assistance of Mr. Victor Smith and the late Frederick Gissing.

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