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**FOLEY SQUARE FEDERAL COURTHOUSE
AND OFFICE BUILDING
NEW YORK, NEW YORK**

**RESEARCH DESIGN
FOR
ARCHEOLOGICAL, HISTORICAL, AND
BIOANTHROPOLOGICAL INVESTIGATIONS
OF THE AFRICAN BURIAL GROUND
(BROADWAY BLOCK)
NEW YORK, NEW YORK**

FINAL

12-14-93

**GENERAL SERVICES ADMINISTRATION
REGION 2**

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**GENERAL SERVICES ADMINISTRATION
REGION 2**

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DECEMBER 14, 1993

A NOTE ON THE PREPARATION OF THIS RESEARCH DESIGN

This Research Design was prepared through the cooperative effort of a number of scholars representing a multiplicity of professional disciplines. These individuals, together with their professional affiliations and anticipated project roles, include the following:

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In addition, two other individuals assisted in the preparation of this Research Design, although it is anticipated that their ongoing roles on the African Burial Ground project will be minor. These individuals are the following:

Daniel G. Roberts, Five Points Project Director, John Milner Associates
John P. McCarthy, Five Points Associate Project Director, John Milner Associates

An earlier version of this Research Design, combined in one document with the Research Design for the Five Points site, was submitted for review on October 15, 1992. Many thoughtful and insightful comments were received from concerned members of the New York community, review agencies, and other interested parties. We are hopeful that this revised Research Design for the African Burial Ground, together with its companion Research Design for Five Points, accurately reflects the concerns and comments of those parties.

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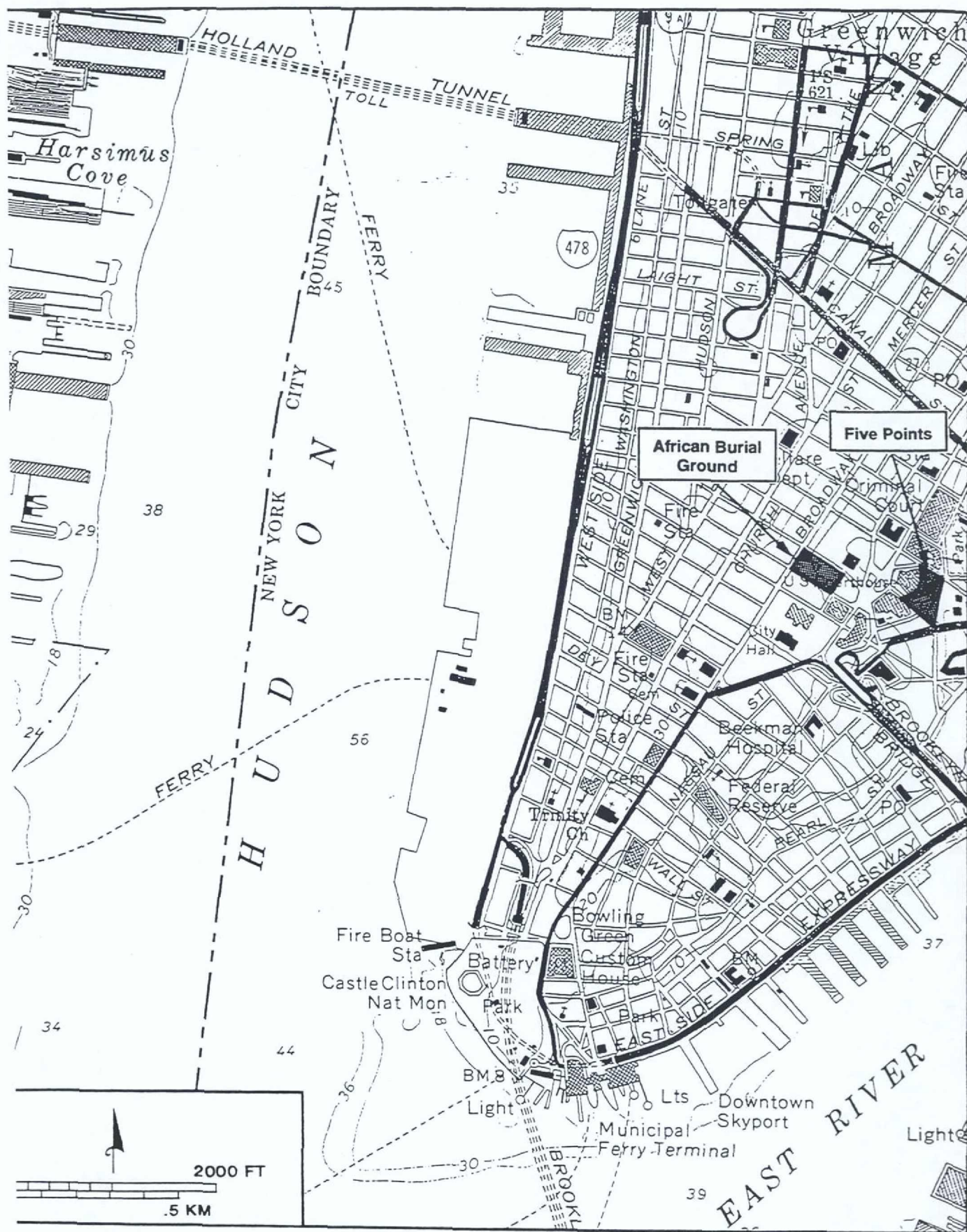


Figure 1. Project Area Location, USGS 7.5 Minute Series, Jersey City, NJ-NY Quadrangle, Photorevised 1981

1.0 INTRODUCTION

1.1 Purpose of this Document

The purpose of this document is to satisfy requirements and guidelines under the responsibilities and provisions of the National Historic Preservation Act (NHPA), as amended, and the National Environmental Policy Act (NEPA). In addition, this document has been generated because of the administrative and scientific need to separate two distinct, but closely related, archeological projects. These two projects are the African Burial Ground project, addressed in this Research Design, and the Five Points project, addressed in a companion Research Design document.

The Public Buildings Service of the United States General Services Administration (GSA) has undertaken the construction of two new buildings, a federal courthouse and an office building on two non-contiguous sites at Foley Square in lower Manhattan, New York City. The new office building is slated for a parcel of land bounded by Broadway, Duane, Elk, and Reade Streets, and is the site where the African Burial ground was archeologically excavated. This block is also known as the Broadway Block. The new courthouse is slated for a parcel between Pearl and Worth Streets, in the vicinity of Cardinal Hayes Place (Figure 1), and is known as the Courthouse Block or the Five Points district. The Research Design for the Five Points district and the Courthouse Block is presented in a companion document prepared by John Milner Associates (JMA) and Howard University. The present document, prepared by Howard University and JMA, presents the Research Design for the Broadway Block only. Taken together, the two documents constitute the Research Designs for the mitigation of adverse effects to cultural resources present in both blocks.

In accordance with its responsibilities under provisions of NHPA and NEPA, the GSA retained consultants who prepared an Environmental Impact Statement (Edwards and Kelcey 1990) that included a Stage IA cultural resources survey to identify known and potential cultural resources

which might be affected by the proposed construction project (Ingle et al. 1990). Subsequently, archeological investigations were undertaken at both sites to confirm the presence and significance of archeological resources and to recover representative archeological data for analysis and preservation.

In the course of these investigations the eighteenth century African Burial Ground was discovered at the Broadway Block. While the historic presence of this cemetery was identified from historic maps during the Stage IA study, the extent to which the human remains it contained had survived nineteenth and twentieth century development was unknown until field investigations were initiated after the government acquired the property and removed the existing buildings.

The African Burial Ground is of unparalleled significance to America's African heritage. The investigation of this site involves the excavation and study of 390 ancestral (skeletal) remains, primarily of Africans who died while in bondage during the eighteenth century. It is one of the most important archeological sites in this country today in that it is the earliest large skeletal population of its kind ever to be examined through careful scientific excavation. The ancestral remains that have been excavated and those remaining in the ground are also of great spiritual and inspirational significance to the African-American community. (Note: throughout this document the term "African American" is used in reference to post-colonial communities of African descent. Historic communities are referred to as "African," "Irish," etc., as appropriate in reference to both first generation and eighteenth-century communities prior to the nation's establishment.)

Due to the circumstances that have brought about their presence, these material remains of African ancestors present themselves during a time of social and emotional strife when inspirational uplift is most needed in the African-American community; during a time when evidence of the significance of racism in America needs desperately to be brought to bear on the minds of Euro-

Americans; and during a time when there is a thirst for knowledge about African heritage that has propelled heated debates about the inadequacies of American education. These African ancestral remains have presented both a challenge and an opportunity to simultaneously address these issues.

This Research Design also recognizes the necessity of assuring public access to the sites where human remains are located in order to allow cultural ceremonies appropriate to commemoration of the dead. Ultimately, an appropriately dignified reburial should take place at a site designated by the descendant community and the City of New York. In addition, plans for a memorial and world-class museum should be realized. The wealth of information that these African ancestors provide deserves nothing less as a platform from which, through science, they may speak to us about the places that they came from, the physical evidence of their struggles in this "New World," and the culture they clung to and created here. It is fervently hoped that the implementation of this Research Design will bring this important spiritual, cultural, and scientific resource into the prominence that it deserves.

This site has already imparted a great deal about American society and archeology's embeddedness within it. This deeply symbolic situation has fostered a widespread expression of African-American dignity and outrage, and exposed institutionalized disregard and solidarity as construction and excavation at the cemetery seemed to open and aggravate an old, unhealed wound in the earth. Ultimately protected by the NHPA, NEPA, and a Memorandum of Agreement, no entity has been more key to the scope of the enforcement of these implementing regulations and procedures as the African-American community in New York. That community interpreted preservation and respect for heritage in its own terms: they would have charge of the disposition of their own ancestral remains and of the history they embodied.

As construction and excavation proceeded at the site, the descendant African-American community engaged in a power struggle for nothing less than honor and self respect. There seemed to be a desire on the one side to resume business as usual, against an irritating buzz of irrational complaint, and on the other side, a refusal to submit to a patronizing, possibly racist disregard for both the wishes of the dead and their living descendants. The chronology of events outlined below (Section 1.3) traces some of these events.

The significance of the African Burial Ground can hardly be understood without a discussion of the African American community's initial reactions to it, and the critical social and philosophical contexts in which this response emerged. If the African-American community could not determine what constituted respect for its own enslaved ancestors, it could not assure respect for itself, with the reverse also being true. "Business as usual" in the United States prominently includes racism and exploitation from an African-American vantage (Jaynes and Williams 1989). The fact that the only place of rest for those who died at the origins of American slavery was being exposed to such a business could not have more profoundly expressed the fact that the "American dilemma" had gone on much too long. These meanings for the African American community appear to have contributed much to the significance of the African Burial Ground.

If science was to bring voice to these ancestors, said the community, many of those interpreters would have to be from among their descendants, not exclusively from members of a social group who today and in the eighteenth century served to oppress people of African descent. African-American scholars have long made their community more aware than most of the demeaning mythologies created by Euro-American science. Anthropology, as Frederick Douglass (1854) commented more than a century ago, is neither neutral nor asocial. Anthropologists are members of conflicting social groups and share those groups' common perspectives, attitudes, and

behaviors. The systematic effects of this problem, as well as indigenous and minority responses to it, have been pointed to by a growing body of anthropological literature over the last decade (Gero et al. 1983; Blakey 1987; Gathercole and Lowenthal 1990). The significance of the public issues surrounding the African Burial Ground project bears many similarities to the Native American movement at the vanguard of reburial and repatriation claims. Yet the situation in New York has differed from most Native American efforts in that it involved an insistence upon community control, not alone with respect to spiritual concerns, but of science as well. Agree or not, these issues are an inextricable, material part of the significance of the African Burial Ground expressed by the African-American community, as a matter of principle.

The GSA entered into a Memorandum of Agreement (MOA) on March 15, 1989, which was subsequently amended and implemented on 20 December, 1991, with the Advisory Council for Historic Preservation (ACHP) and the New York City Landmarks Preservation Commission (LPC). The MOA outlined general procedures for the protection and management of resources relating to both the African Burial Ground and the Courthouse Block, including provisions for archeological, historical, and bioanthropological investigations. In accordance with the amended MOA, this Research Design has been prepared to guide the investigations, and specifies other measures to mitigate the adverse effects of the development project on the African Burial Ground and other archeological resources present on the Broadway Block.

Public and scholarly interest in the African Burial Ground Project has multiplied since the MOA was framed. In its Section I.A., the MOA references the need for this Research Design to address "data recovery" and "dissemination of data," to which there has been applied higher than average standards of analysis and interpretation in keeping with the archeological site's extraordinary scientific potential and public significance. The approval of the previous draft Research Design (inclusive of the research and interpretive elements of the final version) in 1993

by the Federal Steering Committee formally establishes public support for the standards of data recovery and dissemination adhered to in this document.

1.2 Location of the Project Area

As briefly noted earlier, the office building site where the African Burial Ground is located is bounded by Broadway and Duane, Elk and Reade Streets in lower Manhattan, New York City. It is referred to throughout this document as the Broadway Block or the African Burial Ground (Figure 1).

1.3 Project Chronology/Key Events

This project has had a complex history involving various anthropological consultants, city and federal agencies, and community activists. In order to explicate some of the complexities of the project, a brief chronology of key events is presented below.

March 15, 1989	Memorandum of Agreement (MOA) executed between the General Services Administration (GSA), Advisory Council on Historic Preservation (ACHP), and the New York City Landmarks Preservation Commission (LPC).
May 1990	Stage 1A Cultural Resource Survey of Foley Square submitted by Historic Conservation and Interpretation Inc. (HCI)
January 1991	Archeological Soil Boring Survey of the Foley Square Project submitted by HCI.
May 20, 1991	Archeological fieldwork commenced.
May 1991	Human remains identified in Republican Alley.
September 1991	Excavation of human remains commenced by HCI and the Metropolitan Forensic Anthropology Team (MFAT).
October 8, 1991	Press conference was held on site. Descendant (African American) community expressed concern that it was uninvolved in decisions.
December 5, 1991	New York Times reports GSA's proposed use of "coroner's method."

December 9, 1991	Senator David A. Paterson established Task Force for the oversight of the African Burial Ground. Descendant community sought involvement of African-American anthropologists.
December 20, 1991	Amended MOA executed.
February 14, 1992	Burials disturbed by construction workers.
March 1992	HCI draft research design submitted.
April 1992	City Council hearings and town meeting are held on the project. Mayor David A. Dinkins established Advisory Committee on the project.
June 1992	ACHP recommended extensive revisions to the HCI research design. Howard University-based researchers submit alternative research design.
July 1, 1992	John Milner Associates, Inc. (JMA) assumed administration of the project.
July 27, 1992	Congressional field hearing on site held following Mayor's demand that excavation cease because of MOA violation. Congressional hearing calls for halt to excavation.
July 29, 1992	Excavation on site halted by GSA.
August 1992	Descendant community identifies deficiencies in skeletal conservation. Community meeting at GSA recommended Howard University assume oversight of project.
September 28, 1992	Excavation of eleven partially completed burials commenced.
September 1992	Foley Square archeological laboratory established at 6 World Trade Center.
September 1992	Field records and artifacts held by HCI in New Jersey transferred to the Foley Square Laboratory.
September 16, 1992	African-American anthropologists contracted as project directors in collaboration with JMA.
October 9, 1992	Excavation of partially completed burials finished and site closed down.
October 15, 1992	Howard University/JMA draft research design submitted.
October 1992	National Steering Committee for the African Burial Ground formed.
December 22, 1992	National Steering Committee recommends timely relocation of human remains to Howard University.

January 15, 1992	Closing date for comments on the Howard University/JMA draft research design.
✓ February 26, 1993	African Burial Ground gains Landmark status
April 22, 1993	Revised research design on the African Burial Ground (Broadway Block) submitted by Howard University/JMA (this document). Revised research design on the Five Points district (Courthouse Block) submitted by JMA/Howard University (companion document).
✓ June 14, 1993	Public Forum held at City Hall regarding future recommendations for the commemoration of the African Burial Ground to U.S. Congress.
✓ May 20, 1993	The Office of Public Education and Interpretation of the African Burial Ground and Five Points Archaeological Projects (formerly the Liaison Office) was established.
August 16, 1993	Howard University obtains a GSA contract and begins to ship remains from Lehman College to Howard University with the assistance of Artex, Inc.
September 8, 1993	Prayer vigil at 26 Federal Plaza is held to commemorate the official transfer of ancestral remains to Howard University.
→ September 13, 1993	First test group of 13 skeletal remains successfully transported to Howard University.
October 7, 1993	An African Burial Ground Memorial Competition is formally launched by the Municipal Art Society.
October 23, 1993	Volunteer Training Seminar held at the Office of Public Education and Interpretation.
→ November 3, 1993	The last skeletal remains arrive at Howard University.
November 4, 1993	A ceremony is held at the African Burial Ground site and Mariners Temple Baptist Church in Manhattan to commemorate the departure of last the ancestral remains.
November 5, 1993	A symposium and ceremony are held at Howard University marking the final transfer of all remains and the beginning of the research phase of the project.
November 12, 13, 1993	Public Educators Seminar held at the Office of Public Education and Interpretation.

1.4 Organization of this Document

This document consists of seven principal sections of text. Following this introduction, the history and archeology of the project area are summarized and the significance of human remains and archeological resources is evaluated in terms of the Criteria of Eligibility of the National Register of Historic Places (36 CFR 60.4). Having identified National Register eligible resources in the project area, the effects of the construction of the proposed building are evaluated in accordance with the procedures of the ACHP (36 CFR 800.9). Three plans are then presented to mitigate the adverse effects of the development project: 1) a data recovery plan, 2) a conservation/curation plan for the site and for the cultural resources, and 3) a community involvement/education plan. Plans for project documentation and professional dissemination are then discussed, followed by an anticipated schedule for the project. A list of references cited is then presented. Appendices A through C include a glossary of terms related to the study of anthropology and archeology, a glossary of terms related to the historical context of the African Burial Ground, and resumes of key personnel involved in the preparation of the Research Design and anticipated to be involved in the execution of the project.

2.0 EVALUATION OF SIGNIFICANCE

2.1 Introduction

A key indicator of the African burial Ground's significance for the Nation is evinced by its National Historic Landmark status as the African Burial Ground and Commons Historic Landmark District. The successful landmark designation proposal appears in Appendix A.

This section of the Research Design presents an evaluation of the significance of human remains and archeological resources present in the project area in terms of the National Register criteria. Cultural resources are afforded certain protections from federally funded, licensed, or approved undertakings under the provisions of Section 106 of the National Historic Preservation Act, as amended, provided that the resources are listed on or eligible for the National Register. The Criteria for Evaluation of the National Register (36 CFR 60.4) are as follows:

The quality of significance in American history, architecture, archeology, engineering and culture is present in districts, sites, buildings, structures and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and

- (a) that are associated with events that have made a significant contribution to the broad patterns of our history; or
- (b) that are associated with the lives of persons significant in our past; or
- (c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- (d) that have yielded, or may be likely to yield, information important in prehistory or history.

The National Register eligibility of human remains and archeological resources on the Broadway Block are evaluated in this portion of the Research Design. A summary history of the block is followed by a summary of the archeological resources found on the block. Finally, the National Register's Criteria for Evaluation are applied to the block's cultural resources.

2.2 Summary History

The streets bounding the Broadway Block were not laid out until ca. 1784-1795. Before that, the southern portion of the block, which was outside the city's palisade, had been used by New York City's African community as a burial ground. The "Negroes Burial Ground" (Figure 2) is clearly marked on a historic map dating to the mid-1700s (Maerschalk 1754).

By most accounts the burial ground was being used as a final resting place for enslaved Africans and free people at least as early as 1712 (Stokes 1915-1928; Valentine 1847). Valentine's *Manual* provides one of the few known descriptions of the burial ground:

Beyond the commons lay what in the earliest settlement of the town had been appropriated as a burial place for negroes, slave and free. It was a desolate, unappropriated spot, descending with a gentle declivity towards a ravine which led to the Kalkhook pond. The negroes in this city were, both in the Dutch and English colonial times, a proscribed and detested race having nothing in common with the whites. . . . Many of them were native Africans, imported hither in slave ships, and retaining their native superstitions and burial customs, among which was that of burying by night, with various mummeries and outcries. . . . So little seems to have been thought of the race that not even a dedication of their burial-place was made by the church authorities, or any others who might reasonably be supposed to have an interest in such a matter. The lands were unappropriated, and though within convenient distance from the city, the locality was unattractive and desolate, so that by permission the slave population were allowed to inter their dead there (Valentine 1847:567).

The Dutch West Indies Company was responsible for bringing the first enslaved Africans to Manhattan Island where, in 1625, the monopoly trading enterprise established the colonial settlement called New Amsterdam (Jameson 1909; Condon 1968; Rink 1986). In 1626 one of the company's vessels carried eleven enslaved Africans to the Dutch outpost. The names of several members of this inaugural shipment of 'human cargo'—for example, Paulo Angola, Simon Congo, Anthony Portuguis, and Peter Santomee—suggest that before they were removed to New Amsterdam the enslaved Africans had lived in various slave societies along the Atlantic littoral—in the Congo-Angola region of Africa, in São Tomé, and perhaps in Portugal (Donnan 1930-1935).

In 1628 a vessel of the Dutch company brought three enslaved African women to Manhattan. Although there is no explicit evidence that suggests the company intended to enter the business of breeding the people it held in bondage, its records indicate that these women had been purchased, as the company's clerk put it, "for the comfort of the company's Negro men" (McManus 1966). Over the years, some enslaved Africans managed to establish stable families whose conjugal and consanguineal bonds the Dutch Reformed Church sanctioned through its marriage and baptismal ceremonies (see *Baptisms in the Dutch Reformed Church of New Amsterdam and New York City* December 25, 1639 to December 27, 1730, published in 1890). This is not to say that the Dutch created a benign regime. However much the Dutch clerics professed their concern for the fate of the souls of Africans in the afterlife, they did little to ameliorate their conditions on earth. Although a few free Africans and free people of mixed African and Dutch ancestry inhabited the region, the vast majority of the people of African descent who resided on Manhattan Island during Dutch rule were held in the abject condition of perpetual bondage by the Dutch company and the free inhabitants of Manhattan (Swan 1990:1-6).

The business enterprise that ruled New Amsterdam was, however, more concerned with managing a profitable trade than with securing a rigid bi-racial social order and, for this reason, the institution of racial slavery in New Amsterdam remained a matter of custom rather than law throughout the Dutch colonial period. Beginning in 1644 the Dutch company initiated a haphazard policy of granting a few Africans "half-freedom"; these people were set at liberty in order to obtain their own subsistence. The "half-free" Africans received small homesteads located near present-day Astor Place and were free to seek their own fortune provided they remained willing to work for the company when called upon to serve and promised never to dispute the company's ownership of their enslaved offspring (O'Callaghan 1868:36-37). As already noted, the career of free Africans or "half-free" Africans was an exception rather than an example of the customary rules regulating the life of Africans in the Dutch colony.

Due to its failure to recruit European settlers adequate to people and cultivate its North American territory, the Dutch company continued to enslave Africans as a substitute for European labor. From 1626 to 1659 shipments of human cargo arrived at New Amsterdam, adding to the Dutch settlement's numerically modest population. Enslaved laborers, mostly young men from the Congo-Angola region of Africa, were put to work on the construction of the fort and other public works projects that were indispensable to the success of the Dutch enterprise at Manhattan. Other enslaved Africans became agricultural workers who cultivated the company's farms; the largest farm was located north of Wall Street and extended to Hudson Street. The products of African labor on this unit of agricultural production fed the inhabitants of the fledgling Dutch settlement on the island (Rink 1986:100-101). By the eve of the English conquest of 1664, no fewer than 700 enslaved Africans inhabited the island of Manhattan—that is, approximately 40 percent of the Dutch settlement's total population at that time (Brodhead 1859). As already noted these uprooted laborers of African ancestry made indispensable contributions to the project of colony-building under Dutch rule.

Although the proportion of enslaved Africans in the colonial settlement's total population declined during English rule, the colony of New York, which was named for the new English proprietor, the Duke of York later King James II, supplemented its inadequate European labor force with enslaved Africans (Table 1). Measured by the standard the English set in their other North American colonies, New York's scheme to recruit European settlers was a failure. Land-hungry Europeans flocked to the cheap and unencumbered lands of Pennsylvania, Maryland and North Carolina but not to the colony of New York, where wealthy landlords controlled an abundance of unsettled land and leased, instead of sold, portions of their vast estates. New York remained an unattractive destination for European settlers until the 1760s, when heavy flows of Scottish and German immigrants began arriving in large numbers (Bailyn 1987:12-16, 204-208). Before that time the city of New York and the hinterlands within its economic orbit suffered from a chronic

labor shortage. In order to alleviate this impediment to economic growth, the English authorities encouraged the use of enslaved laborers and instituted policies that aided New York's involvement in the "peculiar institution" (O'Callaghan 1861-V, 136).

TABLE 1
Population of Manhattan or the County of
New York, 1698-1786

Census Year	Total	European	African
1698	4,937	4,237	700
1703	4,375	3,645	630
1712 ^a	5,841	4,886	975
1723	7,248	5,886	1,362
1731 ^b	8,622	7,045	1,577
1737 ^c	10,664	8,945	1,719
1746	11,717	9,273	2,444
1749	13,249	10,926	2,368
1756	13,046	10,768	2,278
1771	21,863	18,726	3,137
1786	23,614	21,507	2,107

Source:

Ira Rosenwaike, *Population History of New York City* (1972), 8.

^aReturns for the Census of 1712 were incomplete.

^bSee Robert V. Wells, "The Census of 1731," *NYHSQ*, 57(1973), 255-259.

^cGary B. Nash, "The New York Census of 1737: A Critical Note on the Integration of Statistical and Literary Sources," *WMQ*, 3d. ser., 36(1979), 428-435.

Until recently it was thought that few enslaved Africans were brought to the northern settlements of British North America and that only a tiny fraction of the flow of enslaved people into the northern colonies were native Africans. But it is now known that the institution of racial slavery

existed everywhere the project of colony-building required a permanent labor force. This circumstance prevailed in the city of New York, where no fewer than 6,800 enslaved people were brought to the port town between 1700 and 1774. Of these, approximately 40 percent were Africans (Lydon 1978:275-279). Indeed, far more native Africans inhabited colonial New York City than has been previously appreciated. Enslaved Africans, many of whom were natives of the Guinea Coast, could be found loading and unloading cargo at the docks, wharves, slips, and warehouses along the East River, piloting market boats between the farming villages of Long Island and town, repairing and expanding city streets, working in the booming shipbuilding and construction business, and otherwise laboring in a variety of skilled and unskilled occupations indispensable to the growth of the colonial port town (Foote 1991:61-62). When it is asked who built colonial New York City, the reply should be that enslaved Africans did.

On the eve of the revolution, a relatively numerous and mobile enslaved labor force from a variety of sources, including English West Indies, the "foreign West Indies," the east and west coasts of Africa, Madagascar, and New Spain circulated about the city of New York. These enslaved individuals from various societies in Africa and the Caribbean basin added to the heterogeneity of the colonial port town's total population, which also included Europeans from many nations (Foote 1991). Although Europeans outnumbered people of African descent by five to one, the city of New York contained the largest absolute number of enslaved Africans of any English colonial settlement except Charleston, South Carolina, and it held the largest proportion of enslaved Africans of any northern settlement (U.S. Census Bureau 1975).

By the first decade of the eighteenth century 40 percent of New York City's European households contained at least one enslaved African. This was by far the largest proportion of households containing enslaved people of any northern settlement (Nash 1988). Local European artisans sometimes trained younger Africans in the skilled crafts. By training these individuals, whom they

held in perpetual bondage, master craftsmen avoided both the high wages of European journeymen and the short terms of service of European apprentices (Foote 1991:42-43).

Colonial New York City was not a residentially segmented society. Enslaved Africans lived under the same roof with their European oppressors and labored together. In the densely populated settlement at the tip of Manhattan Island, Africans experienced almost constant surveillance. They chafed under these oppressive conditions and whenever possible stole bits of leisure time (Wade 1964). During the intervals between their domicile and work sites about town Africans discovered interstices in which they could socialize with other enslaved people and poor Europeans. Although city ordinances outlawed African gatherings of more than three persons without the supervision of the authorities and imposed a sunset curfew on them, many defied these laws. During the day they continued to assemble in the streets or at the city's markets, and at night they strolled the docks along the East River or frequented the taverns in the city's remote west ward. These were furtive and ephemeral social spaces, however (Foote 1991:193-207).

The African Burial Ground may have been the Africans' only autonomous social space, the only place where they were allowed to congregate with regularity, in large numbers, and beyond the purview of the authorities. This cemetery was located outside the city's limit, north of the palisades that was erected in 1745, and adjacent to the Collect Pond. The earliest surviving reference to the burial ground can be found in a letter Chaplain John Sharpe wrote to an English colleague. In that letter, dated 1712, Sharpe complained that even Christianized enslaved Africans "are buried in the Common by those of their country and complexion without office; on the contrary the Heathenish rites are performed at the grave by their countrymen" (New York Historical Society Collections 1880:341). Later in the century poor Europeans, who inhabited the northern fringes of the city's limit which now extended near the cemetery, submitted to the city council a petition that reported loud drumming and chanting emanating from the burial ground.

The petition complained that the ecstatic ceremonies held at the cemetery sometimes lasted late into the night and disturbed the sleep of the residents who lived nearby. The city council took no prohibitive action except to reiterate the sunset curfew already placed on African funerals and to restate its injunction against gatherings of more than twelve mourners at these funerals. The Africans ignored these city ordinances, and the English authorities seldom demonstrated a desire to enforce the laws pertaining to their activities at the cemetery (Minutes of the Common Council of the City of New York 1901:III, 277-278).

Relatively unmolested by outside interference, the Africans venerated their deceased family and friends at the African Burial Ground (then referred to as the "Negroes Burying Ground") throughout the eighteenth century and possibly earlier. Through the performance of these rituals African ways were, perhaps, transmitted from one generation to the next. For more than two generations the African Burial Ground provided a precious space in which a unique African-American society and culture took shape.

Before the Broadway Block area (partially contained in a block known as Block 154) was used as a burial ground, it had been part of two farms originally developed in the seventeenth century. Throughout the eighteenth century the land was disputed but used by the corporation of the City of New York as well as various claimants (Ingle et al. 1990:70). An original boundary line crossing the lot diagonally appears to have separated the portion that was used for the burial ground on the south from the portion on the north.

By the 1730s, potteries were located in the area just to the south and to the west of the "Little Collect," immediately adjacent to the project area (Ingle et al. 1990:79). The area became known as Pot Bakers' Hill. William Crolius is thought to have been the first potter in the area; his pottery stood to the east of Block 154. The Remmey Pottery was north of the project area;

Campbells Pottery was located to the west on the other side of Broadway. The Crolius and Remmey families were related by marriage. Together with the Duche family of Philadelphia, they were the earliest Germanic-tradition stoneware potters in America (Janowitz 1992). Three generations of Crolius and Remmey potters worked on Pot Bakers' Hill. However, the exact number and locations of their operations are not known. According to Valentine (1856) brick kilns were also located in the Commons during this period. Although the documentary evidence, Grim's (1813) map in particular, shows the potteries outside the project area, some unidentified structures that could be associated with the pottery or brick industry appear within Block 154 on maps dating to the 1760s and 1770s.

By the 1790s, ownership of Block 154 had been settled, the street grid was established, and lots were laid out in both the northern and southern portions of the block. In 1799 almost all the lots on the north side of the block (outside the African Burial Ground) had been sold off and built upon. The first residents of the block included cartmen, carpenters, coopers, masons, upholsterers, laborers, a shoemaker, and a tailor (Ingle et al. 1990:85). By 1802 the streets had been numbered and very few lots remained undeveloped in the project area. About fifty percent of the lots were owner-occupied; the rest had one or more tenants.

The Manhattan Water Company was located across the street from Block 154. Incorporated in 1799, it provided New York's first pipeline water system (through pipes made of pine logs) and may have served some of the buildings on Block 154 after 1836. The water company is referred to on some of the marks applied on Crolius and Remmey pottery. Common marks were "C. Crolius/Manufacturer/Manhattan Wells/New York" and "J. Remmey/Manhattan Wells/N.York" (Janowitz and Botwick 1986). At mid-century the water company and other industries had been replaced by huge iron works.

Rutgers Medical College, a branch of Rutgers College in New Brunswick, New Jersey, opened on Duane Street between 1827 and the late 1830s. During this period, the block continued to have some tenants who lived and worked on the premises, but many only had office or workshop space in the buildings. By the 1860s, commercial buildings, five to seven stories tall, had replaced the smaller frame structures. The Broadway side of the block, at least, was part of New York's most important retail district. By the third quarter of the nineteenth century Block 154 had completely lost its residential character. At the close of the century, another phase of construction produced even larger buildings (up to 15 stories) with deep basements and sub-basements.

Because of these deep basements, intact archeological resources were not expected within the Broadway Block and detailed histories were not completed for most of the lots. However, three lots—Lots 12, 20/20.5, and 21, all along Duane Street—never had buildings with more than single basements and were therefore believed to have relatively high archeological potential (Figure 3).

Lot 12 (No. 80 Duane Street) was leased to an upholsterer and wallpaper manufacturer from 1794-1800 and to a mason and another upholsterer in 1802. A "grocer" (his store may actually have been a grog shop) is the next known resident; a distiller ran a store at the back of the lot. A distillery was in business in this location from 1804 until 1848 followed by a syrup (cordials) manufacturer. The Perris (1853) map shows facilities associated with the distilleries on the lot.

Lots 20 and 20.5 were generally not owner-occupied and only some of the residents are known: a portrait painter at No. 20 in 1802, a marshal in 1812. A "Mrs. Bard," whose occupation was identified as "wash," lived at No. 20.5 in 1812 (Double Directory 1812). The occupants of the lot are not known for the years between 1812 and 1862. By 1882 a factory had been built on the lots. The building, which was five stories with a ten foot foundation, survived into the twentieth century housing the Canfield Paper Company shipping offices and warehouse.

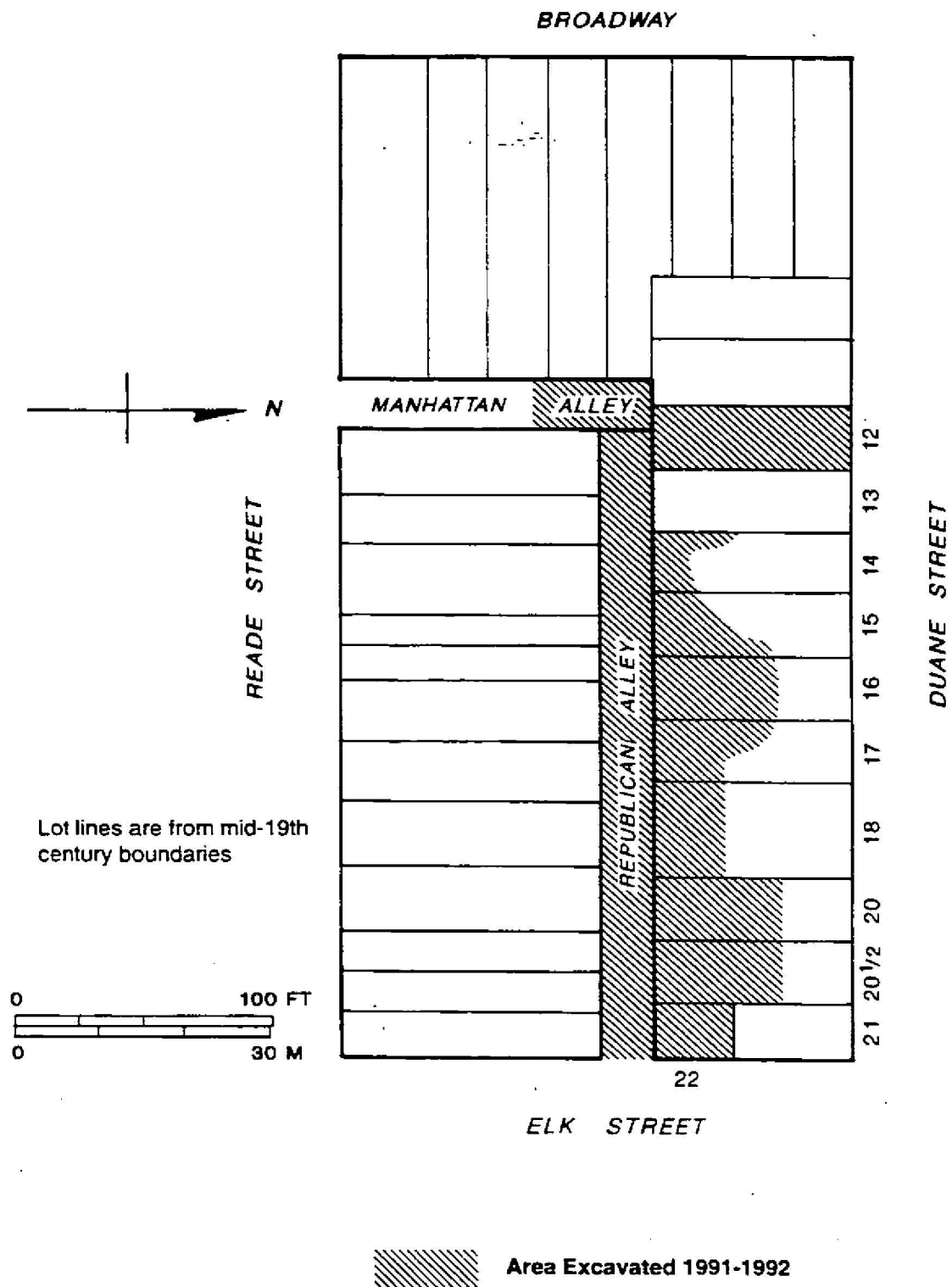


Figure 3. Historic Lot Designations and Excavated Portions of the Broadway Block

Lot 21 was also not owner-occupied at the beginning of the nineteenth century. A series of tenants included a grocer, a carpenter, a mathematical instrument maker, and a rigger. The frame dwelling/store that was standing on the lot in the 1850s had been replaced by a five story brick building by the 1880s (New York City Building Records). The building was demolished when the block was recently cleared for development.

Block 154 encapsulates urban transformations and processes that are common to the development of other American cities. Within the project area the land went from agricultural use to burial ground, to mixed residential/commercial use, to strictly commercial use. But, more importantly, the block holds a physical record of a significant portion of New York City's population that to a great degree has been omitted from the city's history. That the African Burial Ground, which was so important to the eighteenth century African population in New York both as a religious and social gathering place, would be absorbed into the city's fabric without recognition seems unbelievable. And yet, Block 154 (the Broadway Block) provides an objective record of just that.

2.3 Summary of Archeological Resources

Archeological resources associated with the Broadway Block are divided between those associated with the eighteenth century African Burial Ground and those associated with other uses of the site. Each is discussed separately below.

2.3.1 *African Burial Ground Resources*

Archeological resources associated with the African Burial Ground consist of an unknown number of burials, of which 390 have been carefully excavated and removed. The majority of excavated burials are of individuals of African descent, although approximately eight percent appear to be of European descent based on cranial morphology. The depth of the burials below grade is variable, but ranges from 16 to 28 feet. The disparity in relative depth reflects the historic slope

of the terrain in this area, which is now masked by fill introduced in the nineteenth and twentieth century.

The condition of the human remains is quite variable, ranging from excellent (in a very few cases) to extremely poor. Many burials show evidence of coffin wood remains (mostly in the form of organic wood stains), coffin nails, and shroud pins. A few graves also contain buttons from clothing, beads, copper alloy finger rings, and other small items. Other cemetery-related features consist of a row of postholes aligned in an east-west orientation which may delineate the original northern boundary of the African Burial Ground.

2.3.2 Non-Burial Resources

Non-burial ground archeological resources were investigated on Lots 12, 14, 15, 16, 17, 18, 20, 20.5, at the back of Lot 21 (subsequently designated Lot 22) and in Republican Alley. The most extensive excavations were done in Lot 12 (19 units of varying sizes) but a block of ten, ten-by-ten foot units was also excavated in Lots 20.5 and 22. The focus of the work in the remaining lots and in Republican Alley was on the excavation of burials, but all other features encountered were recorded and most of them were investigated to some extent. Remains associated with the local pottery industry as well as early residential development of the block were recovered.

Documentary evidence indicates that Lot 12, along the northern (Duane Street) side of the block and presumably outside the bounds of the burial ground, was first developed in the last decade of the eighteenth century. A ground surface and associated structural remains were investigated dating to this period. Early nineteenth century ceramics, including some kiln furniture, were found in association with the ground surface. The only intact portion of a structure, probably the first built on this lot, consisted of a sandstone foundation wall surmounted by a brick wall and another feature made of sandstone blocks and flat pieces of sandstone. Interior cellar deposits

included ceramics, kiln furniture, possible wasters, gun flints, coral, and food remains. A later brick and sandstone feature, possibly a hearth or oven, was also found overlying the eighteenth century surface. Several pits dug into the subsoil, probably for mining clay, were also recorded. These and the kiln-related finds suggest that this area was used in various ways by the eighteenth century potteries in the vicinity.

Evidence of slope wash was present over almost the entire lot, possibly representing a hiatus in occupation, perhaps between the eighteenth and nineteenth centuries (Perazio 1992). South of the sandstone foundation remains noted earlier were two linear trenches, oriented roughly northeast-southwest, approximately coinciding with the northern boundary of the African Burial Ground shown on eighteenth century maps. No post molds or remains were found associated with the trenches, but large quantities of nails and rust lay at the bottom of both trenches. A cylindrical feature, possibly a cistern, was found at the back of the lot. Another east-west oriented trench, possibly related to British military occupation, was found in the northern portion of the lot.

An area measuring 20 x 50 feet was excavated within Lots 21 and 22. At the southern end of this area, a deposit of multicolored (red, pink, blue, grey, white) clayey silt was found within a square wooden box or frame (Boesch 1992). The box or frame edges were indicated by a line of decayed wood. A number of posts surrounded the wood outside the feature and appeared to have held the boards of the box or frame in place. The feature appears to have been a clay puddling box associated with the pottery industry. An intrusive trench, approximately ten inches deep and one foot wide, extended across the feature. It was filled with cobbles in a brown sandy silt matrix; a metal grate lay over the trench and fit into the wooden frame. The trench may have been part of a drain designed to draw water from the puddling box. Both features appear to date to the early nineteenth century. Outside the features was a dark grey clayey silt which, in places, had

been disturbed by ash lenses and small pit-like features containing red brick. These, too, may relate to the pottery industry in some way.

In other areas of the lot, a number of fill deposits containing a large amount of cultural material, including pieces of kiln furniture, ceramics, and animal bones (mainly metapodial elements) overlay the dark grey clayey silt stratum. The fill had apparently been placed on top of the original ground surface. A trench cutting through the ground surface and into the subsoil was noted in one area. It may have marked the northern boundary of the African Burial Ground in this area.

Ninety-one non-burial related features were identified within the remaining lots and in Republican Alley. The features included 14 postholes within Lot 14; four probable wood-lined privies and 15 post holes in Lot 15; a filled swampy area and the remains of a foundation pier plus 13 postholes in Lot 16; a pronounced depression that had been cut through by a burial and a foundation wall that extended into Republican Alley in Lot 17; and four aligned, square, stone piers, a fifth square hole, and another foundation wall in Lot 18. Some of the post impressions were distributed in a pattern that suggests that they demarcated property boundaries. Others appeared to be associated with privies or other features. The filled features, i.e. the probable privies, included one that appears to have been associated with a jeweler. Cameos, semi-precious stones, and unusual transfer-printed ceramics were among the artifacts recovered. Features in the area of Republican Alley included several stone-lined drains, a relatively recent barrel-lined privy, and two postholes. An additional twenty-eight contexts that were assigned feature numbers represented various fill deposits; concentrations of kiln furniture or other artifacts; historic period pits of unknown purpose; red brick drains; and a decayed, wooden barrel recessed into the subsoil.

2.4 Statement of Significance

Archeological resources are normally considered eligible for the National Register based on their research potential and significance under Criterion (d), that is, for their ability to yield important information concerning the past. In addition, the African Burial Ground appears to be significant in terms of Criterion (a), that is, for its association with the broad patterns of our history, specifically African-American history in New York. This section outlines how human remains and archeological resources in the Broadway Block fulfill the National Register's Criteria of Evaluation.

2.4.1 *African Burial Ground Resources*

Colonial New York City's African Burial Ground is significant for its association with broad patterns of our history and for what those patterns symbolize in the present (Criterion a). The burial ground is an integral part of the fabric of this nation's colonial past which included the forced migration of more than 355,000 enslaved Africans to colonial settlements in British North America between 1609 and 1775 (see Rawley 1981). For at least two generations, between 1712 and 1790, involuntary immigrants from this particular stream of the African diaspora and their descendants founded and dutifully maintained the African Burial Ground, which was situated on the outskirts of the colonial settlement. The historic cemetery, its skeletal remains, and the artifacts buried with them are the only concrete evidence so far recovered of the life and labor of the enslaved Africans who inhabited the city of New York from its earliest colonial beginnings through to gradual emancipation in New York between 1799 and 1827 (see McManus 1966; Higgenbotham 1978).

For people of the African descendant community living in New York today, the remains of the African Burial Ground represent the oppression suffered by their ancestors. More eloquently than any monument that could be erected, the physical reality of the burial ground and the skeletal

remains that were recovered recall a past that continues to haunt the present. The location of the burial ground outside the wall of the eighteenth century city reminds African Americans of the lack of respect their enslaved ancestors suffered during the very years their labor was being used to build the city. The unexpected presence of the burial ground beneath the financial and governmental halls of the twentieth century city symbolizes for African Americans their forgotten role in the creation of the city and the continued disregard for their interests. As construction activities desecrated remains of the cemetery, the community solidified in its resolve to participate in and ultimately control that portion of the cemetery that was exposed. This community solidarity in protecting its ancestry is reminiscent of the original community that used the African Burial Ground as a meeting place and continued to honor its African heritage in spite of institutional obstructions. These actions thus reaffirm the significance of the site in the past and give it added significance in the present.

The African Burial Ground also promises to yield new information concerning the past (Criterion d). The histories, narratives, and records depicting African life in New Amsterdam and early New York in life and in death have been written from the perspectives of neither the enslaved nor the freed African New Yorkers. What is known today as "the history" of Africans in colonial New Amsterdam and New York was written by the enslavers, many of whom commonly viewed Africans as beasts of burden. The role of Africans in early New York was that of supplying a sorely needed work force. There is almost nothing that presents a glimpse of the lives of seventeenth and eighteenth century African New Yorkers from their own perspectives, in their own words.

Toni Morrison (1987, *New York Times*) has remarked that this nation has erected no monument honoring the memory of enslaved Africans. Furthermore, M.A. (Spike) Harris, an avocational historian, notes in *A Negro History Tour of Manhattan* (1968:xii) that "a stroll along Manhattan's

streets reveals almost nothing except dark faces to connect Negroes with the history of New York City." Although a great deal of scholarship has been devoted to the study of the African/African-American experience and a wealth of publications present facts and figures, the history of New York City's African community has not been made easily accessible. The African Burial Ground provides a focal point for bringing to life a past that has long been hidden. Historically, the significance of the site lies as much in the present as in the past. It is an opportunity to make available information that already exists on the history of New York City's African population and to generate new information through scholarly research.

The African Burial Ground is significant for the focus it brings to professional studies relating to the particular experience of New York City's enslaved population. The interdisciplinary nature of the project team will allow an informed approach to such challenging questions as whether the burials are examples of Christian, Islamic, or traditional African religious practice or a complex fusion of each tradition. The African groups making up New York City's eighteenth century population may be better defined and their particular contributions to the city's growth and culture identified. The analysis of human skeletal remains provides data that are complimentary to historical and archeological research, and often yields information that is unavailable through any other means (Handler and Lange 1978; Rathbun 1987). Parrington (1987:57) notes that:

. . . burial remains and associated artifacts are direct and conscious manifestations of ideological beliefs and practices and can potentially provide more explicit information about the cultural standards of the society being studied.

Biological studies of past human populations have significant applications in medicine, epidemiology, environmental toxicology, forensic science, DNA and genetics research, and demography. The discovery and excavation of almost 400 burials at the African Burial Ground provides a unique opportunity to collect biological data on the earliest African skeletal sample in the United States, as well as a significant comparative sample of colonial Europeans probably from the lowest socio-economic levels. Framed within a bio-cultural context that draws on historical,

archeological, and comparable biological data, the analysis of the osteological remains from the African Burial Ground will yield crucial information on colonial Africans unavailable from any other source.

Samples of over 20 individuals from a single colonial cemetery are rare, and those that have been recovered most often represent short-term cemetery use (Owsley 1990). The considerable number of remains recovered from the African Burial Ground is advantageous in that it will provide an adequate sample for a range of statistical analyses, and will also yield meaningful demographic data that can be generalized to a broader historical population. The substantial size of the sample will allow the range of variation inherent in human populations to be well-documented, an opportunity that smaller skeletal assemblages cannot offer. In addition, as the majority of the individuals disinterred from the African Burial Ground represent the earliest and one of the largest samples of African skeletal remains in the United States, the knowledge gained from their analysis will provide a broad range of baseline data against which subsequent changes in the biology of African and African-descended populations can be compared and evaluated. Comparable data generated from the analysis of other historic African and African-American cemeteries (e.g. Angel et al. 1987; Corruccini et al. 1982; Crist 1991; Handler and Corruccini 1983; Kelley and Angel 1989; Owsley et al. 1987; Keita 1992; Rankin-Hill 1990; Blakey et al. 1992; Rathbun 1987; Rose 1985; Shogren et al. 1989) will provide both synchronic and diachronic assessments, documenting variation and change in African and African-American biology over the past three centuries, with particular reference to variable geographical and socio-economic conditions.

It is also possible that data generated from the analysis of the African Burial Ground population will provide important information relating to African biological and cultural identity. Genetic and morphometric studies of this population will be compared with cultural and historical data linking this population to African and other societies. Reclamation of lost knowledge of identity

is extremely important for the spiritual and inspirational awareness of the African-American community, and for an accurate understanding of the American experience as a whole. What is revealed about colonial society will be of value to all American communities as the struggle with intergroup relations, often constructed from narrow, biased, and poorly-informed historical understandings, continues.

While all historic cemeteries represent unique resources, the importance of the African Burial Ground ancestral remains is particularly compelling, since the primary information collected from this population will allow researchers from many fields to more accurately reconstruct and interpret the lifeways of colonial urban Africans, especially in such areas as health quality, disease loads, nutritional adequacy, growth patterns, adaptation, and genetic composition. Interpretations of these data will provide unique insights into the population that came to rest in the African Burial Ground and their physical and socio-cultural responses to the changing natural and social environments with which they interacted. Secondly, the use of multiple data sets for cross verification (as in the use of genetic, chemical, and cultural evidence of regional origins) will allow us to more fully utilize available comparative samples, while contributing to methodological developments for future projects.

Beyond the clear importance to human biology and the medical sciences, results from the analysis of the African Burial Ground ancestral remains also have applications in environmental toxicology. Environmental changes in the United States linked to the Industrial Revolution have had a profound effect on national health patterns and quality of life since the nineteenth century (Ericson and Coughlin 1981). Chemical analysis of the hard tissues and hair recovered from the African Burial Ground will provide baseline data on toxic element levels inherent in human populations prior to the rise of industrialization in the United States, and will enable the detailed study of human biological responses to various natural toxins and industrial pollutants. They will also

reveal dietary patterns and exposure to ecosystems/regional environments in African and African-American contexts.

In addition to physical comparisons, an opportunity exists to examine the interaction between people of European descent and people of African descent in colonial New York City and to conduct comparative studies with other cities where the social dynamics may have been different. The fact that the African Burial Ground was the only place where Africans were allowed to congregate in New York City makes it a particularly significant focus of study. An understanding of the social uses of the space will contribute to an understanding of the active role Africans played in creating a social identity or identities in the eighteenth century and how these identities were transformed in the nineteenth century.

2.4.2 Non-Burial Resources

The archeological remains of residential and commercial development on land immediately adjacent to the African Burial Ground that had previously been part of the burial ground provide a physical record of the transformation of sacred space into secular space. Remains of one of the first houses on the block, and what was probably an outbuilding behind it, appear to have cut through what were presumably unmarked graves. The property, developed by an upholsterer, was adapted for other purposes and its previous sacred function ignored and forgotten. The remains of this early house and associated artifacts in themselves provide information on New York's commercial development and its incipient working class population, but most importantly, they provide information on the process of transforming land in the city from one function to another.

This transformation is not unique to New York City or to cemeteries that were for people of African heritage. As the country industrialized, land, particularly within cities, became

economically valuable for other purposes. In nineteenth century Philadelphia, for instance, cemeteries covered sixty acres within the city limits, a much larger area than is covered by cemeteries today (Michael Parrington, personal communication March 23, 1993). These burial grounds must have either been moved or built over, a process for which there is little or no record. What is significant about the Broadway Block is that it does provide a record of that process. The archeological features cannot tell us how people felt as they dug through burials to build their houses or stores, but the pattern of features reveals the process of urbanization in an area that had previously been sacred space.

The lot-specific research conducted to date suggests that the neighborhood that developed in the area of the burial ground was characterized by artisan shops, including several jewelers. At least one filled privy within Lot 15 appears to relate to one of these jewelers. Another jewelry shop has been excavated in New York (Van Voorhees at the Barclay Bank site). Van Voorhees catered to the wealthy, and included among his clients John Jay and the Continental Congress. Although the Van Voorhees assemblage dates to an earlier time, a comparison with the nineteenth century assemblage from the Broadway Block should reveal changes in the level of specialization within the craft. It may also be indicative of the kinds of changes made in the organization of labor in response to the Industrial Revolution and the emergence of a capitalist economy.

While some features may be connected to specific individuals, it is more likely that from a combination of contemporaneous features we will be able to better characterize the neighborhood (ideally in more than one time period). The neighborhood has been proposed as a more valid analytical unit than individual households, especially for the study of consumer behavior in urban situations (Cheek and McCarthy 1990; McCarthy and Roberts 1993). While it will be useful to compare this neighborhood with other nineteenth century artisan neighborhoods, both within New York and elsewhere, the even more important comparison will be with the Five Points

neighborhood, remains of which were excavated between Worth and Pearl streets during the construction of a new Federal Courthouse only a few blocks away. The Five Points was known as a notorious slum during the nineteenth century, described by Charles Dickens (1842, 1985 edition:80) as "reeking everywhere with dirt and filth." The differences between the archeological remains of a slum and the remains of a neighborhood of shopkeepers may clarify the extent to which the material record reveals basic socioeconomic differences and differences in the quality of life.

The block also contains materials relating to Manhattan's eighteenth century ceramics industry. No other pottery environs in the city have been professionally excavated and it is likely that none will ever be available for excavation; the city has expanded to cover all the known areas where pottery was made (Ketchum 1987:35-87). The preservation, in spite of later construction in the area, of the Crolius/Remmey site was unexpected and was due to the unusual depth of landfill in the area of the Collect Pond. The singularity of this site and its importance to the history of the potter's craft in New York, and in the entire Northeast, cannot be over-emphasized. Also of potential significance is the possibility of African participation in and influence upon this early ceramics industry, as shown in the tradition of Colono Wares in the Southeastern United States (Ferguson 1980).

Little is known about the pre-1800 wares of the Crolius and Remmey potters because only a few special pieces were marked. Thus, any ceramic wares in the excavated collection will contribute new information on the industry. The large sample of kiln wasters will make it possible to develop a typology of these wares. Once a typology has been created, other archeologists can use it to identify and date Crolius and Remmey products from other sites. It may also be possible to trace the connections between the New York potters and the stoneware potters at Cheesequake in New Jersey.

The presence of redware kiln furniture and pan tiles on the site, in addition to stoneware, suggests that ceramic historians who have claimed that only stoneware was manufactured on Pot Baker's Hill are mistaken, or possibly that the redware fragments were deposited on the site by a potter working on the other side of Broadway. Determining the origin of the redwares will contribute significant new information on the ceramic industry as it was practiced in this part of the city. Samples of all wares recovered will be a valuable addition to the ceramic chemistry archive being compiled by Allan Gilbert of Fordham University.

The Broadway Block may also contain information on the eighteenth century tanning industry. The presence of large quantities of metapodial bone elements suggests some relationship between the block and tanning activities. Tanyards were located in the vicinity of the Collect Pond as early as the seventeenth century, but specifics about the industry are generally lacking. In fact, there is very little information available on early tanning and the analysis of residues from the tanning process may provide new insights into the agents used and the transition to the use of commercial chemicals, again indicative of changes made during the Industrial Revolution.

The fact that some of the remains of tanning and all of the remains of the ceramics industry appear to have been deposited on the site at the same time that the land was being used as a burial ground suggests, not surprisingly, that the Africans using the burial ground did not have exclusive rights to the space. It is possible that empty areas at the northern end of the cemetery were used for refuse before any burials took place there (i.e., suggesting that the burial ground developed from south to north), but it is also possible that the simultaneous use of the space for refuse and burials was an expression of disrespect for the African community. As such, this record may represent a significant physical expression of the racism practiced in the time period.

Because the original ground surface was well-sampled within this block, significant data may be available on local micro-environmental conditions when the area was used as a burial ground and when it was first developed for commercial, industrial, and residential uses. These data should permit a reconstruction of land use conditions. It may also be possible to compare these data with environmental data from other sites that have been excavated in Manhattan and with borings that provide additional information on previous land surfaces.

2.5 Summary

Archeological resources and human remains contained in the Broadway Block appear to fulfill the National Register's Criteria of Evaluation under Criteria (a) and (d). The African Burial Ground is of utmost significance in the history of New York and, indeed, the nation. The site contains historical, archeological, and bioanthropological information relating to groups that are historically obscure in New York -- Africans and the urban poor. The Broadway Block also represents a specific place, named and known, but never before revealed to this extent by physical evidence. It is only fitting that the people who lived or were buried in this place, and who made such important contributions to New York City's development into one of the world's leading urban centers, now receive the scholarly attention they so richly deserve.

Notes
Evaluation of effectiveness
on 8/1/11

Section 3.0

3.0 DATA RECOVERY PLAN - Section 3.0

3.1 Introduction

The execution of a data recovery research program for the Broadway Block is the principal means of mitigating the adverse effects of proposed construction activities on significant human remains and archeological resources. The data recovery plan includes a discussion of research questions and appropriate methods for addressing the questions, as well as a brief description of field and laboratory procedures. It is anticipated that all research will be conducted under the auspices of Howard University, the flagship of African-American research and educational institutions.

3.2 Research Questions and Methods

Research questions and methods for the Broadway Block were developed along multi-disciplinary lines. Historical, archeological, and bioanthropological research questions are each addressed in the sections that follow.

3.2.1 *Historical Research*

Previous archeological excavations at several cemetery sites provide an important comparative context for the African Burial Ground. Among these are nineteenth century African-American remains excavated in Washington, DC (Mann and Krakker 1989), the nineteenth century cemeteries associated with the First African Baptist Church Cemetery in Philadelphia, Pennsylvania (Kelley and Angel 1989; Parrington et al. 1989; Parrington and Roberts 1984, 1990; Rankin-Hill 1990; Blakey et al. 1992; Crist et al. 1992), and the late eighteenth century African cemetery at Catoctin Furnace, Maryland (Burnston and Thomas 1981; Kelley and Angel 1983).

Data from African communities in the context of the plantation economy provide an additional comparative context. These include cemeteries at Newton Plantation in Barbados (Handler and

Lange 1978), Plantation Hall (Drax Hall) in Jamaica (Armstrong 1990), and other sites in the South and the Caribbean (e.g. Rathbun 1987). Such research has generally been approached by interdisciplinary teams including demographers, historians, and ethnohistorians, as well as physical anthropologists, cultural anthropologists, and anthropological archeologists, thereby producing new perspectives on the African/African-American experience under the institution of slavery. A similar and even more comprehensive interdisciplinary approach will be taken to the African Burial Ground. Questions dealing with genetics, environments, demography, epidemiology, nutrition, social history, cultural transformation, and acculturation will guide research to be carried out by scholars from many disciplines and institutions. The purpose is to use these important data to explore as many poorly understood issues as possible. Research questions to be explored include the following:

- Can historical research reconstruct the demography of the eighteenth century African community and its change through time?
- What can be learned about stress-causing factors among the African population from documentary research, including such factors as epidemics, the effects of the "middle passage", and the cost of subsistence in eighteenth century New York?
- What can ethnographic sources and other data tell us about West African and Caribbean subsistence practices and how does this relate to lifestyle and foodways of eighteenth century Africans in New York?
- Can historical sources provide significant information on African social customs in New York, and on how ethnic culture was transmitted?
- What can documentary research tell us about infant mortality in the African population in eighteenth century New York?
- How can historical research inform us about the importance of religion, Christianity, and churches among eighteenth century Africans in New York?
- What are the economic changes influencing the importation, roles, and status of Africans in New York?
- What relations existed between Africans in New York and other parts of the African diaspora?

Using documents pertaining to the institutionalized slave trade from West Africa and other areas of the Americas to New York City, the research will attempt to reconstruct the demography of the African and African-American population. These records include both published works, such as Elizabeth Donnan's (1930-35) *Documents Relating to the Slave Trade*, and manuscript records, such as ship manifests on record in the British Public Records Office and the U.S. National Archives. The comprehensive work of Curtin (1990) should be invaluable. The research will particularly aim to identify as closely as possible the date of entry and origin of the enslaved Africans imported into the city. If possible, the information on origins will include data on African ethnicity; otherwise, it will note port of embarkation. Researchers will also make use of eighteenth century New York census data to assess other aspects of the changing demographic profile of New York City's Africans with regard to population increases and decreases, occupations, and places of residence.

The coordinated research of paleopathologists and social historians will yield new information on the epidemiology of the trade in enslaved Africans. Using newspapers and other primary and secondary historical records, the researchers will reconstruct an epidemiological history of the city, correlating outbreaks of epidemic disease, as well as other sources of stress with specific years and, if possible, with specific neighborhoods of the African population. Research on this site may clarify the effects of ocean passage from Africa to the New World on enslaved Africans who disembarked in New York City, on the adjustment of African immigrants to the port town's novel disease environment, and on the most common cause of death once in New York City. Data will also be compiled on prices current at the time, if available, from which it may be possible to reconstruct price series for the major commodities necessary to sustain life (food and fuel, in particular) for background on additional stresses on the African population.

Research will also be conducted on the epidemiological and nutritional history of West African cultural groups. Researchers will examine surviving travelers' accounts, ethnographic, archeological, and other relevant data, if available, to determine the epidemiological history and dietary practices of those West African ethnic groups whose members may have died and been buried in New York during the eighteenth century. Researchers will also make use of the growing body of secondary literature on the biological history of Africans and their descendants in the Caribbean to understand the environmental and epidemiological context surrounding enslaved New York Africans who may have been born on one of the Caribbean islands or labored for a time there *en route* from Africa to New York.

The historical researchers will comb both primary and secondary historical literature for information regarding the social customs and practices of eighteenth-century New Yorkers of African descent. Identifiably West African (or syncretized African American) customs will provide insight into the cultural practices transmitted to the New York branch of the African diaspora (as well as additional insight into the patterns of ethnic maintenance and transformation that will emerge from the data on the institutionalized slave trade). The process of cultural transformation among the people of the African diaspora and the emergence of a unique African/African-American culture in colonial New York City is of particular interest. The study of mortuary practices, whether African traditions were retained or modified, and how either process took place, is a major area for research. The analysis of the cemetery itself--how burials were distributed and oriented, how African graves relate to European graves, how the scarce resource was managed over time -- are questions which may provide new insights into the relationship between the enslaved and Europeans, and broader patterns of race relations in colonial New York City.

Research will also focus on other aspects of living conditions within the eighteenth century African community. Questions to be addressed include:

- How were living spaces organized and how many people and of what ages lived together?
- Of what did their diet consist?
- What were the reasons for the shift toward northerly, segregated communities during the nineteenth century (Johnson 1920)?
- How did the demography of the neighborhood change over time?
- Did changes come from inside the African community and were there pressures from outside the community having to do with oppressive conditions, urbanization, and access to institutional resources?

The occupational structure will also be a focus of research. Questions include:

- What were the different roles of men and women?
- What was the importance and prevalence of child labor?
- What evidence is there for the participation of Africans in the ceramics industry?

Many of the burials excavated at the African Burial Ground were children. Research on the daily lives of eighteenth century African children in New York City could supply a context for understanding the level of mortality suggested by their high representation in the burial ground.

Questions to be posed include:

- Were there historical distinctions between the lives and treatment of young male children versus female children?
- Were there distinctions between the jobs and chores done by European children and the jobs done by African children, and did these distinctions have implications for the mortality rate?

African revolts during this period were brutally suppressed, leading to a change in sex ratios due to a reduction in the male population (Davis 1985). The possibility of skeletal evidence and demographic trends relative to the English response to African resistance will be considered.

The relationship between the earliest African churches in New York and the African Burial Ground has not been studied, nor have other African burial grounds associated with other churches in New York City (Trinity Church, for instance, had an African burial ground at Reade and Church Streets). Questions relating to these issues are:

- What self help or benevolent societies were formed and how effective were these in buffering the community?
- What was the extent and nature of burial societies?
- How does the African Burial Ground differ from other African burial grounds in the city and from the burial grounds of other impoverished New Yorkers?

3.2.2 *Archeological Research*

The investigation of the archeological record of the Broadway Block, most importantly the burials of eighteenth-century enslaved Africans, was the initial focus of research effort. Archeological research regarding the African Burial Ground and non-burial ground resources are each discussed below.

3.2.2.1 African Burial Ground Archeological Research

The excavated population from the African Burial Ground site extends over an area measuring more than 250 feet east-west by over 60 feet north-south at its greatest extent. Within this relatively large area there is ample evidence of spatial diversity in burial types and a primary research topic will be to explore this diversity and seek cultural explanations for it. Examples of this diversity include demographic variation, variation in coffin types, increased incidence of

"grave goods" in some areas, absence of coffins in some areas, differences in grave orientation, and ethnic variation. Phrased as a question this research topic can be summarized as follows:

- What spatial variation can be seen in burial types in the African Burial Ground and what cultural explanations can be offered for this variation?

This question requires the integration of osteological information relating to age, sex, and ancestry with archeological data pertaining to the spatial distribution of graves, coffin types, and grave artifacts and may provide an indication of family relationships in the burial ground population. Osteological information will be derived from field assessment sheets, and from data produced during the laboratory analysis of the remains. Archeological data already exists in its raw form and will eventually be computerized in order to facilitate its manipulation and integration with the osteological data. Osteological and archeological data will be interpreted and placed in a cultural context utilizing appropriate historical sources.

Archeological assessment of spatial relationships of the burials will be conducted to identify African, European, and combined cultural patterns. Archeological analyses will examine the spatial organization of the cemetery, variability and diversity of burial facilities and disposal patterns, gender differences in spatial relationships and grave-goods, multiple levels of spatial clustering, and variability and diversity of grave goods. Archeological, ethnographic, and ethnohistorical data on African, African American, and European burial practices (e.g. Parrington and Wideman 1986; Thompson 1990; McCarthy 1992) will be compared to the African Burial Ground data.

Another major research goal will be to seek an explanation for the taphonomic forces at work on the site that are responsible for the condition of the burials. Many burials show evidence of disturbance in the past and research will attempt to identify the factors responsible for post-mortem

movement of the human remains. These factors may include bone movement caused by decomposition of the body, disturbance from later burial activity, disturbance from historic and later construction activity, disturbance caused by micro-organisms and insect and animal activity, and the actual absence of remains due to soil conditions. This research topic can be summarized in question form as follows:

- What taphonomic forces have acted upon the cemetery and how have they affected the skeletal data base?

In addressing this question field data pertaining to the condition and presence or absence of bone will be used to understand the historic and modern forces which led to the disturbance or disappearance of some of the human remains. Chemical analysis of soil samples from burial pits will provide data on pH in the burial environment, as soil acidity may be responsible for some bone loss. Macroscopic examination of insect remains from soil samples may also provide data on the physical degeneration of the bone.

The majority of the burials at the African Burial Ground were interred in wooden coffins. Although the evidence is fragmentary and incomplete due to highly acidic soil conditions at the site, the diversity and distribution of coffin types, and the relationship between coffin types and demographic information, will be considered. Other aspects of this research topic will include the relationship between coffin size and age in children, an exploration of the construction techniques used in coffin manufacture, evidence for temporal variation in coffin types, identification of types of wood used for coffin construction, correlation between coffin size, elaboration, and gender. The following question will be addressed by the research associated with this topic:

- What can be learned about the distribution of different types of coffins, coffin size differences, coffin decoration, and coffin manufacturing techniques?

Addressing this question will require detailed research into historical sources pertaining to coffin manufacture and decoration. The demographic data assembled as part of the analysis will also be utilized extensively in addressing the relationships between age, gender, and coffin type. Analysis of the species of coffin-wood samples will permit the identification of the wood used to make many of the coffins present at the African Burial Ground.

Other than wood remains, coffin nails, and shroud pins, relatively few artifacts were found directly associated with the burials. Most of the grave pits contain artifacts from fill deposits redeposited in the graves, and this material has obvious relevance for the relative dating of grave pits. Of more interest, however, are artifacts directly associated with burials such as buttons from clothing, and decorative items such as rings, pins, and glass beads. The analysis of items such as these has the potential to illuminate aspects of social status as well as other aspects of cultural behavior associated with the burial ground. Other elements of the burial ritual may be identified by the analysis of flotation samples from coffin lids which may provide data on floral offerings made at the time of burial, or upon the time of year when burials were made, or the environmental conditions prevailing when the interment was made. Other cultural practices to be explored include both deliberate tooth modification and "pipe notches" in the cemetery population. When formulated as a question this research topic can be stated as follows:

- What cultural and temporal information can be obtained from the study and analysis of artifacts found in grave pits and in coffin fills?

Sources relating to artifact identification, ethnographic accounts of burial practices, and historical accounts of burial rites will be utilized to address this question. Standard artifact identification manuals will be used to determine the function and date of material found in grave pits and coffin fills. Ethnographic and historical sources will provide information enabling cultural explanations of the various burial-related artifacts to be presented.

In addition to the archeological research questions noted above, research associated with the African Burial Ground will also include detailed, specialized artifact inquiry. This will include, in the main, state-of-the-art analysis of wood, metal, and glass. Research questions and methods for each of these media are outlined below.

Research questions concerning wood are as follows:

- Can further understanding of burial customs be determined through coffin manufacturing techniques, analysis of shellacs, resins and pigments, and through the investigation of adornment, decorative motifs, and surface treatments insofar as these practices relate to the status of the individual buried?
- Were indigenous woods used in the manufacture of the coffins and is the type of wood used an indicator of regard for the individual?
- What types of joinery techniques and coffin construction were used?

To address these questions research methods will include analysis of shellacs, resins and pigments, using efflorescence, thin sections of wood samples to identify species and surface treatments, and X-ray of coffin fragments. The technology exists to investigate the surface treatments of coffins. However, it is unclear if any of these surface treatments, if used, survived due to the hostile environment of the soils and the burial conditions. Identification of wood will be based on the methodology discussed by Hoadley (1990), while X-rays of coffin fragments, especially joints, will reveal construction techniques.

Research questions concerning metal are as follows:

- Can greater understanding of mortuary customs and date ranges be established through analysis of intact specimens of coffin nails which would aid in the determination of different types of manufacture?
- What is the metal content, composition, motif and shape of the coffin hardware?

- What is the morphology and cultural significance of the several unidentifiable ferric objects associated with burial contexts?

These questions can be addressed through X-ray examination of metal objects recovered from burial contexts.

Research questions concerning glass are as follows:

- Where and when were the glass beads recovered from burial contexts manufactured?
- Were the glass beads brought to New York from Africa?
- How were the glass beads decorated?

These questions will be addressed through detailed analysis of the glass beads recovered in the context of other research outlined above. Visual assessment and microscopical examination are the first phases of any glass analysis. However, the discrepancy between the amount of information obtained from this elementary assessment technique versus the amount of information inherent in the glass is wide. More complex scientific analytical methods can yield comparative data about the compositions characteristic of a variety of glasses. Through a selection of various destructive and non-destructive tests we can determine and compare domestic versus imported window glass; the chemical signatures of unique specimens of bottle glass; or the chemical composition of glass beads. Specimen size and availability, and the accessibility of laboratory testing facilities, are factors which influence testing methods. In the case of the glass beads, analysis of age is also desirable but no effective, non-destructive technique exists for the dating of glass objects. Several of these techniques are outlined below.

Neutron Activation Analysis

Neutron activation analysis is a non-destructive, automated, highly accurate technique for determining bulk chemical composition suitable for minor and trace elements. Very small samples

can be used to provide rapid sample analysis for a wide range of elements and concentrations. This method of analysis has been used successfully on medieval window glass, stained glass and beads. Accessibility to reactor facilities is required.

Energy Dispersive X-ray Fluorescence Analysis

This method of analysis is fast, accurate, and results can be obtained from commercially available equipment. The technique is non-destructive and can be used for a wide variety of chemical composition analysis. Both bulk concentrations of chemical species and trace elements in the parts per million range can be measured and then compared with other known samples. There are, however, size, shape and surface restrictions for the sample.

The X-ray fluorescence technique, or "milliprobe", places few restrictions on the size or shape of the sample. Although the area analyzed through this method is smaller, the accuracy of results is not affected. This may be a preferred method of analysis for glass beads because of the smaller area of the sample required for analysis.

Auger Electron Spectroscopy (K-1 Analysis)

Generally, this is a non-destructive technique for the analysis of surface chemical composition. The technique is particularly useful for the analysis of window glass and the surface glass corrosion process. Caution must be exercised since this method may alter or damage the surface of the glass.

Bead Analysis

Upon initial consideration, the beads recovered from burials at African Burial Ground would appear to be an ideal archeological resource. Glass is a durable material which survives the archeological environment and has, therefore, been present in the archeological record for

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millennia. Beads have been almost universally treasured and are the most frequently encountered artifact from ancient graves. Both Africans in the "New World" and Native Americans highly valued beads. "In tribal cultures still, certain beads are often worn from birth until death and then are buried with their owner for the afterlife." (Dubin 1987: 9) Because of the frequency of the occurrence of beads in the archeological record, researchers have sought to use beads as chronological indicators, and as evidence of "human movement and contact over very wide areas." (Harrison 1962).

It is unfortunate, then, that bead research is confounded by a number of factors. Because beads have been treasured disproportionate to their cost of manufacture, sixteenth and seventeenth century European glass manufacturers, in particular, sought to exploit this fact by imitating the highly valued indigenous beads. This is particularly true for the African continent. In addition, glass manufacturers also imitated one another in an attempt to develop competing markets. Therefore, beads from different sources and different points of origin may have similar appearances, rendering visual analysis unreliable.

X-ray fluorescence, x-ray diffraction and scanning electron microscopy are three non-destructive analytical tests which are traditionally used to determine the composition of glass. The analysis of the elemental components which result from these forms of analyses are a comparative tool. Neutron activation, a destructive form of testing which would require half a bead, is frequently used to augment these tests for a greater degree of reliability. Given the importance of determining the origin of these beads, some destructive testing may be required, particularly since both a glass expert and a bead expert have visually identified one particular variety of the 111 waist beads as potentially appearing to be from antiquity.

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As a material recovered from archeological settings, glass deterioration rates are relatively slow, and they are therefore, a good historic indicators. Glass materials are extremely stable in the non-archeological environment. Once glass is buried, however, weathering and "glass disease", a form of deterioration, can drastically alter the appearance of glass. Often, this degradation is so severe that the artifact no longer resembles glass and is often misidentified. Again, these forms of deterioration preclude accurate visual analysis.

Additionally, glass is difficult to date through scientific analysis. This presents particular problems for analysis of the beads from the African Burial Ground. The waist beads excavated from Burial 340 may be much older than the historic deposit would suggest. There is supportive cultural evidence which indicates that heirloom beads, as well as waist beads, are a pervasive tradition within various African cultures. Preliminary research also indicates that the skeletal remains of Burial 340 exhibit teeth modification, another African cultural tradition. Additionally, mortuary practices and preliminary stratigraphic analysis would support the notion that this burial may be early relative to the use of the cemetery and that she could be of direct African descent and could, therefore possibly adhere to the cultural tradition of wearing waist beads.

The ability to date the waist beads to determine if they are, in fact, heirloom beads is an important, but technologically difficult research question. Isotopic analyses, a destructive form of testing, will provide an indication of the regions from which lead, an element found in glass, originated. A small sample of the bead, approximately 2 mg., is required. Lead isotope analysis has been used successfully to determine definite locations from which glass has been manufactured and this information, in turn, gives tight regional and temporal ranges.

In the initial field assessments possible cowrie shells have been identified as a component of the string of waist beads. Laboratory analysis has indicated that in one instance, what had been identified as cowrie was in fact a human bone fragment. An apparent impression of a shell and a shell fragment are available for further analysis to determine chemical composition. Nuclear Magnetic Resonance and CAT-Scan are two forms of analysis which would assist researchers in accurately identifying the shells. The scientific record also contains the results of testing which is used to identify the origin of shells.

Since these beads and the possible existence of cowrie shells may provide tangible, artifactual evidence, not of African retentions, but of direct African cultural transference, accurate reliable analysis of the beads and shells is essential. (LaRoche 1993) This is particularly important because evidence of cultural retention is frequently sought in southern plantation settings, but rarely in an urban Northeastern context.

It must always be remembered that these beads are the sacred artifacts that were buried with a woman to accompany her on her journey. These beads are a limited, non-renewable resource and it is with great reluctance that any sample taking is suggested. The fact that so few artifacts from early "New World" African sites are available for study must be weighed against the potential historical and cultural information that will be gained from the testing of a minute amount of sample.

3.2.2.2 Non-burial Archeological Research

The analysis of the non-burial archeological resources will focus on four areas of research, including: 1) the relationship between the African Burial Ground and eighteenth century industrial activities in the immediate vicinity; 2) the transformation of sacred space into secular space; 3) the neighborhood as represented by domestic deposits and features post-dating the burial ground;

and 4) the Crolius and Remmey potteries. Specific research questions relating to each of these areas are posed below and strategies for approaching the questions are generally described. It is likely that other questions and even areas of research will arise during the analysis. In order to prepare for that eventuality, the methods proposed are sufficiently general to be expanded as appropriate.

The deposits of debris from the ceramics and possible tanning industries on the Broadway Block appear to be contemporaneous with the active use of the African Burial Ground. The use of the block for industrial refuse at the same time it was being used as a sacred burying place suggests extreme disregard for the eighteenth century African community. An important area of research will be to determine the relationships between refuse disposal areas, on-site industrial processes (if present), and the land designated for and being used as a burial ground by New York City's eighteenth century African community. Specific questions to be addressed are:

- What is the spatial (horizontal) relationship between the land designated for and being used as a burial ground and the areas used for on-site industrial processes relating to the tanning and ceramics industries?
- What are the stratigraphic (vertical) relationships between burials and ceramics refuse?
- What are the stratigraphic relationships between features relating to ceramics manufacture and burials?
- Are there any stratigraphic relationships between burials and tanning refuse?
- Is there evidence to suggest that any other businesses or individuals used the burial ground for other purposes during the eighteenth century?

The answers to all of these questions depend on a detailed stratigraphic analysis that reveals the relationships between the surface into which the burial shafts were cut and the surfaces on which large amounts of refuse relating to the nearby stoneware manufacturers were found. The stratigraphic relationships for each unit excavated on the Broadway Block will be described using an adaptation of the Harris (1975, 1979) Matrix. Adjacent units will be represented on larger

matrices (drawn by hand) which allow equivalent strata to be graphically connected. Elevations for each identified context will be entered into a data base which will allow for cross-site comparisons and graphically realized surface reconstructions. The excavation records for each burial will also be studied in order to determine the matrix outside of the burial shaft and the surface (and elevation) that the burial penetrated.

Density plots of stoneware refuse will be constructed across all excavated areas. These will be based on provenience within excavation units (in most cases either five-foot squares or ten-foot squares). The plots will then be superimposed on the plan drawing showing the distribution of the burials. If any other concentrations of artifacts, either relating to tanning or other activities, are noted on surfaces and at elevations that suggest contemporaneity with the burial ground, they will also be plotted.

The content of the burial shafts, including stoneware refuse, will be quantified in order to make comparisons across the entire excavated area. Differences in density of any particular artifact category will be represented graphically.

The earliest development of the Broadway Block for residential use (houses along Duane Street) appears to have encroached into the African Burial Ground. Research on the patterning of these physical remains (fragments of building walls and features) in relationship to the unmarked burials may provide new insights into how sacred ground was reused as the city developed. Specific questions to be addressed are:

- What are the stratigraphic relationships between domestic features (i.e. structure foundations, privies, wells, cisterns, etc.) and burial shafts?
- How were burials treated when they were encountered during construction of domestic features?

- Is there any evidence of patterning of domestic features in relationship to unmarked graves?

All features, whether encountered inside or outside of controlled excavation units, will be stratigraphically analyzed using the Harris Matrix. Burials will be represented by reference number within the matrices in order to graphically illustrate how the later features cut through the burials. Any artifacts from feature fills or related strata that appear to have come from burials will be analyzed with specific attention to how they may have been incorporated into the later deposits. All photographs of burials and burial records will be systematically studied in order to tabulate all instances of treatment during activities post-dating the active use of the burial ground.

After the stratigraphic analysis is complete, site plans will be drawn to illustrate the relationships between burials and later features, including lot divisions. These drawings should reveal the patterning of features and development within lots and its relationship to burials, if present. The many post holes identified will be analyzed with particular attention to defining fencelines relating to divisions between sacred and secular space. Patterning will also take into account any burial groupings that are defined by the burial analysis discussed above.

Features relating to nineteenth century residential development included structural remains from at least three buildings, one of them probably representing one of the earliest houses to be built on the block, and five wood-lined privies. With the exception of the house foundation, it will probably not be possible to identify the features with specific households. However, these features do represent elements of a neighborhood and together they may provide some insights into the people who lived in this part of Manhattan during the nineteenth century. It may be possible to describe general socioeconomic circumstances as indicated by patterns of consumer choices and to observe change in these patterns over time. Significant comparisons should be possible between this neighborhood and the portion of the Five Points district that was excavated on the Courthouse Block. The Broadway Block is outside the bounds of the Five Points but within a few blocks of

that notorious neighborhood. Whether or not people were any better off, in an economic sense, in this area than in Five Points may be recognizable archeologically. Specific questions to be addressed include:

- Are the artifacts recovered from contemporaneous deposits similar enough to suggest a cohesive (homogenous?) neighborhood?
- Does the socioeconomic profile of the neighborhood change over time?
- Do individual deposits (associated with the structure on Lot 12, for instance) suggest the trade that was practiced in the household?
- Is there any evidence for consumer choices based on ethnic preferences?
- Is there any noticeable socioeconomic difference in the material culture from this neighborhood compared to that from the Five Points neighborhood?

The answers to these questions will emerge out of basic artifact analysis. In order to understand depositional sequences and to establish units of comparison, artifact deposits will be dated. While mean ceramic dates may be calculated using the bracketing method outlined by Turnbaugh and Turnbaugh (1977), the major method of dating individual strata will be by establishing a *terminus post quem* (TPQ) for the deposit. TPQ dates are defined by the most recent beginning date of manufacture for an item in an assemblage. All categories of diagnostic artifacts will be considered in order to arrive at the TPQ. Every effort will be made to identify each maker's mark associated with individual artifacts that derive from controlled contexts (i.e., diagnostic artifacts from secondary fills that do not have specific socio-cultural associations will not be analyzed at this level).

A number of analyses will be conducted that will measure the market value of the material remains recovered, thus providing data about the socioeconomic position of the people living on the block in the nineteenth century. The analyses performed will include evaluations of the

relative economic values of the ceramic assemblages, evaluation of food preparation and consumption activities, and evaluation of economic networks.

Otto (1975, 1977) introduced the use of ceramic surface decoration as an indicator of social status based on the relative cost of different ceramic ware types. In general, the more highly decorated a ceramic ware is, the more it cost the consumer. The ceramic assemblages will be divided into six classifications based on both sherd and vessel surface decoration, as follows: 1) banded, 2) edge-decorated, 3) hand-painted, 4) transfer-printed, 5) undecorated or plain, and 6) "other". Banded and edge-decorated wares are considered to be moderately decorated, while hand-painted and transfer-printed wares are considered to be highly decorated. Such analysis excludes redware, yellowware, stoneware, and Rockingham/Bennington wares. The following conventions will be applied: 1) stamped, sponged, and dipped wares will be included in the banded category. 2) molded, embossed, and colored wares will be included in the "other" category, and 3) decal-decorated wares will be included with the transfer-printed wares.

George Miller (1980, 1991) has developed and refined a series of index values for late eighteenth and nineteenth century ceramics based on merchants' and manufactures' wholesale pricing records. These values are specific to vessel form and size, decoration, and ware type, and they provide a means of assessing the relative cost of a ceramic assemblage. In order to apply Miller's method, it is necessary to identify vessel types, a procedure that usually requires cross-mending, of ceramic sherds. Vessels will be identified and cross-mended from deposits that can be associated with features relating to residential use of the block. Miller index values and relative ceramic index values (a rank order, weighted mean calculation based on Miller's hierarchical arrangement of decorated whiteware from least expensive to most expensive) will be calculated for key deposits (as described above).

Ceramic analyses will also include vessel- and sherd-level examination of ceramic function. Ceramic function provides an indicator not only of the relative importance of various ceramic-related activities, but it may also provide an indication of ceramic expenditure and, thus, economic means. Shephard (1987) has argued that quantity, quality, and variety are better measures of a household's wealth and income, size, and residential stability than the Miller index alone (only quality is measured by the Miller index). Ceramic vessel function will be divided into eight categories for analysis, as follows: 1) kitchen, including food preparation and storage vessels, 2) table, including plates, bowls, and serving vessels, 3) tea, including tea pots, cups, saucers, and related equipage, 4) toilet including chamber pots and wash bowls, 5) garden, including flower pots, 6) toys, 7) household decorative items, including ceramic figurines and vases, and 8) "other," including such items as glue pots and ink wells. Any trade-related items (revealing occupation) will be recorded in the "other" category. Again, only key deposits will be subjected to this level of analysis.

Several researchers have recently advanced the idea that artifact assemblages can reflect the hopes and values of their users in ways not evident from their form and function alone (e.g. Cook 1989; Beaudry et al. 1991; Hall 1993). In addition to analyses of form, function, type, and level of decoration, analysis of ceramics and other artifacts will note decorative motifs and patterns that may have held meaning for the user and affected the choice of that object. Such data will be classified and examined quantitatively.

Foodways are a distinct element of any culture, and may be characteristic of specific ethnic groups and even socioeconomic classes (Kalcik 1985). Patterns of food preparation and consumption behavior can be identified from several types of data including, in addition to vessel forms, the actual food remains (both faunal and floral). Faunal analysis will focus on the identification of species, the cuts of meat represented, the relative economic value of the cuts, and the butchering

practices. Floral data, most of it derived from flotation samples taken in privy deposits, will be analyzed to provide additional information on diet.

Marked glass bottles have been used by some archaeologists as a means of examining economic networks (e.g. Baugher-Perlin 1982). The place of bottle manufacture will be recorded and compared to produce insights into economic networks and economic means. The possible re-use of bottles will also be considered (Busch 1987). Bottles may also provide information on health practices. This is particularly important for understanding how people living in poverty dealt with the threat and reality of disease during a period punctuated by serious epidemics.

Clay smoking pipes have also been used to identify trade networks (e.g. Dallal 1990, 1992). The pipes from key deposits will be studied in detail with particular attention to origin, but also with attention to what they may say about lifestyle. For example, Cook's (1989) study of the pipes recovered at Boott Mills in Massachusetts considers variations in smoking according to class, ethnic background, and gender.

Selected deposits relating to residential use of the Broadway Block will be compared with contemporaneous deposits excavated at the Courthouse Block. Materials from both fill and feature deposits will also be compared to other excavated materials from New York City. These comparisons will include sites that represent the same general socioeconomic stratum of the population and sites that represent economically better-off segments of the population.

The kiln furniture and other remains relating to the Crolius and Remmey potteries that were located just outside the Broadway Block provide the opportunity to conduct research on New York City's ceramics industry that has not previously been possible. This research will compliment and build on documentary research already done on the potteries by Meta Janowitz. In addition

to these known stoneware manufacturers to the north and east of the Broadway Block, John Campbell, a maker of "pan [roof] tiles and Philadelphia earthenware [redware]," operated on the west side of Broadway across from the project area and may have been the source of the redware on the site. A feature found on Lot 20 was identified in the field as a "puddling box" relating to the ceramics industry. Its precise function needs to be further investigated. The following research questions address aspects of both the stoneware and earthenware local industries.

- What kinds of vessels were the Crolius and Remmey potters manufacturing before 1800?
- How did vessel forms and decorations change over the course of the three or four generations during which the Crolius and Remmey potters were in business?
- Is there evidence for the dissemination of decorative motifs from Manhattan to other areas, specifically New Jersey?
- Can some stylistic changes be specifically traced to the period between the Revolutionary War and the demise of the Crolius pottery in 1814?
- Are there any indications that enslaved Africans working in the Crolius pottery contributed or influenced design motifs and materials used?
- Does the redware found within the same areas that stoneware was found relate to household debris or to the Campbell pottery?
- How do the redware clays compare to redwares found elsewhere in Manhattan? Where did the clays come from?
- What is the chemical composition of the stonewares? Where did the clays come from?
- Is it possible to learn anything about the actual potters from the ceramic remains?

The quantity of material recovered relating to the Crolius and Remmey potteries and the fact that this is a unique opportunity to look at the remains of the manufacturing process mandates very detailed analysis of all categories of data, from kiln furniture to wasters (imperfect vessels) to decorative motifs to fingerprints on any or all of the above. All of the recovered stoneware, from both stratigraphic contexts and from fills, will be recorded in detail. Each vessel type will receive a unique number, and each decorative motif and body treatment will be inventoried, named, and graphically represented. All variations and combinations (e.g. paste differences with vessel shape,

paste differences with decorative motif) will be described. In order to accomplish this detailed recording the database used for the artifact inventory will be substantially modified. New descriptions for decorative motifs will be devised as necessary, but a thorough study of the literature on eighteenth century German stonewares will be made before resorting to the invention of new terms. Whenever possible, a previously existing name will be used.

Any motifs suggestive of African origin or inspiration will be carefully researched. Available experts on German stoneware will be consulted to confirm any apparently unique designs.

Marked vessels, both in the collection and in museum collections, will be used to develop a chronology of vessel types. Vessels from datable contexts may be added to this typology. It may then be possible to organize unmarked pieces into a chronological framework and trace changes through time.

Allan Gilbert of Fordham University took samples of clays during the excavation and will attempt to determine their sources. He will also sample the stonewares recovered on the site in order to add chemical information on them to the ceramic archive he has been constructing for the New York Metropolitan Area. The information from both the clays and the sherds will significantly increase the usefulness of the ceramic chemical archive by adding to it the chemical signatures of artifacts of certain New York manufacture.

In addition, dermatoglyphs (fingerprint impressions) present on kiln furniture and ceramic sherds will be examined. This area of research in archeology has advanced considerably since Rockwell's (1970) article suggesting the study of fingerprints in ceramic analysis. The measurement of the mean ridge width over a minimum distance of six ridges may provide an indication of the sex of the potters and the number of different individual potters represented in

the assemblage (Cummins and Midlo 1961; Barbour 1990) This information may, in turn, provide documentation on the organization of labor in the colonial pottery industry. In addition, it may also be possible to detect specific diseases from which potters suffered based on abnormalities in the dermatoglyphs (Jantz and Brehme 1988; Okajima and Usukura 1984).

The clay "puddling box" will be considered in the context of analyzing the redwares. It may have been a holding basin for slips used in decoration. It seems unlikely, though not impossible, that it related to the manufacture of stoneware. Gilbert's analysis of clay samples recovered from the site should throw some light on the function of this feature. Before beginning an exhaustive study of the redwares recovered, an attempt will be made to determine if they relate to domestic deposits or are refuse from the nearby Campbell pottery. Computer-generated horizontal density distributions of redware will be compared to density distributions of stoneware as a basis for deciding the level at which to analyze the redware.

3.2.3 *Bioanthropological Research*

The excavation of the African Burial Ground offers an unparalleled opportunity to explore the African origins and biocultural transformation of the African-American population. Because a broad range of recently developed methods, technology, and theoretical formulations will be used, these studies should also contribute to bioanthropological development in many areas of study.

Earlier skeletal studies of African-descended populations have tended to be descriptive, with little attention given to a biocultural interpretive framework that reveals the historical and biological complexities and significance of the African-American experience. According to Rankin-Hill (1990:42):

Limitations of biohistorical research paradigms have occurred due to the failure to consider a broader approach that would include: 1) a biocultural approach, which would

focus on the interactions of culture and biology; 2) the investigation of adaptive strategies; 3) the consideration of ecological context of health and disease; 4) a focus on localized African American groups or populations, which would provide a means of assessing biological, cultural, and environmental conditions cross-culturally; 5) the consideration of intra-population variation.

By overcoming most of these deficiencies, the proposed study will result in a more holistic biohistorical picture of Africans in New York and, by analyzing them in the context of diasporic and inter-ethnic comparison, will contribute to a better understanding of the African diaspora. Advantage would be taken of the range of available cultural (archeological, historical, and ethnographic) and biological (genetic, chemical, paleopathological, demographic and anthropometric) data to establish the "baseline" biology of the African-American population in the United States, so important for understanding the causes of subsequent biological and health changes. Given that the African Burial Ground may represent the earliest excavated municipal cemetery in the United States, any lesser effort would seem not only unwarranted, but less than fully responsible.

The African Burial Ground population is unique by virtue of its size, age, and location. No other available archeological population has the capacity to reveal the baseline or initial biology and health of the colonial Africans at the origins of the African-American people. Subsequent changes in African-American biology can be most effectively evaluated when comparisons are made of the genetic, nutritional, environmental, demographic, and disease status populations from different historical periods. If there are specific genetic contributions to health that stem from African parental populations, these skeletal data are the most likely to reveal clues as to these traits and their specific origins. If genetic admixture, drift, or selection in the context of slavery is involved in the development of specific pathologies (such as have been proposed for hypertension in African-Americans; see Jackson 1991 for a critique of this issue), hypotheses can be tested using data from this baseline population.

It is anticipated that all bioanthropological research will be conducted by a research team working at Howard University. Howard University is viewed as the appropriate site for this phase of research because of its unique combination of technical facilities, materials, and personnel, as well as conformity with the descendant community's desire to include an African-American institution in key aspects of the project. In order to facilitate that involvement, skeletal remains have been relocated to Washington, D.C. for an estimated 4 years of study, prior to reburial in New York City. Each skeleton was individually packed in shock absorbent foam, and carefully transported from New York to Washington by Howard University and Artex, Inc. without additional damage. The analyses conducted at Howard University will include studies of the biological effects of socioeconomic, cultural, genetic, and environmental variation and change. Research questions and methods are presented below that address several themes, including demographic research, the biology of socioeconomic conditions, comparative skeletal research, African and African-American biology and culture research, and chemical and DNA research.

3.2.3.1 Demographic Research

A population's structure is its most fundamental characteristic. Population pyramids, life tables and other mortality data will be generated to enable comparisons of any distinguishable social and cultural groups within the burial ground, and with the historical demography of New York and other analytically useful populations. Demographic data are very useful for identifying the impact of social conditions (Blakey 1988) or particular diseases on specific segments of a population. Age and sex (as the most fundamental human biological distinctions) must be known, also, for adequate interpretation of most other aspects of anthropological investigation.

Determination of Age

Multiple methods of assessment are required to accurately estimate age at death (Lovejoy et al. 1985). The broadest range of reliable age assessment criteria will be utilized. For subadults,

determination of age is based on dental calcification and eruption, the presence of growth centers, the union of epiphyses, and the relative size of each skeletal element.

Once growth is completed, epiphyses fused, and all teeth erupted, other methods for assessing age at death assessment must be used. These include: metamorphoses of the pubic symphysis, the auricular surface of the innominate, and the sternal end of the ribs; degenerative articular and periarticular changes and the loss of cortical and/or trabecular bone; cranial suture closure; and dental attrition. In addition, there are documented age-related changes to specific skeletal elements, such as the thyroid cartilage, the clavicle, the scapula, and the sternum.

Determination of Sex

Sex assessment will be accomplished by analyzing differences in the size and form of features of the skull, pelvis, scapula, clavicle, sternum, ribs, and long bones (Krogman and Iscan 1986:191). Subsequent assessments of population affinities will elucidate morphological variation in geographical populations as an aid to sex identification.

3.2.3.2 The Biology of Socioeconomic Conditions Research

A variety of methods and analyses will be required to establish the relationship of skeletal biology to the population's socioeconomic conditions. This will in turn require the creation of a historical framework for analysis, including conditions of work, housing, sanitation, toxicity/pollution, and food sources. It will also focus on archeological interpretation of status differentiation (if determinable), places of origin, and soils analysis (chemical and flotation studies) for environmental and dietary analyses.

Skeletal biological assessment is expected to focus on a wide range of analyses having implications for the interpretation of socioeconomic conditions affecting the African Burial Ground population.

Among these will be: identifying and analyzing evidence for diet and environmental toxins (trace elements and stable isotopes) (Aufderheide et al. 1985); general nutrition (dental enamel developmental defects, skull base height, stature, bone histology) (Kelley and Angel 1987; Rankin-Hill 1990; Blakey and Armelagos 1985; Goodman and Rose 1990); diseases with social etiologies (periosteal manifestations of localized and systemic infections, tubercular lesions, non-genetic anemia) (Ortner and Putschar 1985); physical stresses (hypertrophic muscle attachments and arthritic changes (Bridges 1990); radiographs of traumatic fractures related to accidents and violence (Roberts 1991); and demographic structure (survivorship, life tables, population structure) (Blakey 1988). General research questions include:

- How do biological indicators of health, growth and development, demography, and nutrition reveal the African Burial Ground population's adjustment to its social and economic situation?
- What skeletal and demographic evidence exists for specific practices of enslavement and persecution?
- How does the physical quality of life in this population compare with contemporaneous European and African descent populations in the Old World and the Americas?

Overall, the research will identify diseases under seven basic categories (circulatory or vascular, inflammatory/immune, trauma/repair, anomaly, metabolic, neuromechanical, and neoplastic (see Ortner and Putschar 1985). Anthropometric measurements and pathological descriptions will be standardized to the guidelines recommended by the Skeletal Database Committee of the Paleopathology Association (September 1991). It is also expected that the more extensive "Chicago Guidelines" currently being finalized by the Field Museum Recordation Committee will be available and utilized during the early stages of the skeletal project. The Smithsonian Skeletal Documentation System (a PARADOX computer application of the recordation system) will be used. This system involves 20 data bases, including nearly 1,000 observations of development and aging, morphology, and pathology that can be recorded on one skeleton by two observers in

3 days (personal communication, John Verano 1993). These standards are also essential for archival preservation of data for future research.

Data on growth, maturation, and stature will be assessed in crania and long bones, and will be supplemented by age and sex data. Differences in the growth of the face and cranial vault can reveal developmental differences reflecting nutritional differences. A reduction in size difference is often associated with increased nutritional and disease stresses (Anderson et al. 1975; Martorell et al. 1979; Steegman 1991).

3.2.3.3 Comparative Skeletal Research

Comparisons will be made among the African Burial Ground data and data available from contemporaneous and later enslaved and free African populations and populations of European descent (e.g. Burnston and Thomas 1981; Handler and Corruccini 1983; Fox 1984; Rose 1985; Kelley and Angel 1987; Owsley et al. 1987; Rathbun 1987; Blakey 1988; Blakey et al. 1992). Such analysis will demonstrate the relative physical quality of life experienced by the New York population.

A recent bibliography of historic cemetery investigations in the United States, Canada, and the Caribbean (Crist 1992) identifies over 150 reports and publications addressing various aspects of cemetery excavation and research. These publications constitute a comparative body of information relevant to the interpretation and analysis of the data from the African Burial Ground. These include sites as diverse as the Voegtly Cemetery in Allegheny, Pennsylvania, where the graves of 727 German Americans were excavated in advance of highway construction (Beynon 1989), the Monroe County Poorhouse Cemetery in Rochester, New York, where 296 individuals primarily of German and Irish descent were excavated (Lanphear 1988), and the St. Thomas Anglican Church Cemetery in Belleville, Ontario, where 595 interments of European immigrants

were excavated (Herring et al. 1991; Saunders et al. 1992). In the absence of comparable eighteenth century cemetery sites these three large European-American populations dating from the nineteenth century will form an appropriate data base allowing cultural and temporal comparisons to be made.

In addition, many of the other populations represented in the publications collected will be of cultural and temporal comparative value. These include Catoctin Furnace, Maryland (Burnston and Thomas 1981); St. Marks Military Cemetery, Florida (Dailey et al. 1972); Oakland Cemetery, Georgia (Dickens and Blakely 1978); Uxbridge Almshouse Burial Ground, Massachusetts (Elia and Wesolowsky 1989); Newton Plantation Cemetery (Handler and Lange 1978); College Landing (Hudgins 1977); Folly Island (Legg and Smith 1989); Montserrat, West Indies (Mann et al. 1987); Washington, DC Cemetery (Mann and Krakker 1989); Clifts Plantation, Virginia (Neiman 1980); Millwood Plantation, Georgia (Orser et al. 1987); Charity Hospital/Cypress Grove II Cemetery, Louisiana (Owsley et al 1990) St. Peter Street Cemetery, Louisiana (Owsley et al. 1987); First African Baptist Church Cemetery, Pennsylvania (Parrington et al. 1989); Snake Hill Cemetery, Ontario (Pfeiffer and Williamson 1991); South Carolina Plantation Cemetery (Rathbun 1987); and Cedar Grove Cemetery, Arkansas (Rose 1985).

These sites represent the majority of the larger excavated historic burial grounds, totalling more than 2,700 excavated human remains. About twenty percent of this total are Africans or African Americans, while the remainder are Europeans. The sites range from colonial-era military and plantation burial grounds to nineteenth century urban and rural cemeteries. The wide variety of cultural burial practices identified on these sites give them great comparative value for the present project.

- A further research goal of the project will involve a comparative analysis of relevant portions of many of these reports, as well as primary data, that will enable excavation

of the African Burial Ground population to be placed in appropriate historical, cultural, and anthropological contexts.

For example, using comparative data, it should be possible to analyze biological and health changes experienced by Africans in eighteenth century New York City as compared with data on other nineteenth and twentieth century skeletal populations. Comparisons of early and late eighteenth century data may allow for an evaluation of the changes in the severity of life for enslaved Africans under British rule. Comparisons of eighteenth and nineteenth century populations should allow for data to emerge concerning the effects of urban residential and occupational segmentation, and the wage labor economy. One such comparative collection is the Highland Park collection of eighteenth century European Americans housed at the State University of New York at Buffalo. Early twentieth century comparative data from the W. Montague Cobb Collection at Howard University will also provide a clinical reference population by which to better understand the relative significance of health profiles in the New York population. Data from the Cobb Collection will also allow a closer comparison between early African/African-American experiences and modern communities. Research will also address genetic variation and historical change (if chronological differences are found) within the African Burial Ground population.

The physical evidence for historically-documented methods of corporal punishment, physical restraint, and resistance will also be investigated. These data may include evidence of shackles, amputation, burning, parry fractures, and lead intoxication or chelation.

3.2.3.4 African and African-American Biology and Culture Research

Several analyses are expected to reveal differences between individuals born in Africa and American-born individuals. Equally, these analyses will provide data on dietary and nutritional change and environmental exposures that include air and water-borne toxins. Studies of population

affinities will seek to identify the parental populations from which New York's eighteenth century African population derived. These data will, furthermore, reveal aspects of biological continuity and change in African and African-American populations.

The general questions to be asked are as follows:

- From which African and other societies and regions is the African Burial Ground population derived?
- What are the genetic characteristics at the origins of the African-American population? Can distinct African groups be identified or has intermarriage led to a single genetically heterogeneous population during the 18th century?
- Does the genetics of this population have implications for African-American health?
- What evidence is there of selection due to the conditions of the slave trade?
- What was the quality of health in the African homeland?
- How can cross-verification between chemical, DNA, morphometric, and cultural data strengthen anthropological methods for this and future African diasporic research?

Analyses of the biological data discussed above, in conjunction with archeological and historical data, will be undertaken to reveal cultural continuity and change in dietary, epidemiological, demographic, and migration (gene flow) patterns. We are asking:

- How has cultural change manifested in the biological characteristics of the African Burial Ground relative to antecedent and descendant populations?

3.2.3.5 Chemical and DNA Research

The most promising chemical analyses are of stable isotopes from collagen in bone, which maintains *in vivo* chemical proportions little affected by diagenetic processes influencing bone apatite or mineral fraction (Tiezen and Fargère 1993; Ambrose 1986). With proper cleaning, diagenetic effects in dental apatite are negligible in some cases (Kruger 1991), while bone apatite diagenetic effects on trace elements are particularly varied and challenging to interpret (Lambert

et al. 1991). We would obtain bone samples from femoral and humeral mid-shafts (approximately 300 available) and teeth (approximately 300 available single tooth samples). Preliminary micro-analysis of C, N, and H (an inexpensive test for protein content requiring 10 milligrams of bone per skeleton) will be conducted to determine the suitability of the final sample for these chemical analyses, as well as for DNA analyses discussed later.

The most easily anticipated successful approaches will involve the analysis of stable isotopic analysis of collagen and mineralized dental tissue. Proportions of carbon isotopes in bone collagen can be used to differentiate individuals who regularly consume grains and protein from browsing animals, and those consuming wild plants and animals and non-grain crops. Nitrogen content distinguishes those regularly consuming milk and meat of domestic animals or marine resources from those dependent on plant food in various regions, as has been shown in studies of eastern and southern African populations (Ambrose 1986). Reliance on maize, a C4 plant, in the American context can be distinguished from heavy consumption of tubers and other C3 plants common to tropical West Africa.

An example of trace isotopic analysis in this study would include an analysis of strontium, derived from terrestrial and coastal rock types, having differing $87\text{Sr}/86\text{Sr}$ ratios. Such study has revealed patterns of coastal vs. inland habitation using skeletal populations from South Western Africa (Sealy et al. 1991).

In this example, as with isotopic analysis, dietary and environmental data are obtained simultaneously from chemical analysis, since edible organisms absorb inorganic elements from their ecosystems. Such research will provide data on the diets/environmental regions of childhood (using early developing dentition) or the last decade of life (long bone collagen). These will provide "sourcing" data for identifying the places where members of the African Burial Ground

population likely lived as children or had lived during the decade just prior to death (also see DeNiro and Epstein 1978; van der Merewe and Vogel 1978; Bumsted 1981).

Archeological, ethnohistorical, and ethnological assessments will be made of the cultural origins of individuals with ornamentally filed incisor teeth (Handler et al. 1982) and any other evidence of African birth. Patterns of bone chemistry showing reasonable correlation with such cultural data (as well as genetic affinity data discussed below) will be considered reliable regional chemical signatures for individuals for whom other sourcing data are unavailable. These identifications will allow African-born adults to be partitioned for comparison with other samples.

Adult skeletal indicators of childhood and adolescent nutritional stresses (dental developmental defects, stature, and skull base height) will be compared between African-born and American-born individuals (U.S., Caribbean, and South America). Dental developmental defects in those who died as children (and are most likely to have been born in the Americas) may provide suitable data on childhood stress in the North American context.

Several analyses will reveal genetic origins and change in the archeological population. Mitochondrial and nuclear DNA studies will be conducted to assess gene frequency variation and genetic affinities related to specific cultural/regional origins in Africa. Samples of hair, soft tissue, and bone will be used where available in all individuals in which microanalysis has shown sufficient protein preservation. These same data will be used to assess changes in genetic variability due to admixture of various African populations, and with Native American and European populations (Vigilant 1991).

The ability to sequence DNA from bone and fossil materials has advanced immensely since the recent development of PCR (polymerase chain reaction). PCR allows for amplification of DNA

sequences from very small quantities of protein. Because the primers used are specific to a particular species, problems of interspecific contamination (but not intraspecific contamination) are eliminated. (Paabo et al. 1988; Brown and Brown 1992).

Such genetic data from the African Burial Ground population will provide information concerning biological continuity and change resulting from African forced migration to North America. We are interested in testing:

- Genetic affinities to African regional populations and potential cultural groups.
- Effects of selection for/against particular genes as a result of adversities of The Middle Passage.
- Characterizing baseline genetics from which African Americans evolved.

The data base for all these analyses involves the sequencing and electrophoresis of relevant extended haplotypes, including Rh, Gm, HLA(B-42) and extended B-globin, L-globin, mt DNA, and Y-chromosome regions (Y-chromosome data will also augment sex determination). Comparative data on living African and European populations are currently available (Roychoudhury and Nei 1988; Mellars and Stringer 1989) and bone samples will be obtained from eighteenth century archeological populations if possible (several potential comparative populations are mentioned below). We will proceed by assessing the combination of traits in each individual, and probabilities for affinity to particular parental populations will be based on cluster analysis of the individual's trait combinations. These individuals will then be assigned to population groups for analysis, or as panmixed populations as the data warrant.

DNA data will be compared with morphometric analyses (measurements of the form of the skull and face) which, although less precise than DNA as to a population's genetics, will allow comparisons with a much broader data base of archeological populations that have traditionally

been studied on the basis of morphological variation. The biostatistical methods to be used conceptually operationalize the tenets of the phenetic approach to taxonomy which assumes that population similarity in numerous characters is indicative of genetic relationship (Howells 1973). The most frequently used region of the skeleton is the cranium, long used to ascertain group relationships. The methods to be used in analyses of the affinity of the African Burial Ground remains will utilize as many as 30 cranial measurements (Keita 1988). Multiple discriminant functions and the generalized distance of Mahalanobis (D^2) (Howells 1973) will be used to compare the African Burial Ground sample to multiple African skeletal populations from various regions likely to have been "donors" to the trans Atlantic slave trade. Appropriate comparative populations are known to exist in the British Museum (a Gabon sample), the American Museum of Natural History (an Ashanti sample) and the Musee d'l Homme' (a Dogan sample). Good published data exist for Southern and East Africa and Europe (Howells 1973). Currently a search is underway to locate Angolan material, likely to be found in Brazilian, Cuban or Portuguese museums and anatomy departments. An effort will be made to study skeletal remains from the same time period as the African Burial Ground.

Similarly, dental morphological variation will be assessed to determine population affinity (affiliation). The standard methods developed by Turner et al., (1991) will be used with the assistance of standard dental casts developed for use with that method at Arizona State University. These dental morphological studies will be important because most of the African Burial Ground population has dentition, while most of the crania are partial and fragmentary and thus will not be suitable for making all of the desired cranial measurements for morphometric assessments.

The usable crania (estimated at 150 nearly complete but fragmented crania and 32 intact crania) will also be studied as individuals (as well as a group). The various statistical packages to be

used, SAS and SPSS, will classify crania which have been treated as unknowns. The resulting calculated percentage classifications can be interpreted in two ways. If the African Burial Ground sample is seen as a relatively homogeneous population then the group into which individuals primarily classify can be interpreted as the region which contributed most to the ancestors of this population. If the sample, however, is thought of as representing a group composed of peoples fresh from different regions then the percentage breakdown may represent the actual regions of origin (as opposed to the natural variability of a single group homogeneous either from being from a single source, or from longstanding intermarriage between multiple groups which created a new population).

Chemical sourcing data and morphometric assessments of population affinity will also be useful for corroboration of population affinities. To strengthen the analysis sufficiently, correspondence between probable genetic affinities will be sought with anthropometric similarity and dietary/environmental proximity to the hypothetical parental populations. When DNA-based genetics, anatomical structure, chemical signatures for environments, and cultural traits conform to those of probable parental populations, the origins of individuals comprising the African Burial Ground population can be ascertained. The use of these multiple data sets indicating overlap in geographical, biological, and cultural origins is a rare opportunity for precision in origin determination.

As these associations are established in skeletal individuals who provide the full array of data, a single data set (chemical signatures for geographical area, as an example) might be used alone for origin determinations with known probabilities of the likelihood of its association with other traits (such as biological and cultural affiliation). Population regions for initial DNA analysis will include Senegal-Gambia, Benin-Congo, Khoi-San, Northwest, Southern, and East Africa, British Isles, Netherlands, and Northeastern Native America. The opportunity for resolving such issues

as inter-population and intra-population variability is exceptional given the mix of methodologies and the range of potential parental populations.

Inter-individual variation in African characteristics is expected to decrease over time as various African groups became a single African-American population. New forms of variation should emerge due to admixture with non-African populations. It may be necessary to obtain comparative samples of contemporaneous African and Caribbean populations through short-term research on a limited number of foreign research collections.

3.3 Field Procedures

Field procedures used in archeological excavations on the Broadway Block are discussed in this section of the Research Design. Excavation procedures for non-burial related archeological resources and procedures for excavation of burials are each addressed.

3.3.1 *Field Procedures for Non-Burial Resources*

The archeological excavation procedures used for non-burial-related resources at the Broadway Block were as follows. Rather than using a single excavation grid for the entire block, separate grids were established for each lot within the block. Features and test units were then mapped in relation to extant walls, which were, in turn, tied into the site datum. In most cases, architectural remains were not removed unless the examination of a particular feature required their removal, or if it was not safe to leave them in place.

To control vertical measurements, temporary datum points were arbitrarily established near each excavation unit, usually at one corner of the unit or on an adjacent foundation wall. All measurements for plan views, profiles, and stratification were taken from hand-held, leveled lines

attached to the temporary datum point. The coordinates and elevations of all temporary datum points were later surveyed in relation to the previously established site datum.

Demolition debris from the most recent structures on each lot was cleared by backhoe. All features were excavated stratigraphically by hand, with each stratum defined by changes in soil color, texture, compaction, and concentrations of cultural material. All manually excavated soil was screened through 1/4-inch hardware cloth. Excavated soils from about 50 percent of the non-burial related features were wet-screened.

For strata that obviously represented disturbed or secondary deposits, samples of construction and waste materials (i.e. brick, slate, mortar, building stone, and coal) were retained. Other materials recovered in these deposits, and material from all primary deposits, were fully collected. All cultural material retained in the field was placed in labeled paper and plastic bags and transported to the project's storage space/laboratory. Bag labels included provenience information as recorded in the project catalog.

Excavation units were numbered consecutively (e.g., E.U. 1, E.U. 2) within each lot. Stratigraphic designations consisted of a Roman numeral given to each layer encountered during the excavation of each excavation unit, i.e. I, II, III, etc. Arbitrary levels within a stratum were numbered consecutively, i.e. I-1, I-2, I-3, etc. Each distinct provenience received a unique catalog number. The sequence of assigned catalog numbers began with 001. Drawings also received catalog numbers. Measurements were made in feet, and tenths and hundredths of feet. A total of four minimum and maximum opening and closing depths were recorded in the field catalog for each unit.

All archeological features were given an alphabetic designation, starting with letter A . . . AA, etc. Bulk soil samples (for soil, chemical, and flotation analysis) were collected from all features, generally from those layers identified in the field as primary deposits. Each sample was labeled with the appropriate catalog number. Systematic soil samples were taken to provide a palynological profile of the Broadway Block.

Stratigraphic profiles and plan views were consistently drawn of all excavation units and features. Photographic documentation of the field work included both 35-mm black and white print and color slide film. All formal photographic records of archeological deposits and features included a scale and north arrow. A computerized photographic catalog was kept for the Broadway Block.

3.3.2 *Field Procedures for Burials*

Excavation of burials proceeded following the procedures outlined above, modified as indicated below. If a clear grave pit outline was defined, an individual burial number and a catalog number were assigned. Normally, a team of two excavators worked on the excavation of each burial until completed.

When the outline of a coffin was defined, it was mapped and elevations recorded. One excavator worked on locating the cranium, while the other excavated the femurs at mid-shaft. Having located these two areas, the excavators were then in a position to work in a systematic fashion on the remainder of the burial. The idealized order for excavation was to uncover the legs and arms, then the chest, and then the hands and feet. Finally, the facial and pelvic areas, which are the most significant areas for preliminary aging, sexing, and race assessment, were uncovered. When the skeletal remains were completely uncovered they were photographed and a scale drawing of the remains was completed. The drawings indicated the location of all exposed bone, elevations

of many of the bones, surviving coffin wood, coffin nails, shroud pins, and any other burial artifacts such as buttons or beads, if present.

In addition, excavators collected soil samples from significant locations within grave pits. Samples were collected from the coffin lid area where there might be surviving evidence of floral tributes or grave offerings, from the stomach area where there might be food residues, from the thoracic area where there might be the remains of pathological organisms and calcified organic material, and from the sacrum area where there might be surviving evidence of parasite infestations. A further "control" sample was collected from an area of the grave pit outside of the coffin. All coffin fill was screened to insure uniform recovery of artifacts, and after the removal of skeletal material all grave fill was completely excavated. Data on all these procedures are recorded on field recording forms developed for the project.

Osteological field procedures included the recording of skeletal remains on an assessment record form. Preliminary field evaluations were made of the age, ancestry, and sex of each individual, and pathologies were noted and recorded photographically. A further recording form was used to record the presence or absence of bone, and the condition of each individual bone. After assessment each bone was removed and individually wrapped and packed for removal from the site to a laboratory at Lehman College.

3.4 Laboratory Procedures

Archeological research will include the processing of artifacts and the analysis of all classes of archeological data recovered from the Broadway Block. Artifact processing methods and procedures are outlined below, followed by a discussion of the processing of human remains and a discussion of data preservation.

3.4.1 *Laboratory Processing of Artifacts*

Artifact processing, analysis, and short-term curation will be conducted under the auspices of Howard University with the participation of subconsultants. Artifacts will be cleaned and subjected to appropriate conservation treatments in accordance with the procedures outlined here and in Section 4.2.3.1 below. They will then be catalogued, labeled, and inventoried. Artifact inventory and provenience data will be placed in a computer data base to facilitate quantitative analysis.

Processing of artifacts and site data has proceeded in a laboratory established at 6 World Trade Center by the GSA with appropriate professional archeological direction by John Milner Associates. Artifacts, soil samples, field records and photographs were moved directly from the field to the lab facility when it was available. At the same time, the site data which had been stored at the previous consultant's laboratory in New Jersey began to be transferred to the Foley Square Laboratory in a total of twenty-five shipments. The transfer of project-related materials to the Foley Square Lab was completed on September 23, 1992. A total of nearly one thousand boxes of artifacts and soils were delivered for both the Broadway and Courthouse blocks of the Foley Square Project. About two hundred and fifty boxes contain Broadway Block artifacts and about the same number contain Broadway Block flotation and soil samples. Two freezers of uncataloged wood samples as well as a small amount of other organic material were part of the final shipment. Artifacts found with burials were initially stored and conserved at the South Street Seaport Museum's Conservation Laboratory, before their transfer to the Foley Square Lab in September, 1992.

Artifact shipments were delivered with transmittal sheets that provided a list of catalog numbers and artifact bags within each box. Some of the material had been evaluated by the previous consultant and a number of artifacts were flagged for conservation and boxed separately. Most

of these boxes came with detailed hand-written lists of the artifacts contained in them, as well as the catalog numbers. However, there was no written indication of the extent of this evaluation process nor was there any unified artifact inventory or artifact condition report with any of the boxes.

Part of the accessioning procedure at the Foley Square Lab involved development of a computerized data base to track all artifacts and soil samples. This program was initiated by the preparation of index cards, with all field bag provenience information, to be used for data entry and tracking. Index cards are completed for all artifact bags and soils, and data entry is currently underway. Based on the sample of the collection of artifact bag data which has already been entered into the computerized tracking system, it is estimated that the Broadway Block contains about 2,500 bags of artifacts. The precise number of artifact bags and artifacts is not known at this time.

Washing of the Broadway Block artifact collection is currently underway. One of the most significant classes of artifacts from the block is the ceramic category. A major component of the ceramic collection includes materials related to the historic ceramic industry. These include kiln furniture and wasters. There are also a variety of unusual body treatments and motifs on stoneware sherds. These will provide an opportunity to create a new typology for local ceramics. The general field descriptions of the Broadway Block artifactual deposits are otherwise consistent with other New York City sites. Major classes of artifacts include faunal remains, household ceramics and glass, metal, and architectural remains. From the initial phases of artifact processing it would appear that there is a relatively larger proportion of ceramic and metal artifacts in comparison to other classes of artifacts.

Prior to analysis, it is important to maintain control and carefully track the movement and progress of artifact and soil sample processing. The initial step in this procedure was the development of a computerized tracking system tailored to handle large archeological collections. Accordingly, a tracking system in the dBase III+ programming language was developed. The program is designed to incorporate provenience and artifact bag data, based on the index cards discussed above, with the standard artifact processing steps that includes washing, labeling, sorting, identifying, inventorying, and cataloguing. This will enable the laboratory team to follow the progress of any bag of artifacts, as well as to quantify the collection's progress through the necessary steps.

Artifact processing will be accomplished by excavation unit and feature number order, using the computerized tracking system. Individual catalog numbers and artifact bags will be identified for processing and then sorted by cleaning method, i.e. water washing versus dry brushing, and general artifact type, i.e. ceramic, glass, etc. Should any organic materials or particularly fragile artifacts be present, they will be removed for conservation and stabilized according to the conservation procedures detailed below. The categories of artifacts present are checked against the field records and logged. Appropriate cleaning techniques are applied, as detailed below, and water-washed artifacts are air-dried for at least three days. All diagnostic ceramic and glass fragments, as well as any fragments larger than 1/2 inch in diameter, will be labeled with indelible ink and coated with B-72, a stable acryloid sealant. The label will include the last four digits of the New York State site number written above the catalog number. Artifacts will then be sorted into like materials, quantified for a general inventory, and rebagged in polyethylene zip bags with tyvek tags containing artifact provenience information. Both the bags and tags are chemically inert and will not adversely affect the artifacts in any way. This will provide a basis for building the Broadway Block artifact catalog. Detailed artifact identifications, including source, date range and method of production, will be accomplished during the analysis phase. These identifications will

be cross-referenced with the general inventory and incorporated into the Broadway Block artifact catalog. This will enable the rapid calculation of a number of data types which will be used to address the research questions. All cleaned, rebagged artifacts will be loosely packed in standard archival quality boxes while awaiting analysis and curation. Generalized classes of artifacts will be processed in the following manner.

Animal Bone - The processing and identification of animal bone from non-burial contexts within the Broadway Block is being conducted with the utmost care and attention because of the possibility of the presence of human bone fragments that derived from fill deposits related to historic contexts. Individuals who are trained in both human osteological as well as faunal identifications are involved in evaluating and monitoring all work done within this category. Any bone that is identified as human or possibly human is removed from the faunal material and immediately conserved using the procedures outlined below. Faunal material is dry-brushed with soft bristle brushes to minimize abrasions which could obscure butcher or rodent marks. Should particularly fragile pieces relating to significant analytical units be present, they may require special treatment. This treatment is detailed below in Section 4.2.3.1. To prevent any loss of information, direct labels are not applied to the faunal remains. Instead, they will be rebagged in perforated polyethylene bags with tyvek tags. The initial sort at this level will be into mammal, bird and fish. If genus level identifications are possible, such identifications will also be undertaken at this phase in order to prepare the faunal material for analysis. Counts will be established for each context.

Shell - Field records indicate that recovered shell was fully retained from some contexts and sampled from others. In order to address research questions regarding food consumption patterns, the amount and type of shell from the appropriate contexts is being considered. However, all retained shell is being processed so that future research may address questions related to

seasonality or environmental conditions using the Broadway Block shell collection. The soil matrix surrounding the shell is being saturated in a mixture of ethanol and water (50:50). The soil then easily flakes off from the shell with minimal damage to the diagnostic characteristics. Once completely dried, it is then sorted by shell type (i.e., clam versus oyster) and by diagnostic element, where possible, counted and rebagged in polyethylene zip bags with tyvek tags.

Ceramics - All ceramic artifacts will be water washed in a two step process. Ceramics will first be washed in tepid water with a small amount of Triton-X, a non-ionic detergent, to remove any soil residues. The second step is to rinse in plain water to be certain any residue of the detergent is removed. Most ceramics will be gently cleaned using a soft bristle brush. Certain delicate pieces, such as overglazed decorated pieces, will require more careful treatment and will not be brushed at all. Ceramic pieces from primary deposits that are integral for analysis and that exhibit visual signs of concretions or salts may be conserved using the procedures discussed below in Section 4.2.3.1. In addition, it may be necessary to apply special treatment to pieces that exhibit a considerable degree of glaze spalling. Intact ceramic smoking pipe bowls may contain tobacco residues, a sample of which will be retained to provide a basis for answering future research questions regarding historic tobacco blends and consumption. Ceramic pieces will be separated by ware types, decorative patterns, vessels and maker's marks. Any diagnostic pieces from the same vessel will be bagged together. Pieces from different vessels will be bagged separately. Processed ceramics will be kept in perforated polyethylene zip bags. Counts of general artifact types will be recorded for the initial inventory count.

Glass - Glass will also be water-washed using the same method as ceramics. Glass pieces from primary deposits that are integral for analysis and that exhibit visual signs of glass disease may be conserved using the procedures discussed below. Some contexts are expected to contain complete glass bottles. These bottles will be visually examined to determine whether they contain

residues of their historic contents. Although examining changes in chemical composition of marketed liquids is not part of this research, samples of bottle residues will be retained for possible future research on this topic. Glass will be separated by color, flat versus curved, patterning, and etching, molding or embossing. Any diagnostic pieces from the same vessel will be bagged together. Pieces from different vessels will be bagged separately. Processed glass will be kept in polyethylene zip bags. Numbers of artifacts within general types will be recorded for the initial inventory count.

Metals - Metal which has not been previously tagged for conservation will be water-washed using the same method as ceramics. The major category of metals is expected to be nails. After they are air dried, nails will be rebagged by type in perforated polyethylene bags with tyvek tags. All round-shanked, square-shanked, or hand wrought nails with heads will be bagged together. A total count of nail and metal artifacts will be taken for the artifact inventory.

Architectural Materials - The major categories of architectural materials are expected to be brick, mortar, nails and window glass. The processing of the nails and glass was discussed above. Brick and mortar were not uniformly sampled from the field. They were retained completely from some contexts and sampled from others. Only a sample of brick is required for analysis to address the questions with regard to origin. Brick will be weighed in the lab. Only diagnostic pieces and one sample of each type of brick per catalog number will be retained. Weights will be recorded for the inventory count and the remainder of the brick will be discarded. The same method will be used for mortar. The retained brick samples will be water-washed, as discussed in the ceramics section above, labeled, tagged and rebagged in perforated polyethylene zip bags.

Soils - Soil samples for flotation and chemical analysis were taken from many burial and non-burial contexts on the Broadway Block. A sample of all burial-related soils retained from flotation

will be processed and analyzed. A sample of all non-burial-related soils for flotation processing will be identified based on the specific primary deposits that will be utilized in addressing the research questions. Soils containing clay slips used in the manufacture of ceramics may provide one class of soils for analysis. Soil deposits from privies may also be processed for identification of human parasites. Other soils analyses from the Broadway Block may be warranted based upon the assessment of the soil inventory and depositional analysis.

3.4.2 *Laboratory Processing of Human Remains*

Preliminary cleaning, stabilization and reconstruction of human skeletal remains will be necessary prior to research. Conservation measures for human remains are discussed in Section 4.2.3.2 below. Anthropometric measurements are to be taken as these procedures are completed for each skeleton.

The cleaning will prevent further diagenesis caused by the acidic and microbial actions of the soil from which the remains were recovered, and to aid observations on the bone or teeth. The fragile condition of these remains demands a careful approach to cleaning. Most of the bones and/or teeth will require dry brushing, with spot-washing with ethanol when possible. There are approximately 800 pedestalled crania, thoracic, and pelvic specimens which have hardened while in storage in New York. These will require extensive bench-top excavation using dental tools in order to reduce the pedestals and clean bones adequately for study. Our experimentation with more rapid methods (ethanol bathing) has been unsuccessful. Following the cleaning of each bone and/or tooth, fragmented remains will be reconstructed as measurements and/or observations require. If necessary, consolidants may be applied at this time, and will not be applied to skeletal elements to be used in genetic and chemical studies. Records of all activities related to cleaning and conservation for each burial will be made, including a photographic record.

3.4.3 *Data Preservation*

Scientific technology, methodology, and theory are constantly changing, and adequate development of the value of the African Burial Ground population requires preservation of data for future research. When reburial is anticipated, researchers are compelled to find new means of collecting and preserving data completely. Correspondingly, public education in African-American and New York biology and history is enhanced by having graphic representations of skeletal remains and artifacts. The following means of data preservation are equally essential to the research described above:

- Radiographs (X-rays) of skulls and selective post-cranial skeletal elements, pathologies, and anomalies.
- Digitized computer imaging of skulls and selective post-cranial elements, and histological microstructure.
- Dental casts.
- Photographs of important skeletal evidence.
- Collection and preservation of 10 grams of bone and 10 grams of dental tissues (analogous to blood and biopsy specimens from living patient populations).
- Collection and preservation of 2-4 centimeters of femur and rib for cortical and trabecular bone histological analyses.

4.0 CONSERVATION/CURATION PLAN

4.1 Introduction

This section of the Research Design outlines a Conservation/Curation Plan for all applicable aspects of the African Burial Ground project. However, this plan does not contain a survey of the collection. Prior to implementation of an integrated treatment plan for conservation, it will be necessary to complete a survey of the collection to determine its overall physical and chemical condition.

4.2 Conservation

The conservation objectives outlined herein coincide with the objectives of the American Institute for Conservation of Historic and Artistic Works (AIC). As stated in its Strategic Plan (1990), the objectives of the AIC are:

to protect, preserve, and maintain the condition and integrity of objects or structures which, because of their history, significance, rarity, or workmanship have a commonly accepted value and importance for the public interest. The term 'conservation' shall mean examination (action taken to determine the nature of properties of materials and the causes of their deterioration and alteration), and preservation (action taken to prevent, stop, or retard deterioration).

It should be made clear that conservation measures will only be undertaken where such conservation of an object is consistent with data needs as they relate to the research questions presented above, or if the object is determined to be suitable for display purposes. That is, if an object is not of display quality, or if data relevant to the research goals of the project will not be lost in the absence of conservation, it will not be subjected to conservation procedures.

In the following sections, field conservation procedures are discussed first, followed by a discussion of the stabilization of the African Burial Ground. A discussion of laboratory conservation, including stabilization of both artifacts and human remains, completes this section of the Research Design.

4.2.1 *Field Conservation*

Within complex soil environments such as those found at the Broadway Block, artifacts and human remains deteriorate at predictable rates. While this deterioration progresses relatively quickly after initial burial, through time, the soil compresses around the objects, the high levels of oxygen become depleted, and the environment becomes anaerobic. At this point, the materials reach a point of relative stasis within the surrounding environment (due to the depletion of deterioration stimuli) and the rate of deterioration slows. Within this state of equilibrium, most materials (including human skeletal remains) may be preserved for hundreds of years, if not longer. In other words, the materials have become relatively acclimated to minor environmental changes, such as the periodic exposure to water through ground seepage and/or water table fluctuations.

At the time the Broadway Block was excavated, the artifacts and bone material were removed from the anaerobic environment in which they had been physically and chemically aligned for some two centuries. This rapid change into a very different environment, primarily one rich in oxygen, once again accelerated deterioration. In order to minimize the effects of this process, it is advisable to take positive steps in the timely conservation of certain materials, particularly the most fragile items. In response to this concern, some preferential treatment has already been given to particularly fragile artifacts recovered primarily from grave proveniences. These include such items as buttons, pins, coins, beads, and finger rings. Ultimately, the aim of stabilization will be to raise the level of stability of all appropriate elements of the collection, as noted earlier.

Several conservation techniques were utilized in the excavation and recovery of human remains (and, as appropriate, these treatments are continuing in the laboratory; see below). One of these techniques included the pedestalling of bone. This method of excavation was used to minimize damage to fragile bones by removing a considerable amount of earth from the surrounding area along with the bone. If the surrounding earth from the pedestal showed signs of bacteria or

microbial presence, a mild biocide of 70 percent ethanol and 30 percent deionized filtered water was applied by an atomizer.

Removal of particularly fragile artifactual materials was accomplished by freezing the artifact and its surrounding earth matrix, sometimes in association with adjacent bone. This was achieved by placing a thermal barrier of polyethylene plastic over the bones to minimize the shock, and then applying dry ice on top of the plastic and the surrounding earth. After the desired level of freezing occurred, the frozen "block" was lifted out and kept frozen while in transport to the laboratory facility, where it was placed in freezers to await further treatment.

In isolated incidences, polyvinyl acetate (PVA) in emulsion was used as a consolidant. This method was restricted to long bones. Periodically, ethylose and mending tissue were used as a splint on bone material.

4.2.2 African Burial Ground Site Stabilization

Pursuant to direction received from GSA, all excavation of human remains and associated or non-associated cultural material at the Broadway Block was halted by about 5:00 p.m. on Wednesday, July 29, 1992. At the time the cessation of work order was received, immediate steps were initiated in order to ensure that the site and the partially exposed human remains that it contained were afforded temporary stabilization and protection until such time as decisions were made regarding the site's ultimate disposition. Daily inspections by the Principal Investigator and/or the Conservator ensured that the accomplished stabilization measures continued to be satisfactory and effective while decisions were pending.

The following was initiated to control drainage and erosion:

- PVC pipe drains were re-routed to drain into sump and low sand areas.

- Area- and burial-specific drains and berms were enlarged and strengthened.
- Additional area- and burial-specific drains and berms were constructed.
- The electrical breaker controlling the sump pump was checked on a daily basis to ensure that it was on and operating properly.

Other temporary site stabilization procedures included the following:

- All ground surfaces were wetted and covered securely on a daily basis with plastic to minimize the drying of soil matrices.
- All balks and unit walls were shored up.
- All burials containing exposed bone were temporarily covered in the following manner:
 - a. Wet, buffered acid-free paper was placed on all exposed bone and coffin material, and ethanol was added to the water as necessary to retard the growth of mold and algae.
 - b. Loose, light-weight, perforated plastic was placed over the acid-free paper.
 - c. Aluminum mesh was used in cases where the bones were especially fragile.
 - d. Loose-fitting wood covers that allowed for adequate air ventilation were placed over each burial.
- Burial pits containing exposed bone were filled with either vermiculite, if complete excavation was recommended, or clean sand if *in situ* preservation was recommended. In either case, the burial pits were filled to at least the level of the adjacent exposed ground surface. (Vermiculite retains water and serves as a cushioning device between the remains and the overlying fill material.)
- Burials were then covered with fiber glass mesh to serve as a rigid reinforcement for the burials and to serve as a barrier to prevent accidental disturbance of the burials.
- Clean sand was then spread over the area of the burials to a depth of one to two feet to act as a temporary environmental barrier.

After the completion of the final phase of the fieldwork in October 1992 a plan was submitted to the Steering Committee for the interim stabilization of the pavilion portion of the burial ground. This plan was approved by the Steering Committee at a meeting held on November 9, 1992. After approval was obtained stabilization commenced with the removal of the protective tents on the site beginning on December 1, 1992. Then six feet of sterile sand was placed over the entire excavated burial area.

Following the placement of the sterile sand the ramp at the north end of the pavilion site was removed down to the level of undisturbed strata. At this level the protective plywood covering the excavation units examined in October 1991 in Lots 20 1/2 and 22 were relocated. A team of archeologists from JMA monitored the removal of the ramp and removed the plywood from the units by hand. Then the excavation units were covered with fiberglass mesh before being covered with sand. At this point, the remainder of the area was covered with six feet of sterile sand, and drainage pipes were installed around the entire perimeter of the pavilion area. After the perimeter area was filled with sand, a system of "cross-lot" bracing, consisting of steel rods spanning the site in a north-south direction, was installed between the perimeter walls. In order to retain the fill a new concrete wall was poured on the existing concrete mat foundation of the office tower on the west side of the pavilion area. Clean fill was then used to bring the site up to grade level and the "cross-lot" bracing continued to be installed at eight-foot horizontal centers, and at six-foot vertical centers. At the completion of the filling, topsoil and sod will be placed at grade level, and the entire area is currently enclosed by a security fence.

4.2.3 Laboratory Conservation

Laboratory conservation procedures address the stabilization of artifacts and human remains recovered at the Broadway Block. Each is discussed in turn below.

4.2.3.1 Stabilization of Artifacts

This section outlines procedures for the treatment and care of appropriate African Burial Ground and Broadway Block artifacts, addressing their stabilization and short-term care. Approximately 560 burial-related artifacts have been identified and are being processed through conservation. As the general processing of Broadway Block artifacts is implemented, any sensitive artifacts subject to rapid deterioration will be pulled for conservation attention, as appropriate.

Once in the laboratory, cultural materials were separated by material type. The material types excavated at the Broadway Block included ceramics, glass, metals, wood, bone (both bone artifacts and faunal remains), other organic materials (i.e. textile), and architectural elements (i.e. brick, mortar, etc.). Once categories have been identified, artifacts within each category will be evaluated with regard to their stability. Conservation procedures for generalized categories of artifacts will be as follows:

Animal Bone - Faunal material from significant analytical units (i.e., those relevant to research goals) will be evaluated for its physical and chemical state. If the bone came from a water-saturated environment, it will generally be necessary to treat it with some type of consolidant such as a wax or resin. The use of some of these consolidants hinges on the necessity of keeping the material wet after excavation.

Ceramics - Soluble salt contamination and migration is a major problem in the conservation of ceramics. Salt migration can cause deterioration of the ceramic body, including spalling and devitrification of the glazed surface. The identification and removal of soluble salts is necessary to prevent further deterioration.

For conservation purposes, ceramics will be subdivided into ware types including, but not necessarily limited to, low-fired earthenware, refined earthenware, ironstone, stoneware, and porcelain (hard and soft paste). Taking into account the provenience from which the ceramics came, low-fired earthenware or transitional whiteware to ironstone will be tested to establish whether chlorides (salts) are at significantly high levels. A standard silver nitrate test or a conductivity meter can be used to determine salt concentration. Stonewares and porcelains are too vitrified for salts to migrate into the paste or clay body. Therefore, it is not usually necessary to test these ware types for chlorides.

If the low-fired earthenwares that are tested show a high concentration of chlorides, it will be necessary to desalinate these artifacts to prevent spalling or crazing of the glaze and decorative motifs. This is especially important when treating such objects as tin-glazed earthenware, where the glaze and the clay body are poorly adhered to one another. Salts can cause rapid deterioration in these types of ceramics. If the glaze or decorative motif is already spalling, or if there is devitrification of the body, it may be necessary to use a consolidant.

After desalination, any gross concretions still present on the surface of any ceramic type will be evaluated. If it is determined that such concretions may cause further deterioration to the ceramic artifact, it will be necessary to remove them, either by mechanical or chemical measures.

Glass - Glass artifacts from historic sites are usually well preserved. If the glass has been recovered from an extremely wet context, however, the glass may show signs of devitrification. This is caused by a breakdown of slightly water-soluble additives in the formation of the glass structure. These additives, such as calcium carbonates or heavy metals, were used as fluxes to either lower the melting temperature of the silicas or to add plasticity to the glass batch. If glass from a significant analytical unit includes this form of deterioration, a consolidant will be used. This will be done by either vacuum impregnation or surface application.

Another form of glass deterioration can be sulphide stains within the structure of lead glass. Sulphide staining occurs in anaerobic environments, such as that found at the Broadway Block. Although this is more of an aesthetic issue than a stabilization issue, treatment will be implemented, if necessary for purposes of exhibition, by the use of hydrogen peroxide as a bleaching agent.

Glass with mixed-media such as metal fittings, caps, or embellishments will be treated as two separate components. Metal components will be subject to treatment as outlined in the metals portion of this conservation/curation plan.

Glass with either mixed-media or labels will be stored differently than the main body of the glass assemblage. These materials will be wrapped in buffered acid-free tissues and placed in perforated polyethylene bags. The perforations are necessary to prevent condensation in the bag. The material will then be placed in buffered archival boxes. If any bottles or containers are found to contain residues, samples will be removed for testing and the bottle /container stored separately.

Metals - This category takes into consideration artifacts such as coinage, personal items, shroud pins, buttons, etc. The first step in establishing treatment is to separate objects into their metal types and/or alloys such as copper, brass, pewter, silver, tin or iron. These materials are likely to present the greatest need for stabilization. Again, the environment of deposition will be evaluated from field notes and site records. After treatment, a barrier coat that will isolate the object from the surrounding environment will be applied to the surface. The barrier coat prevents moisture penetration and is resistant to environmental pollutants that can reactivate corrosion.

Copper and copper alloys will be evaluated for physical and chemical stability, particularly with regard to bronze disease. Other forms of corrosion will be identified, and such objects will also be tested for the presence of chlorides. If levels are high, a standard desalination will be carried out. The evaluation of these types of metals will include the use of a corrosion inhibitor, followed by sealing the surface with a barrier such as a lacquer or acrylic resin.

Pewter, tin and lead will all be evaluated for physical and chemical stability. A visual inspection will determine if such corrosion products as tin pest are present. As in copper alloys, chlorides

are a main cause of corrosion in pewter, tin, and lead. If levels are high, desalination will be carried out. If tin pest is present, mechanical cleaning will be carried out, followed by the application of an acrylic barrier coating.

The main cause of silver corrosion is from high levels of sulphur within the environment. Mechanical cleaning will be carried out to remove tarnish, and any silver objects will then be sealed with a barrier coat.

Iron will first be evaluated for its physical stability by testing with X-ray and/or a magnet. The stronger the attraction, the more metal exists. Iron will also be evaluated for the presence of salts, and it may be necessary to perform desalination. Salts can either be removed by soaking in deionized water or by the process of cathodic desalination. The removal of corrosion can be accomplished through several methods, including mechanical, chemical or electrochemical removal. These treatments will be carried out on a case-by-case basis. After the object has been cleaned and stabilized, a barrier coat of either an acrylic or wax will be placed on the surface.

Wood - Wood will be evaluated for its physical and chemical stability. If wooden artifacts from a significant analytical unit derived from a waterlogged environment, it will generally be necessary to treat them with some type of a consolidant such as a wax or resin. The use of these consolidants hinges on the necessity of keeping the artifact wet after excavation. Wooden artifacts may have biological infestations such as mold and mildew. These will be treated by a topical application of a biocide, and/or immersion, then returned to their storage facility.

Wood coffin fragments were recovered from the African Burial Ground, and other wooden materials were also recovered from non-burial contexts on the Broadway Block. To maximize the preservation of these materials, it was necessary to freeze many of them. The majority of the

wooden artifacts from the site were packed in freezers to minimize their deterioration while they awaited conservation treatments. Wooden material will be removed from the freezers and submerged in deionized filtered water in order to aid in cleaning and/or desalination. After the artifacts have been cleaned, polyethylene glycol will be introduced into the water in a step progression. This consolidant will aid in minimizing shrinkage, warpage, and cell collapse that may begin to occur during the freeze-drying process. Wood samples will be taken from all coffin fragments to identify specie and or regional differences. In addition, wood samples will be examined at under polarized light microscopy for surface treatment such as shellac and/or pigments. This analysis should contribute to a further understanding of burial practices of early colonial Africans.

Other Organic Materials - Leather will be evaluated for its physical, chemical, and biological condition. If leather from a significant analytical unit derived from a waterlogged environment, it will generally be necessary to treat it with some type of a consolidant such as a wax or resin. The use of these consolidating waxes hinges on the necessity of keeping the artifact wet after excavation. However, like some of the wooden materials, most leather materials were kept frozen to halt deterioration while they awaited treatment. Leather artifacts may also experience biological infestations such as mold, fungus, mildew, or bacteria. Like the wooden artifacts, these will be treated by a topical application of a biocide, and then returned to their storage facility.

Textiles will be evaluated for their physical and chemical stability. If textiles derived from a wet environment, they will be dried gradually, preferably between blotter paper. The use of non-ionic detergent will be used to break up dirt and foreign material on the textile. Due to the hostile environment of the soils from which they were recovered, the textile fragments that have survived from the African Burial Ground are extremely deteriorated and barely recognizable through their fiber and weave structure. Because of this there is little to be done to stabilize these fragments.

Organics such as leather and some textiles that were recovered from privy contexts are most likely infested with bacteria. These bacteria have not as yet been identified, and further testing will be necessary before decontamination can be accomplished. Treatments may include using a strong biocide such as ammonium chloride, or periodic exposure to ultraviolet light.

Architectural Materials - Architectural elements such as brick, mortar, and stone are usually very stable. The form of conservation that these materials need is more of a storage concern to prevent breakage, abrasion, and environmental pollutants.

4.2.3.2 Stabilization of Human Remains

The human remains are stored in the Biological Anthropology Laboratory of Howard University in museum-quality metal storage cabinets with ethafoam drawer liners, with environmental controls for humidity and temperature. The ethafoam provides support for the fragile bone, and minimizes movement of the bones when the drawers are opened. In addition, Art-sorb, a material buffered to 50% relative humidity (RH), which will balance the humidity, has been placed in each cabinet in order to ensure adequate micro-humidity controls. The macroenvironment of the storage facility is periodically monitored to ensure that the temperature and humidity levels stay within the desired ranges of $70^{\circ} \pm 5^{\circ} \text{ F}$ and 50 ± 5 percent RH.

Any biological infestations such as mold or mildew have been and will continue to be treated by a topical application of a biocide. In general, the application of a biocide to retard the growth of mold and/or mildew is the only application recommended for general use on the human remains due both to the sensitive nature of the material and the possible effect of consolidants on analytical testing. However, it is anticipated that inert polymers such as PVA or CM Bond 4 may be used for reconstruction on a limited basis. These polymers will not hamper any analytical testing and they are completely reversible.

4.3 Curation

Once artifacts have been brought up to a standard level of stability, a second form of conservation, i.e., a passive form, will be implemented. This is carried out by the use of archival storage materials and controlled storage conditions. Artifacts will be housed in buffered archival boxes or polyethylene boxes with a combination of acid-free tissue and/or ethafoam for support. Polyethylene bags will also be used to house artifacts for long-term storage. Metal storage cabinets with baked enamel surfaces may be most suited for this collection. Storage cabinets made of particle board or formica will not be used due to their propensity to outgas such materials as ether and other solvents.

Curation during the analysis portion of the project is discussed below first in terms of short-term curation. Curation over the long-term, after the project is completed, is also discussed.

4.3.1 *Short-Term Curation*

Human remains are currently curated at Howard University for analysis. Artifacts recovered in association with the burials were housed temporarily at the conservation laboratory of the South Street Seaport Museum in New York City. Other artifacts were housed at the laboratory of the GSA's previous archeological consultant. All artifacts are temporarily being stored at the Foley Square laboratory established by GSA at 6 World Trade Center before being transferred to Howard University.

The ideal condition for any collection is a climate controlled environment with humidity and temperature monitoring and control equipment. The laboratory at 6 World Trade Center has some climatic controls: the two major spaces are heated and air conditioned and humidity monitoring and control equipment has been installed. The macroenvironment of each laboratory facility will be periodically monitored to maintain temperature and humidity levels within the optimal ranges

of $70^{\circ} \pm 5^{\circ}$ F and 50 ± 5 percent RH. Once the human remains are removed to Howard University, the facilities there will be climate controlled in a similar manner.

4.3.2 Long-Term Curation

It is anticipated that in the long-term, that is, following the completion of analysis, the human remains will be reinterred. The artifacts and associated project records, however, should be placed in an appropriate repository to ensure their preservation, accessibility for use in educational exhibits, and accessibility to interested scholars. Such accessibility will continue to foster scholarly inquiries into New York City's African/African-American heritage, and the artifacts will remain as a lasting tribute to that heritage. The intense interest already shown in the African Burial Ground by historians, archeologists, physical, social, urban, and cultural anthropologists, art historians, conservators, educators, politicians, and concerned citizens demands nothing less than the best long-term care and accessibility that can be provided. The general nature of the long-term curation facility, curation practices, and preparation for exhibition are discussed below.

4.3.2.1 Long-term Curation Facility

An appropriate repository for the long-term curation of the artifacts and associated project records has yet to be identified. However, that facility will be selected based on the following criteria and characteristics:

- The facility will store and maintain other collections from the same site or project and/or from similar historical and cultural associations.
- The facility will have a contractual agreement with the GSA concerning collections storage.
- The facility will have a physical plant which meets building, fire, and safety codes.
- The facility will have a demonstrated ability to maintain collection records, field notes, and other documentation in a complete and accurate manner.

- The facility will have qualified personnel including a director, curatorial staff, and support staff suitable to care for and manage the collection in accordance with the conservation and curation guidelines contained herein.
- The facility will have the ability to accession, curate, and interpret the collection.
- The facility will have the ability to identify, evaluate, and document objects in the collection.
- The facility will have the ability to store and maintain the collection in accordance with the physical and environmental conservation and curation guidelines contained herein.
- The facility will have the ability to utilize the collection for study and interpretation, schedule periodic inspections of the collection, and provide interested researchers with access to the collection.

It is expected that a suitable facility will be identified in New York City with the assistance of the Landmarks Preservation Commission.

4.3.2.2 Long-Term Curation Practices

The following general recommendations are offered concerning the management and care of the collection. For long-term storage, artifacts should be stored according to their material type and provenience in appropriate archival containers. At this point, it is impossible to determine an institution's needs for establishing proper storage facilities. However, general criteria can be established. For example, a 70-75 degree Fahrenheit (F) temperature range is optimal. In addition, a 50-55 percent relative humidity (RH) range for the collection is also optimal. It should be noted, however, that small fluctuations in both temperature and humidity are acceptable, depending on the physical environment in which the collection is housed.

Special housing should be created for any artifact with questionable stability. Certain organic materials such as bone or leather may also need a more advanced storage facility. Wrapping materials in tissue will prevent abrasion, and housing them in polyethylene boxes with ethafoam liners will aid in the prevention of damage. Use of Art-sorb in such cases will help maximize humidity management.

Architectural elements may require special boxes and/or storage areas because of their size and irregular shapes. A sturdy acid-free box that is rated for at least 40 pounds is desirable.

4.3.2.3 Preparation for Exhibition

Criteria for temporarily exhibiting portions of the archeological collection will be established. Such exhibitions should be developed using materials from well-provenienced sources. Thematic material for the creation of an exhibit should also be developed. For example, the artifacts from the African Burial Ground could be a component of an overall display intended to address the reconstruction of early African/African-American material culture and experience in colonial New York City. However, many of the artifacts require detailed explanation, since in most cases they represent the humblest of cultural remains, often in poor condition. Because of this, the challenge of a successful exhibit will be in a presentation that allows young viewers to understand the significance of the exhibit, yet at the same time one that provides substance and deeper meaning to viewers with extensive prior knowledge of the subject matter. Once artifacts have been selected for possible exhibition, further conservation measures will be applied, as appropriate, to prepare them for view or long-term display.

At this point, artifacts will require treatment more for cosmetic concerns than for stability. In the case of ceramics or other artifacts, stains or concretions on the surface can be removed to enhance their visual appearance. Also, vessels can be reconstructed using adhesives and materials selected in accordance with the Strategic Plan set forth by the AIC (1990). These materials primarily should be reversible and should not alter the existing structures of the artifact. Additionally, lost areas or materials can be fabricated at this time, as appropriate. Glass material can be mended for exhibition, and metal objects can be mechanically cleaned to enhance any decorative motif or manufacturing information.

It is difficult to plan for an exhibit at this stage of the project. If an exhibit is short-term, building environmental conditions can be much broader in their fluctuations of light, temperature, and humidity than if an exhibit is long term or permanent. A standard rule of thumb for archeological materials that are inorganic is that they can withstand relatively high incandescent light levels, i.e., up to 25 foot candles. Organic materials, however, may require as low as 8 foot candles of incandescent light to ensure the artifact's preservation. A standard humidity level again should be 50 ± 5 percent RH, although organic materials can withstand much higher levels. Acceptable temperature ranges again should be from 70 ± 5 degrees F.

Microenvironments, such as cases in which artifacts may be enclosed, should be strictly monitored for temperature, light, and humidity. Also, these microenvironments should be monitored for pollutants from either air exchange or outgassing of construction materials from the cases themselves (i.e. particle boards, synthetic fabrics, adhesives, and paints).

5.0 COMMUNITY INVOLVEMENT/EDUCATION PLAN

5.1 Introduction

Because the Courthouse and Broadway Blocks were both archeologically excavated as components of the same construction project proposed by the General Services Administration, both sites have been integrated in terms of community involvement and educational programs. Public meetings that addressed the importance of the African Burial Ground, remains of which were found on the Broadway Block, have also touched on the significance of the Courthouse Block. There are certain historical connections between the people who used the African Burial Ground and some of the people who lived at Five Points, and these connections promise to enhance the significance of both sites as they are interpreted for the public. Both sites represent little known segments of New York City's eighteenth and nineteenth century population -- the enslaved and the urban poor.

The actual level of community involvement concerning the African Burial Ground has been extraordinarily high owing to the cemetery site's special social and scientific importance. Just as comprehensive measures are proposed to extract the wealth of biological and archaeological data, the following plan seeks to appropriately address the extensive and deeply felt public interest in the results of research and the treatment of human remains. The community involvement/education plan for the African Burial Ground project includes two broad-based, important aspects of the project. These are: 1) community involvement in decision-making processes and 2) public education/information programs and products associated with the project. Each of these is discussed below.

5.2 Community Involvement

The procedures of the ACHP (36 CFR 800) include the participation of interested members of the community in decision-making processes. This is particularly important in cases that involve

ancestral remains, where the wishes and desires of descendent communities are of great importance. This portion of the Research Design outlines several community involvement aspects of the project.

5.2.1 Oversight Committees

When the excavation of the African Burial Ground became a concern of the African-American community, two committees were established to organize and focus community interest and to provide public input into the project. State Senator David Paterson and the Mayor of the City of New York, the Honorable David Dinkins, each established committees concerned with the African Burial Ground. These committees monitored the progress of the excavation work, represented community interests in public forums, and advised their conveners, who then undertook to influence the GSA's decisions regarding the project. A Federal Advisory Steering Committee was established by the initiatives of Congressman Gus Savage (D-Illinois) State Senator David Paterson, and Mayor David Dinkins and the General Services Administration as a means of advising the GSA of the public concern for the African Burial Ground.

5.2.2 Federal Advisory Steering Committee

The GSA has suspended construction in the pavilion area and the related archeological excavations and has also agreed to follow the recommendations of a Federal Advisory Steering Committee regarding the disposition of that portion of the African Burial Ground left *in situ* in the area originally slated for the construction of the pavilion portion of the office building on the Broadway Block. This committee is chaired by Mr. Howard Dodson, who also chaired Mayor Dinkins' committee, and includes elected officials, representatives of the GSA, religious leaders, technical experts, and representatives of the African-American community. The committee will address, at a minimum, plans for the former pavilion portion of the Broadway Block (including the program for any structure to be placed on that portion of the site), plans for the dignified reburial

of ancestral remains, plans for a memorial connected with the African Burial Ground, plans for an exhibit on the African Burial Ground in the office building, and plans to establish a museum for African and African-American history in New York.

The decisions of the Federal Steering Committee represent the formal advice of the descendant and broader communities for the purposes of the on-going African Burial Ground Project. That Committee's review and approval of the previous draft of this research design has been a needed prerequisite for the submission of the final document. The Committee will be given quarterly reports on the progress of the research effort at its regularly scheduled meetings, and at other mutually agreed venues.

5.2.3 Public Meetings

In the face of growing community concern regarding the excavation of the African Burial Ground and the plans to construct an office building on the site, the GSA initiated a series of public meetings to provide a forum for the exchange of information and concerns. As a result of these public forums, the community's desire for African-American leadership on the project was identified. As a result, Dr. Michael L. Blakey of Howard University was retained by the GSA to serve as Scientific Director of the overall project. In addition to Dr. Blakey, an international team of over 40 historians, ethnohistorians, archeologists, and physical anthropologists has been assembled to conduct the project. The first draft of the research design was provided to the general public, agencies and the Professional Archaeologists of New York City and presented at three public hearings in New York City. Comments on the research design were submitted to GSA by these concerns, and these comments were incorporated in subsequent editions. The Federal Advisory Steering Committee provided formal public advisement by approving the ammended research design. As appropriate, the Federal Steering Committee may elect to continue such public forums.

5.2.4 Cultural Considerations and Access to the African Burial Ground

Various religious and spiritual leaders have been working to address the sacred aspects of this important site. Periodic religious ceremonies relating to the African Burial Ground are anticipated throughout the coming 6 years. Ultimately, an appropriately dignified reburial shall take place at a site designated by the descendant community and the City of New York. While religious activities will not be sponsored by the federal government in keeping with the separation of church and state, the commemorative activities of any denomination relevant to this cemetery site should be permitted apart from the scientific project.

To facilitate religious visitation and the placement of commemorative offerings, the GSA provided for appropriate public access to the African Burial Ground site. While this was generally limited to religious leaders and community representatives, many interested members of the public at large also visited the site during the excavation.

In addition, a commemorative shrine was established at Lehman College where the human remains were temporarily housed. Portions of the shrine have subsequently been curated in association with the skeletal remains at Howard University. Religious/spiritual and secular ceremonies in connection with the transferral of ancestral remains from New York to Howard University included Yoruba, Muslim, Christian, Akan and Native American rites. A committee of African-American religious leaders has been established under the chairmanship of Reverend Herbert Daughtry of the House of the Lord Pentecostal Church in New York City. In order to accommodate the spiritual sensibilities of the descendant community, access will be provided at the Biological Anthropology Laboratory for community-sponsored religious observances on those days especially connected with honoring the deceased. No single religious denomination connected with the eighteenth century African population will have an exclusive or special relationship to the project.

5.3 Public Information Dissemination

Public education is an important aspect of this project. The excavation of a portion of the African Burial Ground and of the Five Points community provides an opportunity to explore the history of communities that are vastly under-represented in most history text books, but that played important roles in the development of the City of New York. This portion of the Research Design outlines several programs intended to exploit this unique educational opportunity. While each of the programs outlined below has been or will be developed on a "stand-alone" basis, it is anticipated that many of the program elements will be combined to produce a rich educational experience.

5.3.1 *Video Production*

The GSA has contracted with Kutz Television Inc. to prepare a documentary videotape with the working title: "The African Burial Ground: An American Discovery." As described by its producer, the film will focus on the processes of revealing and exploring the past, African colonial history, and community involvement in the African Burial Ground project. Four (4) half-hour (27 1/2 minute) segments are being produced, as follows: 1) Re-discovery and Dig, 2) History, 3) Analysis, and 4) The Descendant Community.

Rather than using the voice-over narration approach alone, the videos will have contemporary experts and authorities speak on-camera about the various themes. Professional voice-over will be a prominent and well-known African American performer. Visual elements will include original contemporary footage, contemporary still photographs, and historic material such as etchings, maps, and drawings. A series of artists' renderings (based on research into New York's African/African-American history) will be used to enrich missing parts of the story. Interactive motion control videography will animate the flat art. The musical score will consist of updated

and rewritten examples of eighteenth-century African music. While the videos will be aimed at high school age viewers, it will also be designed to be sufficiently sophisticated to attract a broad general audience as well.

5.3.2 *Interpretive Projects*

Over the life of the project, several long-range information dissemination projects resulting from the research on the African Burial Ground will be accomplished. It is important to stress that the purpose of these interpretative projects is to dramatically portray, and bring to a wide and diverse American audience, the impact of a story of conflict and power, focusing on a small plot of land in lower Manhattan. Under a parking lot at Duane and Broadway, the African Burial Ground formed the focal point on which cultures with diverse interests converged. This is a history of a struggling, early African community in a northern American colony and its relationships to European conquerers and native peoples. This is also the story of the descendent community gaining power and control over the destiny of its ancestors who, though enslaved and long dead, will speak not just today but well into the future through the projected research, publication, and visual educational programs. Equally important will be the substantive educational information on African and African-American anthropology and history provided through these interpretive projects. It is extremely important that the interpretive component of the project be closely integrated with its research component, and that planning for interpretive products be carried out in consultation with project scientists at an early stage of the research process.

5.3.2.1 Hypermedia and Interactive Laser Video Production

Step one will be the production of a hypercard unit that allows students to explore the archeological site, the artifacts, skeletal biology and the important implications of the project. Hypercard is a program that produces computer programs that are highly visual and highly interactive. It can incorporate sound, small movies, photographs, charts and drawings. One of

its strengths is that individuals without computer training can easily learn how to use the finished product as a tool for exploring the African Burial Ground project and its many aspects. As a self-contained unit, hypercard programs can be easily modified as the bioanthropological and archeological data and interpretations develop and come to fruition. This means that updates can be provided on the project at least on a yearly basis for schools, community centers, museums, libraries, and government agencies. Emphasis will be on the student as anthropologist. This is envisioned for a target audience of college students and the general public (probably two separate disks). The media will be high density computer disks that can be transferred to hard disks, to run on both educational and government micro-computers. The heart of the equipment to be used in this phase of development, as well as the next, will be a combination of computers, including IBM, Apple Macintosh, graphic workstations (SUN and SILICON GRAPHICS) connected to color scanners and printers, video tape recorders (for capturing images and moving footage), modems and ethernet (a standardized high-speed wire and protocol, aiding communications and transfer of data to a mainframe computer for quick analysis).

The second step is the production of CD-ROMs. These are 1.16 audio CDs, but they contain visual as well as audio information that can be read by computers attached to special CD-ROM players. They are becoming more numerous each year and are particularly popular in educational institutions where they appear to approach becoming a standard information medium. This is a natural outgrowth of the "hypermedia project". In fact, hypercard and other programs developed in the "C" computer language will serve as the front end (i.e., that which the user actually sees and with which he or she works). Many of the methods and skills and final products can be directly transferred to CD-ROM. A CD-ROM holds much more data than a computer disk and is easier to use. Speed in this medium is still being developed. By the time large-scale production and distribution of this educational medium for the African Burial Ground is implemented, both speed and availability will be widespread, particularly in educational institutions and libraries. The

equipment needed to produce these include those noted above, with the addition of a machine that attaches to the computers to produce CD-ROMS.

The last step in this portion of the educational information program is the production of an interactive laser disk. A laser disk is simply a larger CD-ROM which holds more data, pictures, sound, and motion photography in color. Attaching it to a computer allows individuals to explore large quantities of information about the African Burial Ground at their own pace and particular level of interest. These will be made available in kiosks (booths) that will be placed in schools, museums, community centers and appropriate government agencies.

Digital morphing for 3 well preserved crania (1 man, 1 woman, and 1 child) will be developed to restore the facial appearance of representative individuals from the African Burial Ground. This new computer technology will make it easier for the general public to understand the African Burial Ground population as that of once living human beings rather than simply a collection of "old bones" by simulating individual's faces from their skeletal structure. This imagery will be incorporated in CD-ROM and other interpretive media as appropriate.

5.3.2.2. Documentary Films

At least two documentary films will be produced with the following foci:

- One technical film will highlight the basis of research from beginning to end, focusing on the interdisciplinary nature of the research and the changing interpretations as the analysis proceeds. At times when interpretative "breakthroughs" occur, key laboratory and other personnel will be interviewed, with appropriate footage taken. Interpretations and analysis will certainly change over the several years of the project, and capturing

firsthand impressions and then revisions will give audiences a sense of science in progress. Of equal importance will be how this story affects past and present "histories" and how it converges with the development of historical archeology. Archeology often weaves a different story than history, a story that is ideally suited for this project. This film will be a NOVA-style documentary targeted for a general audience.

- One film with a social emphasis will focus on the GSA, the community, and the archeology. This film will emphasize the history of the African Burial Ground project. It is in this film that interviews with GSA personnel, former Congressman Gus Savage and the descendant community leaders, as well as the archeologists and physical anthropologists involved, will be held. The theme of this film will be on social issues and how the African Burial Ground is considered important and not to be ignored, and how a population largely enslaved two hundred and fifty years earlier gained power and insisted that its ancestors speak not only to modern day African Americans but to all Americans. This film will also be targeted for a general audience.

In addition to the films that are a formal part of the project, several independent film makers have been actively shooting video footage. The focus and intended viewing audience of these efforts is not known at this time. However, project personnel will cooperate with these individuals, and with the press and other media, as appropriate.

5.3.2.3 Traveling Exhibit

A major traveling exhibit on the results of the project will also be developed and constructed. This exhibit will incorporate the scientific results and artifacts into a visual presentation focusing on the three major themes of the films noted above. It will include the artifacts, models, and art work not only of the material from the African Burial Ground (skeletal remains will not be

included in respect for the ancestors and the wishes of the descendent community), but from other colonial and nineteenth century African-American archeological sites throughout the east coast of the United States and the Caribbean. Examples and material from related African societies will also be included with context. It is projected that the first two years of the project will be spent doing research and developing an inventory, and a catalog of relevant material will be compiled in the three areas noted above. Once an idea of the kind and quantity of available artifacts is obtained, a curator will be appointed and the next two to three years will be involved in design and acquiring necessary permission for those pieces selected from other sites. The final year or year and a half will focus on the construction of the exhibit for travel and setting an itinerary. At this point a registrar for the show will be appointed. The target audience for the travelling exhibit will be the general public. American, African American, and African History museums in a number of widely spaced cities throughout the United States will be sought as venues for the exhibit, especially those that have large African-American populations. It is estimated that the exhibit will begin and end in New York where it will be exhibited in the planned African-American research and exhibit museum.

5.3.3 Office of Public Education and Interpretation of the African Burial Ground and the Five Points Archeological Projects

As noted earlier, the procedures of the ACHP (36 CFR 800) include the participation of interested members of the community in decision-making processes. In order to facilitate this kind of involvement, a Liaison Office (later named the Office of Public Education and Interpretation or OPEI) for the African Burial Ground and the Five Points Archeological Projects has been established on the ground floor of 6 World Trade Center in Manhattan. The office will operate as a clearing house for information on the status of the research and as the source of information regarding any aspect of the two projects. The OPEI will operate and/or coordinate the following:

- A quarterly written update on the status of the projects available to the public on request.
- A 24-hour "hotline" to respond to any questions regarding the status of the projects. An answering machine will be used to record questions when staff is not available to answer calls, and all calls will be promptly returned.
- A speakers network for the African Burial Ground and Five Points projects that will provide appropriate project personnel to visit local schools and to appear at public forums as outlined below.
- Laboratory visits for school and other public groups and dissemination of educational information to those same groups as outlined below.

5.3.4 Laboratory Tours and School Programs

Laboratory tours and presentations will be scheduled at 6 World Trade Center and Howard University for school groups and other members of the public. The Howard University tours require monthly bus excursions from New York City to Washington, DC. These tours will be conducted by laboratory crew members under the supervision of the laboratory directors and the Liaison Office director. The tours will focus on the methods used to conserve and analyze the cultural materials recovered from the African Burial Ground and Five Points sites. Brief summaries of the projects and their preliminary results will be made available to tour participants, along with an educational package provided by the OPEI. This information will be undated on a continuous basis. Laboratory tours will be available for individuals and public groups on an appointment basis. The need for regular opportunities to observe and be physically close to the ancestral remains has been consistently expressed by the African and African American communities in New York, and was previously accommodated by weekly public forums at Lehman College.

Public educators trained and supervised by the OPEI will make slide presentations to school groups ranging from the third grade through college classes, and to other interested public groups, e.g. church groups, seminars etc. In order to assure interactive communication between the

community and the projects, public educators will also record questions posed by school and other groups and submit them to the OPEI to be considered for incorporation into the research goals for the projects, particularly as they may relate to documents produced primarily for educational purposes.

5.3.5 *"Hands-On" Educational Programs*

In an effort to allow for as much community involvement in the educational aspects of the project as possible, the OPEI will coordinate the following activities:

- **Educator's Workshops**

Three weekend workshops per year (spring, fall, and winter) will be held for public and private school teachers (up to 40 per workshop) to provide historical background information on New York's eighteenth century African population, and to update information on the history of the African Burial Ground and Five Points archeological projects. Project consultants and staff will provide slide and/or video presentations on various aspects of the project, including laboratory processing, conservation, and archeological, historical, and physical anthropological research.

- **Internships**

Up to six (6) individuals (college and high school juniors or seniors) per semester will be trained and supervised in the OPEI to provide public presentations to school groups and assist in conducting limited library research, for academic credit.

- **Community Volunteers**

A limited number of community participants (up to 4 per three-month period) will be encouraged to work on a voluntary basis with OPEI staff up to five hours per week, on

various library projects relative to research on Five Points and/or the African Burial Ground. Volunteers will be trained and supervised by the OPEI staff.

5.3.6 Educational Materials and Booklets

In addition to the brief summaries of the archeological projects to be provided on laboratory tours, the OPEI will prepare and provide to visitors an educational package with the following contents.

- an illustrated booklet on the history of Africans in colonial New York and the history of the excavation of the African Burial Ground and Five Points site.
- newspaper articles on the excavations
- a glossary of archeological terms
- a collection of the most commonly asked and answered questions on the African Burial Ground and Five Points projects
- "A Chronology of the Status of African Americans and Native Americans in Manhattan (1626-1841)", compiled by Jennifer Royce/New York Historical Society
- a chronology of the African Burial Ground project
- an introductory bibliography on eighteenth century Africans in New York

These educational materials will include information on the history of the project, the historic context of the site, the interdisciplinary research approaches taken, the artifacts, and an interpretation of what it all means in lay language. These educational packages will be available for all public groups. They will also be suitable for use in the classroom and can be coordinated with one or more of the video and/or slide presentations, as appropriate.

6.0 PROJECT DOCUMENTATION AND PROFESSIONAL DISSEMINATION

6.1 Introduction

In addition to the programs oriented toward the lay public, several products will be generated that document the project and serve to disseminate its results to interested professional communities. These products will include technical reports on the project and papers presented at professional conferences and published in technical and professional journals of the various disciplines involved in the project. Each of these kinds of products are discussed below, as is the need for coordination of specialized studies.

6.2 Technical Report Preparation

A minimum of three technical reports is anticipated, having the following emphases: 1) Bioanthropology of the African Burial Ground, 2) Archeology of the Broadway Block, and 3) Historical Context of the Broadway Block. Each of these reports is expected to provide "baseline" documentation of various aspects of the project. For example, the archeological report will include a detailed description and analysis of stratigraphy and artifact inventories. At a minimum these reports will provide an introduction to the project, appropriate discussion of historical and cultural contexts, research methods, results, interpretations, and conclusions of the research. Each report will be illustrated with maps, drawings, photographs, and other materials. These documents will be targeted toward professional audiences; however, they will be written in an accessible style so as to be understandable to non-professionals as well. Each report will be prepared in draft and final versions, with appropriate agency and technical review of the draft reports.

6.3 Conference Papers and Technical Publications

In addition to the technical reports it is anticipated that researchers involved in the project will prepare technical papers for presentation at meetings of various professional and scholarly

organizations. It is anticipated that some papers will be published in appropriate technical and scholarly journals of the various disciplines participating in the project as well.

Presentations at professional meetings and publication in scholarly journals are the media by which researchers generally disseminate data to the wider scientific community, and by which that community has an opportunity to provide critical comments and suggestions that foster research development. The African Burial Ground data, as a scientific resource of exceptional significance, needs to be made available to the professional community for evaluation as work progresses and prior to reburial and publication of a final technical report (6.2). The annual schedule of scientific professional meetings structures the yearly schedule by which the broadest dissemination to scientific/academic communities will take place. The major professional organizations to constitute such a forum include historical archeologists, physical anthropologists, material scientists and Africanist and African Americanist historians.

A protocol for these activities that outlines procedures for accessing project data for the purposes noted above entails the following basic conditions:

Specialists will be identified by the Project Director in consultation with senior staff. Proposals for specialized studies will be solicited by the Office of the Director, which will draft scopes of work for submission to the General Services Administration.

Researchers formally involved in the project will have exclusive access to raw data prior to the release of the final technical reports of the project during the anticipated 6 years of research, after which time those data will be provided to the General Services Administration for general public access, and Howard University will retain a duplicate database. These procedures reduce the likelihood of premature disseminations of data that should be analysed within the context of the

integration of studies comprising this research design. This approach may also represent the customary etiquette of scientific practice. Equally as important, these procedures insure that data of the highest quality will become available to any interested researcher at the completion of the project.

The Project Director will act as senior editor and author of final technical reports. The final reports are anticipated to consist of three edited volumes whose chapters will be authored by the specialists who have the greatest technical expertise and responsibility for their content. Researchers involved in the design, analysis, and writing of these chapters, as well as other technical presentations and articles, will be attributed authorship in accordance with their level of effort.

6.4 Coordination of Specialized Studies

Project collaborators will meet at the beginning of the project to present their individual research methods and hypotheses. This "workshop" will facilitate interdisciplinary integration and research development. Yearly workshops and symposia will provide for the interdisciplinary exchange of data throughout the project period. After most preliminary data have been generated, a final meeting of collaborators will be held. The final meeting will allow extensive discussion of the relationships between data pursuant to the writing of coherent interdisciplinary reports during the final stages of the project. These meetings will also serve to identify the need for additional collaborators, as appropriate.

It is expected that even more research questions will emerge during the analysis. As noted above, constant communication and regularly scheduled meetings among the historians, archeologists, physical anthropologists, and other scholars working with the data will ensure that evolving

research questions are brought to the fore, as appropriate, and that the challenge of integrating them fully into the research framework outlined in this Research Design is met.

7.0 ANTICIPATED SCHEDULE

TASK	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
Skeletal Stabilization	*	*				
Artifact Processing	*	*				
Skeletal Research	*	*	*	*		
Historical Research	*	*	*			
Archeological Research	*	*	*	*	*	
Interpretation Research	*	*	*	*	*	
Skeletal Analysis			*	*	*	
Artifact Analysis		*	*			
Historical Analysis		*	*	*	*	
Archeological Analysis		*	*	*	*	*
Film/Exhibit			*	*	*	*
Production						
Report Preparation		*	*	*	*	*
Project Coordination	*	*	*	*	*	*
Project Liaison Office	*	*	*	*	*	*
Religious Observances	*	*	*	*	*	(reburial)

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APPENDIX A:
NATIONAL HISTORIC LANDMARK DESIGNATION PROPOSAL

African Burying Ground

Page 1

States Department of the Interior, National Park Service

National Register of Historic Places Registration Form

NAME OF PROPERTYHistoric Name: African Burying GroundAlternate Name/Site Number: Negro Burying Place and Negros Burying Ground; Site No. ____ (pending assignment by New York State Office of Parks, Recreation, and Historic Preservation)LOCATIONStreet & Number: Vicinity of Broadway and Reade Street Not for publication: ____City/Town: New York Vicinity: N/AState: NY County: New York Code: 061 Zip Code: 10007CLASSIFICATION

Ownership of Property

Private: XPublic-local: X

Public-State: ____

Public-Federal: X

Category of Property

Building(s): ____

District: ____

Site: X

Structure: ____

Object: ____

Number of Resources within Property

Contributing

1

1

Noncontributing

6 buildings

____ sites

____ structures

____ objects

6 TotalNumber of Contributing Resources Previously Listed in the National Register: N/ANumber of related multiple property listing: N/A

STATE/FEDERAL AGENCY CERTIFICATION

I, designated authority under the National Historic Preservation Act of 1986, as amended, I hereby certify
is ____ nomination ____ request for determination of eligibility meets the documentation standards for
ring properties in the National Register of Historic Places and meets the procedural and professional
ements set forth in 36 CFR Part 60. In my opinion, the property ____ meets ____ does not meet the
al Register Criteria.

Signature of Certifying Official

Date

Signature of Federal Agency and Bureau

In my opinion, the property ____ meets ____ does not meet the National Register criteria.

Signature of Commenting or Other Official

Date

Signature of Federal Agency and Bureau

NATIONAL PARK SERVICE CERTIFICATION

I hereby certify that this property is:

Entered in the National Register _____

Determined eligible for the _____

National Register

Determined not eligible for the _____

National Register

Removed from the National Register _____

Other (explain): _____

Signature of Keeper

Date of Action

San Burying Ground

Page 3

States Department of the Interior, National Park Service

National Register of Historic Places Registration Form

FUNCTION OR USEnc: FunerarySub: cemeterynt: GovernmentSub: government officeCommercebusinessDESCRIPTION

itectural Classification:

Materials:

Foundation:

Walls:

Roof:

Other Description:

Describe Present and Historic Physical Appearance.

Site location and physical description

Throughout the eighteenth century, New York's free and enslaved Africans buried their dead in a parcel of land which now is part of the city's civic center area. The African Burying Ground site is located on block numbers 153, 154 and 155 in the Borough of Manhattan, New York City (Figures 1 and 3). The site is bounded by Duane Street on the north, Chambers Street on the south, Centre Street and Lafayette Street on the east, and Broadway on the west (Figure 2). Reade and Elk Streets and Manhattan and Republican Alleys traverse the site. The total area is approximately seven acres. The site is currently characterized by a nineteenth- and twentieth-century built environment including buildings, a construction site, parking areas, and city streets (Figures 4 through 7), under which a large portion of the African Burying Ground is preserved. Archaeological excavations have been conducted on a portion of Block 154, in advance of a major federal construction project. These excavations revealed the presence of the Burying Ground over a large part of the project area (Figure 17). The site's preservation in this area was due to sixteen to twenty-five feet of fill which has protected the original ground surface and an intact strata of burials. The basements of buildings subsequently erected on the site penetrated only the fill, except on the lots on Broadway where the original ground surface was higher.

The current topography of the site is the result of extensive grading and filling, much of which took place in the late eighteenth and early nineteenth centuries.¹ Current elevations (Figure 15) barely suggest the original landforms (Figure 14). The major feature of the original topography in the immediate area was a ravine leading east-northeast from Broadway toward the "Collect Pond" or "Fresh Water," a deep, spring-fed pond formed by a geologic rift which cuts across Manhattan Island (see historic maps, Figures 8 through 11). The ravine and pond were filled in during the final years of the eighteenth and the first decade of the nineteenth century. Most of the fill came from the concurrent leveling of nearby hills and the high ground along Broadway. Today, the only traces of these natural features are a slight descent in elevation to the north of Chambers Street and chronic flooding problems in building basements on the site of the old pond.

During 1991 and 1992 archaeological excavations at Block 154 of the African Burying Ground site exposed fill to depths of sixteen to twenty-five feet beneath Republican Alley and the surrounding city lots. The foundations and basements of the late nineteenth-century structures which stood on the lots until the late 1970s had been dug through this fill, and in some cases did not reach the level containing graves. The original ground surface appeared to be intact in only a small section of the fully excavated portion of the site, at the western corner of Republican Alley. This old surface was encountered at an elevation of approximately nine feet above mean sea level, sixteen feet below grade. In the eastern portion of the excavation, the ground surface was not preserved. Grave pits are intact, however, and it is believed that the later construction has disturbed only the upper two feet of the original ground.

As shown in Figure 17, burials were densely distributed. Very few multiple burials were found, and the exceptions involved women interred with infants. The rest of the graves contained single individuals. The Burying Ground was used intensively, however, resulting in superimposed burials and, in some cases, disturbances of earlier graves by later interments. Over 400 burials

¹See the record of street gradings in the area in New York City, *Minutes of the Common Council, 1784-1831* [MCC, 1784-1831] (New York: Dodd, Mead, 1917), 2:327-328.

were fully excavated by professional archaeologists. Because the archaeological fieldwork was halted prior to complete excavation of the proposed construction site on Block 154, large areas of the eastern portion of the block are known to contain unexcavated burials. These are indicated by shading on the site plan (Figure 17). Based on the density of burials in fully recovered areas, it is reasonable to project the presence of two to three hundred additional burials in unexcavated and partially-excavated areas of Block 154 shown on site plans (Figures 16 and 17). Historically, the Burying Ground extended over what is now several city blocks. Because of the great depth of fill and excellent preservation conditions recorded during archaeological testing of Block 154, the African Burying Ground is thought to be preserved well beyond the bounds of this block.

History of the Burying Ground

The area of the African Burying Ground was known and used as part of New York's "common" land (Figure 9) until the late eighteenth century, despite its having been granted to Sarah Roeloff's husband Cornelius Van Borsum in 1673.² The Van Borsum patent comprised approximately 6.6 English acres at the northern limits of the colonial town, extending eastward from the line of Broadway. Its exact boundaries were the subject of legal dispute in the eighteenth century, and the eastern boundary is difficult to reconstruct.³ It is clear, however, that the patent (Figure 12) covered most of the area within the proposed National Historic Landmark boundaries of the African Burying Ground as defined herein (Figure 2).

Reconstruction of the historical topography is important in understanding the physical and social context of the Burying Ground. A useful source is the Viele map of 1859 (Figure 11), which provides an overlay of the street grid on the original land formation. According to this map, the ground sloped down to the Collect Pond north of present-day Chambers Street and east of Broadway. The drop-off has been confirmed through study of geologic test borings conducted in the area, which also provide information on the elevations of the old surface (see below). Both the borings and the archaeological excavations at the Burying Ground site establish that the ravine was quite deep, at least twenty-five feet below present grade at its bottom. Africans thus appropriated a burial place then remote from the colonial town by virtue of its location in a low-

²For a short history of this site see I.N. Phelps Stokes, *The Iconography of Manhattan Island, 1498-1909*, 6 vols. (New York: Robert H. Dodd, 1915-28), 3:123, 4:394. A copy of the Van Borsum patent is in the Colve Papers, Colonial Mss. vol. 23, 433-20; see also the confirmation of title of 1696, in Liber Patents, 7:111-113, both in the New York State Archives, Albany, N.Y. Despite these documents, the government of New York City continued to dispute the Van Borsum heirs' claim to the property until the end of the eighteenth century, forcing two of the heirs to enter into an agreement in December 1760 to lease from the city the "three lots of ground contiguous and adjoining to the Negroes Burying place on part of which [Lot]s, their Father Built a Potting House, pot oven and sunk a well supposing at that said Time the said Lands were his property." New York City, *Minutes of the Common Council, 1675-1776* [MCC, 1675-1776] (New York: Dodd, Mead, 1905), 6: 238. Contention between the heirs about their respective shares in the Van Borsum estate, which was not resolved until 1795, may have prevented them from mounting a successful challenge to the City's claim to the property as common grounds. (See New York County, Office of the Register, Liber Deeds and Conveyances, Liber 245 p. 405; and "Smith, *ex dem.* Teller, against G. & P. Lorillard," *Johnson Reports* (Supreme Court) 10:338-357.)

³In 1784 the heirs to the Van Borsum patent retained Evert Bancker, Jr. to survey the patent lands. He recorded preparing a plan of the Van Borsum property, the Common grounds (the present-day City Hall Park), and the adjoining lands of George Janeway showing how these properties "interfered with each other." Bancker Survey Books, vol. 1, item 309, Manuscripts Collection, New-York Historical Society. See also Murray Hoffman, *A Treatise upon the Estate & Rights of the Corporation of the City of New York as Proprietors* (New York: Edmund Jones & Co., 1862), 2: 205-207.

lying area between hills, as well as its actual distance.

It is not known precisely when the African community began using the area for burying its dead. The earliest document mentioning the ground is from 1712/13. In that year, military chaplain John Sharpe wrote that "Negros" were being buried in the Common by "those of their country."⁴ The "common" land stretched to the north of the eighteenth-century town, beginning at the southern end of present-day City Hall Park. Sharpe gives no indication of the exact location of the ground which Africans were using, but a clue is provided by a 1722 law prohibiting night funerals of slaves south of the Collect Pond.⁵ By 1732 a piece of ground north of the city and just south of the Collect Pond had become well enough known as the "Negro Burying Place" to be labeled as such on a map of the city (Figure 8). It is likely the area indicated on this map is the same part of the "common" land referred to by Sharpe in March 1712/13.

Between April 7 and 21, 1712, a group of New York city slaves had revolted, burning houses, killing nine whites, and wounding about fifteen others. As a result, twenty-one Africans were executed and may have been interred in the Burying Ground. During 1741, thirteen black men were burned at the stake and seventeen were hanged after being charged with conspiracy against the colony before Judge Daniel Horsmanden. According to Horsmanden's account, these executions took place by the powder house between the Large and Little Collect Ponds, and it is likely that the bodies were also buried in the nearby African Burying Ground.⁶

The Burying Ground is clearly labeled on the 1755 Maerschallck Plan of New York (Figure 9). Here it is shown north of the palisade (built in 1745), thus just outside the town. The palisade was near the line of present-day Chambers Street. According to this map, the "Negros Burial Ground" extended east from Broadway to the "Little Collect" (a small extension of the Collect Pond). The northern boundary of the Burying Ground is shown as a line running northeastward from Broadway. This line corresponds to the northern boundary of the Van Borsum patent. The heirs to the patent were attempting to assert their claim to the land in the mid-eighteenth century, and this boundary line may have been laid out with a fence at that time.⁷ A direct reference to the acknowledged link between the Van Borsum patent and the Burying Ground is also made in the heirs' 1753 request to the Common Council to exchange their interest in the "Negroe burying place" for other city lands.⁸

The British Headquarters Map of New York in 1782(?) (Figure 10) shows a burial ground immediately north of the Revolutionary War barracks (long, narrow structures along the south side of what became Chambers Street). It is likely that the map maker was depicting the area of the African Burying Ground used for the interment of prisoners of war and possibly soldiers

⁴John Sharpe, "Proposals for Erecting a School, Library and Chapel at New York," (1712-13), *New-York Historical Society Collections*, 13 (1880):355.

⁵MCC, 1675-1776, 3:296.

⁶For accounts and discussions of the 1712 revolt and 1741 "conspiracy," see Kenneth Scott, "The Slave Insurrection in New York in 1712," *New-York Historical Society Quarterly*, 45 (1961): 43-74; Ira Berlin, "Time, Space, and the Evolution of Afro-American Society on British Mainland North America," *American Historical Review* 85 (1980):44-78; Thomas J. Davis, *A Rumor of Revolt: "The Great Negro Plot" in Colonial New York* (New York: Free Press, 1985).

⁷Smith, *ex dem.* Teller, against G. & P. Lorillard," 10:355.

⁸MCC, 1675-1776, 5:416. The request was not granted at that time.

during the British occupation of the city.⁹ The map indicates that the southern part of the Burying Ground, an area now crossed by Chambers Street, was used for that purpose. It is possible, however, that some prisoners or loyalist soldiers, including Africans, were interred in the portion of the Burying Ground that has been excavated archaeologically. Africans fought on both sides of the revolutionary conflict. The promise of freedom was offered to runaway slaves as enticement to fight on the loyalist side at the outset of the war although the revolutionary army did not actively solicit their participation until 1781.¹⁰

No city maps surveyed after 1755 explicitly label the Burying Ground. It is clearly labeled, however, on a series of surveys related to the division of the farm patents in the area in the 1780s and 1790s. Abutting the Van Borsum land to the north was the "Calk Hook" Farm owned by the Barclay/Rutgers family. In 1785 a survey was made for the purpose of dividing this property into blocks and lots for sale and subsequent development.¹¹ The survey map clearly indicates that the Barclay/Rutgers land was bounded on the south by the "Negros Burial Ground" (Figure 13). The Van Borsum patent itself was divided into lots in 1795.¹² It is clear that the old ground could no longer have been used as a burial place, as construction of houses on the lots began almost immediately after each survey was completed. In the same year that the Van Borsum tract was subdivided, the Common Council assisted in the purchase of lands on Chrystie Street for a new African cemetery.¹³ In 1796, the Common Council arranged to acquire a part of the "Negros Burial Ground" for laying out Chambers Street east of Broadway.¹⁴ In exchange for this land, the Council granted the Van Borsum heirs city lots further to the east.

The earliest development of Blocks 153, 154, and 155 subsequent to their division probably involved construction at original grade. Several backyard privies related to the first structures on the lots in the archaeological project area have been excavated, and these features cut through burials. The fact that these privy shafts were dug into the same soil levels as the burials indicates that substantial filling had not yet taken place. By 1812, testimony in a lawsuit involving the Van Borsum heirs includes the following description of the area:

The lots adjoining, and including the premises, and including the African burying ground, for many years since the American war, were regarded as uninviting suburbs. The streets have since been widened, the face of the ground wholly

⁹See Stokes, 3:927.

¹⁰See Mary Beth Norton, "The Fate of Some Black Loyalists of the American Revolution," *Journal of Negro History* (1966): 402-426; Benjamin Quarles, *The Negro in the American Revolution* (Chapel Hill: Duke University Press, 1961).

¹¹Liber Deeds and Conveyances, Liber 46, p. 139.

¹²Liber Deeds and Conveyances, Liber 195, pp. 405-420 and Map File 76J and Evart Bancker, Jr., Partition Map of the Van Borsum Patent, 1795, Box 1, Folder 44, of the "Bancker Plans," in the Manuscripts Collections of the New York Public Library.

¹³MCC, 1784-1831, 2:137.

¹⁴MCC, 1784-1831, 2:250-53.

changed, and it is now covered with a flourishing population, and elegant improvements.¹⁵

By the time larger brick buildings with single or double basements were constructed in the mid-nineteenth century, the entire vicinity had been leveled through the grading and filling discussed above. References to the leveling of Broadway just north of the site indicate it was graded some four to fifteen feet.¹⁶ As shown on the Viele map (Figure 11), the Burying Ground ravine cut across Broadway near Chambers Street. While a portion of the Burying Ground along Broadway north of Chambers Street may have been graded and destroyed in the early nineteenth century, filling may have occurred when Chambers Street was laid out in 1796. To the east, sixteen to twenty-five feet of fill covered and protected the burials.

The excavations in Block 154 uncovered preserved burials beneath Republican Alley, as was expected, since the alley was within the area historically known as the Burying Ground and had remained relatively undisturbed since 1795 when it was laid out. The bottoms of grave shafts beneath the alley were at depths of from 6.53 feet above sea level at the west end to -.23 feet below sea level at the eastern end. Burials were also found extending north of the alley beneath the basements of some Duane Street lots (see site plan, Figure 17). Bottoms of grave shafts were at a maximum elevation of 7.13 feet above sea level beneath the westernmost excavated lot and as deep as -1.52 feet below sea level further west. The area covered by burials spread slightly north of the boundary of the Van Borsum patent. It is likely this boundary was not clearly marked throughout much of the Burying Ground's history, and there is no reason to suppose that those who used the ground always knew its exact location. However, a series of post-holes was discovered running from west to east in a line roughly corresponding to the old patent boundary. This may be the remains of a fence which marked the northern extent of the Van Borsum property (or the southern boundary of the Calk Hook Farm). This indicates that even though burials extend at least thirty to thirty-five feet further north, at one time the burial ground may have been contained south of the fenced line, within the patent boundary. In the westernmost lot that was excavated, archaeologists also exposed a ditch to the north of the presumed fence line. The ditch also runs in a line parallel to the old patent boundary, and may have been another marker of the property line and of the burial ground's northern limit. This evidence suggests that the northern boundary definition varied slightly in the eighteenth century.

Artifacts found in the coffins themselves as well as in the grave-shaft fill confirm the historical evidence for the eighteenth-century use of the burial ground. The African-American community must have ceased to bury its dead here by 1795. The earliest use of the ground cannot be determined, either through documentary research conducted to date or through archaeological excavations. David Valentine, writing about the Burying Ground in the 1850s (see below), assumed its origin was during the Dutch colonial period, but offered no supporting evidence for this assumption. The suggestion of an origin for the Burying Ground in the Dutch period is supported circumstantially, however, by the ground's location near the farms granted to Africans by the Dutch West India Company.¹⁷ These farms were north of the town, around the Collect Pond and extending northward as far as present-day 34th Street. While analysis of the

¹⁵Smith, *ex. dem.* Teller, v. Burtis & Woodward," *Johnson Reports* (Supreme Court) 9:182.

¹⁶MCC, 1784-1831, 2:359-61; Peter Gassner, "Recollections of an Old Citizen," *Manual of the Common Council of New York* (New York: D.T. Valentine, 1859), p. 588.

¹⁷On the Africans' farms, see Stokes, 6:123-24.

artifacts may help to bracket individual burials, it will be more difficult to assign an overall beginning date to the entire site.

Description of excavated remains¹⁸

Demolition debris from recent structures covered much of the area excavated by archaeologists within Block 154. In some places, nineteenth-century deposits were encountered, notably beneath Republican Alley and beneath buildings with shallow basements. Once these layers were removed, roughly rectangular soil stains representing grave pits were sometimes clearly visible. In the area where the early ground surface was preserved, several graves were marked. In two or possibly three cases, headstones remained *in situ*, and several graves were outlined in cobbles and fieldstones (see Figures 17 and 23).

The soil which filled each grave shaft contained material that had either been placed in the grave or had lain in or on the surrounding soil at the time of interment. This material, which included fragments of brick, nails, glass, ceramics, animal bone, shell, seeds, and tobacco pipes, was recovered for further analysis. In the central and eastern portions of the archaeological site, the grave shaft fill contained significant amounts of pottery wasters, kiln furniture, and sherds of locally-produced stoneware. Potteries were located in the immediate vicinity of the Burying Ground in the eighteenth century, one just north of the site to the west of Broadway and others to the southeast, where "Pot Baker's" or "Potter's Hill" (Figure 9 and 13) is depicted on historic maps. The important early Crolius pottery may have overlapped with a portion of the Burying Ground during the eighteenth century. At one time it appears to have stood east of Elk Street within the bounds of the Burying Ground as currently defined. Several brief references to the Van Borsum land (in deeds and in Common Council minutes) indicate the presence within its boundaries of a pottery or potteries.¹⁹

Only a few of the grave shafts contained human remains that had been placed directly in the ground. In the vast majority, remains of wooden coffins were found. These remains consisted of decayed wood stains in the soil and occasional small wood fragments. Coffins were of three types: hexagonal (the majority), rectangular, and four-sided tapering (Figure 24). Iron coffin nails were recovered, but little additional coffin hardware was found. In a few cases, metal

¹⁸Howard University and John Milner Associates, Inc., "Draft Research Design for Archeological, Historical, and Bioanthropological Investigations of the African Burying Ground and Five Points Area, New York," prepared for Edwards & Kelcey Engineers, Inc. and the General Services Administration, Region 2, 1992, and Edward S. Rutsch and staff, "A Draft Research Design for the Broadway Block, Including an In-progress Fieldwork Summary Report," prepared by Historic Conservation and Interpretation, Inc. for Edwards & Kelcey Engineers, Inc. and the General Services Administration, Region 2, 1992. Information about the African Burial Ground site has been provided by the staffs of John Milner and Associates, Inc. and the General Services Administration; the staff of the New York City Landmarks Preservation Commission has made conducted many site visits.

¹⁹Liber Deeds and Conveyances, Liber 97, p. 158; Liber 75, p. 118; Liber 75, p. 125; MCC, 1675-1776, 5:416, 6:227, 6:238; MCC, 1784-1831, 2:218, 2:220-21. See also Arthur W. Clement, *Our Pioneer Potteries* (New York: printed privately, 1947), pp. 8-9, 21-24; John E. Stillwell "Crolius Ware and its Makers" *New York Historical Society Quarterly Bulletin* 10 (1926):52-66; William Ketchum, Jr., *Early Pottery and Potteries of New York State* (New York: Funk & Wagnalls, 1970), pp. 23, 25-26, 28; Jane Van Vleck, *Ancestry and Descendants of Tielman Van Vleek of Nieu Amsterdam* (New York: printed privately, 1955).

handles or decorative cover plates were found on the coffins. Tacks spelling out the initials "H. W." and a date of 1758 or 1738 decorated one coffin lid (Figure 25).

In all but a few cases, the deceased had been laid supine with arms folded over the pelvic area or placed at the sides, and oriented on an east-west axis with the head to the west. Burial artifacts were scarce, mainly consisting of items of personal adornment when identifiable. Approximately 140 glass beads, 130 buttons made of pewter, copper alloy, bone, and shell, nine coins, four rings, four shells, and one fragment of coral were recovered from the coffins. One man's remains were found with five buttons, two of which matched and were gilt-decorated with an anchor design (Figure 28). Perhaps the most spectacular interment was of a woman who was buried wearing a belt or girdle of over one hundred glass trade beads and cowrie shells (Figure 29). In three cases, coins had been placed over the deceased's eyes. One of these pairs of coins were King George II pennies, minted in the 1730s. The other coins await conservation and identification. The most frequent items found in the coffins were brass straight pins, often near the head and upper torso, indicating that many of the dead were at least partially wrapped in shrouds. Infants and very young children appear to have been completely shrouded. In many cases small fragments of hair, and in a few cases small fragments of fabric, were recovered.

Preliminary forensic assessments were conducted in the field but the firm assignment of gender and age to individuals awaits further study. Ninety-three percent of the individuals whose graves have been excavated are thought to be of African origin or descent. Evidence of pathologies such as arthritis was noted in some individuals. An ossified pelvic tumor indicates one individual who suffered from tapeworm; such a discovery is extremely rare. A ball of lead shot was found in one woman's rib-cage, and steel shot was found with another individual. In most cases, based on observations made prior to the exhumation of burials, there is little evidence of traumatic injury or death.

Anomalous burials included several graves containing coffins but no human remains. One burial held the remains of an individual of European origin who had undergone an autopsy. These burials point to the possibility that the Burying Ground was occasionally robbed for cadavers and perhaps used for disposal of remains by physicians or students from the nearby New York Hospital. In addition, three burials were oriented north-south rather than east-west, and one individual was buried head-to-east instead of west.

Site integrity

The African Burying Ground site saw intensive nineteenth and twentieth-century development. However, due to the presence of deep fill in the area, this development has not obliterated but preserved the Burying Ground. Within the bounds of the site as currently defined, some areas are known to have good preservation of burials, and others have good potential. In some areas, however, there is little potential for preservation. Through analysis of boring logs and building plans, it is possible to predict those areas where the burials are likely to remain and those which have been destroyed by later construction.

Figure 14 shows hypothetical original contours of the site area. This map is the result of analysis of a series of borings conducted in the area in the 1960s along with elevations taken at the archaeological site, and examination of historic maps. Borings placed in street beds and in City Hall Park were used, and the appearance of silt in each core was used as an estimate of the depth of buried natural strata, possibly the original ground surface. A comparison of this map with the current elevations (Figure 15) suggests that the old surface is buried several feet below grade along the north side of Chambers Street, and that it slopes sharply to the north down to sea level. The archaeological site map indicates elevations of 9.5 feet above mean sea level for the

old surface at the western end of the excavation and as deep as -1.5 feet for the bottom of burial shafts at the easternmost point, near Elk Street. Elevations at or below sea level are due to compression; the original surface would have been above sea level.

It is necessary to assess the potential for preservation beneath the basements of both standing and now-demolished nineteenth and twentieth-century buildings. In Figures 18 through 22, below-ground cross sections through the blocks on the site are shown. These sections schematically depict the conjectural location of the grave-bearing stratum beneath the building basements and streets. The depth of this stratum is projected from archaeological site elevations and boring data. In some areas, such data are lacking or difficult to project. For example, it is assumed that the original grade of Broadway in the northern part of the site was near its present level, and that "Potters Hill" in the southeast part of the site was graded so that the original surface was higher than at present.

Figure 16 is a plan of the African Burying Ground site indicating areas of archaeological sensitivity. Many areas beneath standing or former buildings are deemed to have good potential for preservation of burials. These areas include:

- beneath 14-26 Reade Street (the City Planning building). It is clear, based on adjacent archaeological excavations, that the stratum containing burials is below the level of the building's basement at Republican Alley.
- beneath the parking lot between Elk Street and the Emigrant Industrial Savings Bank. Borings indicate that the original ground surface was near sea level, below Reade Street adjacent to this location. The basement of the building which once stood here was sufficiently shallow so that it is probable that burials are preserved beneath it.
- beneath the shallow single basement of the Jones Building.
- beneath the northern portion of the Court Square Building. Although the structure has a double basement, the ground originally sloped down to the north and east, and the original ground surface was probably at a level deeper than the basement disturbance in this location.
- beneath the northern portion of the A.T. Stewart Store building. Burials in the westernmost portion of the archaeological excavation were at depths at or below the level of this building's sub-basement garage. Due to the original slope, however, excavations for the southern part of the basement probably destroyed burials (see below).
- The streetbeds of Chambers, Reade, Duane and Elk Streets are all considered to have some potential for preservation of the Burying Ground, as they had been disturbed only for utility lines. Although there are some sewer lines in these streets (shown in section), excavation of the sewers would not have disturbed the entire width of the streetbed. The Subway lines beneath Centre Street and Lafayette Street have probably destroyed any remains to the east of the lot lines of Blocks 153 and 155. A similar condition occurs along Broadway, where there is also a subway tunnel. The portion of Elk Street between Chambers Street and Reade Street was once a city lot on which a building stood. It is likely that burials have survived beneath the level of the basement which is now filled.

Areas unlikely to contain preserved burials include:

- the area covered by the southern portion of the A.T. Stewart building. It is

likely that the ground level in this area sloped up in a southwesterly direction. Burials in higher ground would have been obliterated by the sub-basement (now a garage), while to the north, where the original elevation was lower, intact burials are likely to be found.

- the area covered by the southern east-west portion of the Court Square building. The sub-basement of the building probably has obliterated all burials. The original grade sloped down to the north, however, and intact burials are likely to be found beneath the northern portion of the building.

The site includes an excavated area which has yielded information of scientific importance:

- the current construction site for the tower portion of the federal office building (roughly the northwest quadrant of the Burying Ground as currently defined). Over 400 burials were archaeologically excavated and removed from this area in 1991 and 1992. Deep basements of nineteenth and twentieth-century buildings had already destroyed the burial ground beneath the lots along Broadway.

Unshaded areas within the historic boundaries of the African Burying Ground but considered to no longer have potential to contain preserved burials include:

- The eastern portion of Block 153, near or on "Potters Hill" (graded in the late eighteenth or early nineteenth century) and now the site of the Hall of Records. This building has an extremely deep sub-basement (40 feet below grade at Chambers Street and 30 feet at Reade Street) and has vaults under the sidewalks that extend to the sub-basement level. The construction of three buttresses beneath Elk Street (see section) may have necessitated excavation of the eastern portion of the streetbed.
- the majority of the site of the Emigrant Industrial Savings Bank building, which has a sub-basement and vaults extending below the depth of potential burials except along Reade Street.

A portion of the archaeological site on Block 154 (Figure 16 - Pavilion site and Figure 17) was only partially excavated and is known still to contain burials. In the northeasternmost portion of the site, nineteenth-century buildings had relatively shallow basements which may have cut only into fill. Here, the original ground surface may still be preserved, and grave markers may be *in situ*, as was the case in the western end of Republican Alley. However, this area was graded to a depth of approximately 25 feet during recent construction work for the federal office building. While that work may have destroyed any remnant of the original surface on Block 154, an estimated 200 to 300 burials are thought to be well-preserved below the graded surface.

Several other disturbances have occurred due to construction work which took place concurrently with the archaeological excavation. A concrete perimeter wall was constructed around the site during fieldwork in 1991, disturbing burials along its trench. In addition, four 10 foot by 10 foot concrete footings were poured in the western end of the site. One of these is shown on the site plan, and three more (currently covered by soil) are aligned with it to the north, under the construction ramp. The excavation for each of these footings disturbed a 15 foot by 15 foot square area containing burials. Footings were also poured along the north edge of the site. Despite these disturbances, it is estimated that approximately 200 to 300 burials are still preserved at the eastern end of Block 154.

Construction of the 34-story tower portion of the federal office building is currently underway in the western portion of Block 154. The portion of Block 154 immediately to the north of 14-26 Reade Street is, as originally designed, the location of the "pavilion" portion of the office building. No construction is currently taking place in the pavilion area of the site, but the northern portion is still being used for an access ramp for the construction site. The General Services Administration has submitted a conservation plan to the Landmarks Preservation Commission and the Advisory Council on Historic Preservation for protection of the Burying Ground in the pavilion area. In order to avoid further compromise to the integrity of underlying deposits, this area will not continue to be used as a staging area for the adjacent tower construction.²⁰

Figures 4 through 7 show the site's present appearance above ground. Figure 3 also indicates current structures on the blocks within the site.

²⁰The future of this parcel will be determined after recommendations have been made to GSA from the Mayor's Committee on the African Burying Ground and the Federal Advisory "Steering" Committee on the African Burying Ground.

African Burying Ground

U.S. Department of the Interior, National Park Service

National Register of Historic Places Registration Form

STATEMENT OF SIGNIFICANCE

Justifying official has considered the significance of this property in relation to other properties: Nationally:___ Statewide:___ Locally:___

Applicable National

Register Criteria: A___ B___ C___ D X

Criteria Considerations

(Exceptions): A___ B___ C___ D X E___ F___ G___

Criteria: 6

Theme(s):

III.D. Development of the English Colonies, 1688-1763 -- Social and Economic Affairs

XXX.A. American Ways of Life -- Slavery and Plantation Life

XXX.D. American Ways of Life -- Urban Life

XXX.E. American Ways of Life -- Ethnic Communities

Areas of Significance:

Ethnic Heritage - African-American/BlackArcheology - Historic - Non-AboriginalPeriod(s) of Significance: Eighteenth Century

Significant Dates:

1673 Land which became the African Burying Ground (immediately to the north of the portion of the Commons that later became City Hall Park) granted to Sarah Roeloff in the name of her husband, Cornelius Van Borsum (however, land continued to be used as common ground)

1697 Trinity Church banned burial of Africans in its graveyard and it is assumed that Africans began to use the land in the Van Borsum patent as a burying ground around this time

1712 First historical reference to burial of Africans in the Common

c.1795 Burials in the African Burying Ground appear to have ceased around the time that the Van Borsum tract was subdivided, Chambers Street was opened east of Broadway, and initial development occurred on the site

1991 Archeological work undertaken in conjunction with the General Services Administration, Foley Square project includes archaeological excavation of a portion of the site with scientific recovery of burial remains from over 400 individuals

Significant Person(s):

Cultural Affiliation: African-American

Architect/Builder:

e Significance of Property, and Justify Criteria, Criteria
iderations, and Areas and Periods of Significance Noted Above.

General statement

The African Burying Ground is of national significance due to its unprecedented potential to yield information about the lives of Africans and African Americans in an eighteenth-century urban context. A portion of the site has been excavated (Figures 16 and 17) and has yielded information of major scientific importance.²¹ The site held sacred meaning and profound social and cultural importance for this predominantly enslaved population, and the survival of the Burying Ground provides a unique opportunity to acknowledge and preserve their history. This site may well be the only preserved urban eighteenth-century African burying ground in the Americas. The more than 400 individuals whose remains have been recovered from the African Burying Ground represent a much larger population whose role in the formation and development of American society is critical.

Theme III.D Development of the English Colonies, 1688-1763 -- Social and Economic Affairs

The slave trade was integral to the development of the eighteenth-century British colonial system. This system was based on the establishment of settler colonies in the West Indies and North America, on the use of coerced labor to extract wealth from the land, and on the profitable trading of enslaved peoples. The institution of transatlantic chattel slavery is one of the tragic consequences of the European conquest of the New World. The African diaspora constitutes one of the most significant demographic, cultural, and economic events in world history, and it was a key element in the British colonial structure and in the development of the Americas.

During the eighteenth century, New York was one of four important Northern shipping points in the Atlantic trading system, along with Philadelphia, Boston, and Newport. As labor was scarce throughout the colony and free immigrants preferred to earn their livings by farming, New York merchants depended on slave labor to operate the port and supplement the pool of skilled craftsmen in such trades as ship carpentry and printing. Slaves also were employed in heavy transport, construction work, and domestic labor, as well as in farming and milling.²²

²¹Howard University and John Milner and Associates, Inc.

²²See Thelma W. Foote, "Black Life in Colonial Manhattan, 1644-1783," (Ph.D. diss., American Studies Department, Harvard University, 1991), cited in Howard University and John Milner Associates, Inc., "Draft Research Design," p. 12; Elizabeth Blackmar, *Manhattan for Rent, 1785-1850* (Ithaca: Cornell University Press, 1989), p. 20; Edgar McManus, *A History of Negro Slavery in New York* (Syracuse: Syracuse University Press, 1970), pp. 114-33; Samuel McKee, *Labor in Colonial New York* (New York: Columbia Univ. Press, 1935), pp. 64-70, 114.

At least 6,800 African slaves were imported into New York between 1700 and 1774.²³ Approximately 2,800 (41.2 percent) were brought directly from Africa, while the other 4,000 were brought via the West Indies or one of the other American coastal ports, typically Charleston. Until the early 1740s, 70 percent of all enslaved Africans who entered New York were from these American sources. However, the outbreak of the Anglo-Spanish War of 1739-48 closed Spanish colonial markets to British slave traders, sharply increasing the supply and reducing the price of people enslaved in Africa. Since the duty in New York on these African-born slaves was considerably lower than that on what were called "seasoned" slaves from other colonies, the proportion of directly imported to indirectly imported slaves reversed after 1742. The influx of enslaved Africans declined only in the 1770s when a dwindling supply of slaves pushed prices beyond the demand of the New York market and the American Revolution interrupted trade. Problems of social control in the urban environment may have contributed to a decline in demand for enslaved Africans.²⁴

In addition to enslaved Africans, there were numerous free Africans in New York, some of whom were descendants of people who had been freed by the Dutch West India Company during its tenure of New Amsterdam. Many privileges and rights accorded to enslaved and free Africans under the Dutch were rescinded within forty years of the switch to British rule. Historian Edgar McManus draws a basic contrast between the policies of the Dutch in the seventeenth century and the British in the early years of the New York colony:

From the start of the English occupation the creation of a commercially profitable slave system became a joint project of both government and private interests. Unlike the Dutch West Indies Company, which used slavery to implement the colonial policy, the [British] Royal African Company used the colony to implement slavery.²⁵

New York's African slaves became subject to a highly restrictive legal system, one which was put in place to secure England's valuable colonial possessions in the Western Hemisphere and which resulted in severe physical and social coercion. In the meantime, along with the established and growing population of free Africans, enslaved Africans seized all available social and economic opportunities to build a distinct community.

Because the Burying Ground was used for nearly one hundred years, analysis of

²³This section on the demographics of the slave trade in New York is based on Vivienne Kruger, "Born to Run: The Slave Family in Early New York, 1626 to 1827" (Ph.D. diss: Columbia University, 1985), pp. 79-85. Most of the data were compiled by James G. Lydon, "New York and the Slave Trade, 1700 to 1774," *William and Mary Quarterly* 35 (1978):375-394. It should be noted that these numbers are, at best, approximations based on the incomplete records of the South Seas Company and the port of New York, with an allowance made for smuggling. Since it is known that captains routinely off-loaded slaves in New Jersey or on Long Island to avoid paying import duties and that English and American privateers frequently sold slaves in New York who had been transported on French and Spanish vessels, the number of slaves entering New York may have been much higher.

²⁴The decline of urban slavery in the mid-nineteenth century is discussed in Claudia Goldin, "A Model to Explain the Relative Decline of Urban Slavery: Empirical Results" in *Race and Slavery in the Western Hemisphere: Quantitative Studies*, ed. Stanley L. Engerman and Eugene D. Genovese (Princeton: Princeton University Press, 1975), pp. 427-450. Some of the factors affecting antebellum Southern cities may have arisen in New York City by the late eighteenth century.

²⁵McManus, p. 16.

archaeological remains from the excavated portion of the site will allow researchers to address questions about changes in American social and economic life during the colonial period and the period of the early Republic. For this site, such questions include: How did the treatment of enslaved Africans (or the quality of life of free Africans), as evidenced in nutritional profiles, disease, mortality, and injury, change over the course of the eighteenth century? Did the funerary practices of Africans in New York change over time? Is the process of cultural transformation visible in the material record?

Examination of burials from this site in some cases will allow physical anthropologists to distinguish African-born from American-born individuals, and to begin to develop a base-line biological profile of the first generation of the diaspora. With advanced analytical techniques, it may be possible to determine the regions of origin in Africa of some of the individuals who died in colonial New York. This will provide a rare glimpse into the geography of the colonial trade in human beings in terms of actual individuals, as well as a potential opportunity to study origins of cultural practices. The African Burying Ground represents an entire people, those who came to America in bondage rather than by choice, and who lived, died and were buried among a community heretofore largely unacknowledged in the history of the colonial world.

Theme XXX.A American Ways of Life -- Slavery and Plantation Life

By the time of the Revolution, slavery was firmly imbedded in American life. But the common image of bondage on Southern tobacco and later cotton plantations needs to be substantially adjusted, for in the North, too, slavery was a way of life. Although American slavery has been the subject of a vast historical literature, slave communities in the North have received less attention than those of the south.²⁶ And as a rule, slave life in the eighteenth century is much less well understood than the nineteenth. This is partly due to the extreme scarcity of accounts written by enslaved Africans themselves in the early period, whereas for the late antebellum period historians can turn to the recorded narratives of ex-slaves.

The African Burying Ground, because of its size, age, and preservation, is exceptional among African cemetery sites that have yet been discovered in the Americas. The only other eighteenth-century urban slaves' burial ground ever excavated is St. Peter's Cemetery in New Orleans, where 29 individuals were recovered.²⁷ Nineteenth-century urban African burial grounds, usually associated with churches, are better known, though few have been excavated. The most important archaeological example yet reported is Philadelphia's First African Baptist Church cemetery, dating from the 1820s through 1840s. The site was excavated in 1983-84, yielding over 140 burials.²⁸ Eighteenth-century African burial ground excavations have involved

²⁶Some of the contributions to scholarship on Northern slavery have been collected in Paul Finkelman, ed., *Slavery in the North and West, Articles on American Slavery*, vol. 5 (New York: Garland, 1989). For New York see also Shane White, *Somewhat More Independent: The End of Slavery in New York City, 1770-1810* (Athens: University of Georgia Press, 1991), and sources compiled in Sherrill D. Wilson, *A Beginners Resource Guide to "Doing" Black History In New York City* (New York: Reclaim the Memories, 1992).

²⁷Douglas Owsley et al., "Demography and Pathology of an Urban Slave Population from New Orleans," *American Journal of Physical Anthropology* 74 (1987):185-197.

²⁸Michael Parrington, Daniel G. Roberts, Stephanie A. Pinter, and Janet C. Wideman, "The First African Baptist Church Cemetery: Bioarcheology, Demography, and Acculturation of Early Nineteenth Century Philadelphia Blacks," vol. 1, "Historical and Archeological Documentation" and vol. 2, "Artifact

rural sites, mainly plantations. Of these, the eighteenth through twentieth-century Newton Plantation cemetery in Barbados is by far the largest site reported to date, with recovery of 101 individuals.²⁹ Other rural sites excavated have produced only very small samples.

The richness of the record from New York City's African Burying Ground is clearly extraordinary compared to other African burial sites that have been studied. Thus, the information that will be obtained from the burials and skeletal remains is significant well beyond the local context. Archaeologists and physical anthropologists from around the world have expressed interest in the finds. The site will provide new insights into the biological life-course of people who were enslaved and transported from Africa or born into slavery in America. It will provide one of the most important bodies of data ever made available for comparative research.

Physical anthropologists will be able to learn about nutrition, disease, physical stress, injury, and even the occupation of individuals because, in many cases, these aspects of life leave traces on the bones and teeth which are preserved. Measurements of skeletal trace elements, dental enamel development, skull base height, stature, and bone histology and lesions provide data which are important in reconstructing individuals' biological histories. Age and sex distributions will be correlated with pathological information. Taken together, such data will be used to address questions about the population as a whole, and change over time in its biology. Through studying these aspects of the biological population, questions about certain social changes, such as increased restrictions or shifts in the demographic/occupational structure of New York's African population can be addressed.³⁰ The excavated remains from the African Burying Ground have already undergone preliminary assessments which point to specific trends, such as high infant and child mortality.

In addition to the biology of individuals and populations, study of human remains from intact burials can yield information about funerary practices and even religious belief. For example, the position and orientation of the graves at the African Burying Ground is very uniform, pointing to strong religious precepts. Finally, social relations within the community may

(Philadelphia: John Milner Associates, Inc., 1989); Jennifer Olson Kelly and J. Lawrence Angel, "The First African Baptist Church Cemetery: Bioarcheology, Demography, and Acculturation of Early Nineteenth Century Philadelphia Blacks," vol. 3, "Osteological Analysis." Report prepared for the Redevelopment Authority of the City of Philadelphia (Washington: Smithsonian Institution, 1989); and Michael Parrington et al., "The First African Baptist Church Cemetery: Bioarcheology, Demography, and Acculturation Amongst Early Nineteenth Century Philadelphia Blacks," report submitted to the Redevelopment Authority of the City of Philadelphia, by John Milner Associates, Inc., 1986; Michael Parrington, "Cemetery Archaeology in the Urban Environment: a Case Study from Philadelphia" in *Living in Cities: Current Research in Urban Archaeology*, ed. Edward Staski, Society for Historical Archaeology Special Publication Number 5, pp. 56-64.

²⁹This cemetery is the best-reported of any to date. Some of the more important publications are Jerome S. Handler and Frederick Lange, *Plantation Slavery in Barbados* (Cambridge: Harvard U. Press, 1979); Jerome S. Handler and R. S. Corruccini, "Plantation Life in Barbados: A Physical Anthropological Analysis", *Journal of Interdisciplinary History* 14 (1983):65-90; Handler, Jerome S., with M.P. Conner and K.P. Jacobi, *Searching for a Slave Cemetery in Barbados, West Indies: A Biological and Ethnohistorical Investigation* (Carbondale: Southern Illinois University Center for Archaeological Investigations, 1989).

³⁰Michael L. Blakey, "Research Design for Temporary Curation and Anthropological Analysis of the 'Negro Burying Ground' (Foley Square) Archaeological Population at Howard University," Washington, D.C.: Howard University, 1992, and Howard University and John Milner Associates, Inc. "Draft Research

be indicated by the spatial arrangements of burials and apparent relationships between some of the interments. The discovery of women buried with newborns or still-born babies is an example of how the site evokes the poignancy of family life and death in a long-vanished community.

Funerary practices embody core aspects of cultural and symbolic systems, and for enslaved people in the colony of New York this may be all the more significant because funerals offered a chance to express cultural identity in an unsupervised context. Even though laws prohibited night funerals and gatherings of large numbers of Africans,³¹ the evidence from the Burying Ground indicates that it continued as a focus of community identity for nearly a hundred years. City Clerk David Valentine, writing in the 1850s, provided the following account of the Burying Ground:

Beyond the Commons lay what in the earliest settlement of the town had been appropriated as a burial place for negroes, slaves and free. It was a desolate, unappropriated spot, descending with a gentle declivity towards a ravine which led to the Kalkhook pond. The negroes in this city were, both in the Dutch and English colonial times, a proscribed and detested race, having nothing in common with the whites. Many of them were native Africans, imported hither in slave ships, and retaining their native superstitions and burial customs, among which was that of burying by night, with various mummeries and outcries....So little seems to have been thought of the race that not even a dedication of their burial-place was made by the church authorities, or any others who might reasonably be supposed to have an interest in such a matter. The lands were unappropriated, and though within convenient distance from the city, the locality was unattractive and desolate, so that by permission the slave population were allowed to inter their dead there.³²

Though Valentine may have been speculating on many points, he evokes the image of a place where cultural distinctiveness was acknowledged, as well as the social conditions which led to the burying ground's existence.

Theme XXX.D American Ways of Life -- Urban Life

As noted above, rural slavery on plantations has been the focus of most historical study. Recently, however, historians of African America have increasingly turned their attention to the cities and towns of North and South America and the Caribbean.³³ In these places the lives of slaves and free Africans, and their interactions with European and Native populations, were often quite different from their contemporaries on the plantations. This was certainly the case in New York where urban life during the eighteenth century was characterized by a remarkable mix of

³¹MCC, 1675-1776, 3:30, 296; 4:86, 83.

³²David T. Valentine, "History of Broadway," *Manual of the Common Council of New York* (New York: D.T. Valentine, 1865), p. 567.

³³See Richard C. Wade, *Slavery in the Cities: The South, 1820-1860* (New York: Oxford University Press, 1964); Philip D. Morgan, "Black Life in Eighteenth-Century Charleston," in *Colonial Southern Slavery*, ed. Paul Finkelman, vol. 3, *Articles in American Slavery* (New York: Garland Press, 1989), pp. 305-35; Barry W. Higman, "Urban Slavery in the British Caribbean," in *Perspectives on Caribbean Regional Identity*, ed. Elizabeth M. Thomas-Hope (Liverpool: Centre for Latin American Studies, 1984); Mary Karasch, *Slave Life in Rio de Janeiro, 1808-1850* (Princeton: Princeton University Press, 1987). For New

n Burying Ground

ates Department of the Interior, National Park Service

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peoples, and was much more diverse than in other American cities. Divisions based on "race" and national origin were overlaid by constant close contact. It has been suggested that New York's unique diversity and high level of ethnic factionalism resulted in particularly harsh social conditions for Africans, as competing Europeans closed ranks against them.³⁴

During the eighteenth century, New York had a much larger African population than either Philadelphia or Boston, and a slightly higher population proportionally than Newport. In 1703, there were approximately 700 Africans in New York, or 14.4 percent of the population. The numbers grew to 2,444 by 1746, representing 20.9 percent of the population, and peaked at 3,137 by 1771, though by then Africans were again only 14.3 percent of all New York residents.³⁵ It should be noted that prior to 1756, all Africans, enslaved or free, were counted simply as "negroes" or "blacks" in the New York censuses. Most Africans lived in the small area of the city proper, at the southernmost tip of Manhattan, and this concentration increased as the century progressed and African ownership of farmlands to the north of the city constricted.³⁶ Enslaved Africans were owned by people in all walks of life, including artisans, merchants, clergy, mariners, and gentlemen.³⁷

On plantations, quarters for enslaved Africans were normally set apart, and they can be easily identified for archaeological study. In cities, however, most slaves lived in their masters' houses, and a separate material record cannot be readily isolated. The material culture of a slave neighborhood or household in New York cannot be studied in the same way as for most other ethnic groups.³⁸ For this reason, it is, ironically, the burying place of such a community that provides the clearest opportunity to observe a distinguishable material record of their lives.

The African Burying Ground and nearby Common were important in other aspects of the culture of African New York in the eighteenth century. In the novel *Satanstoe*, James Fenimore Cooper described the "Pinkster" Day celebrations held in what is now City Hall Park (the exact location may have been the Burying Ground itself).³⁹ Africans from as far as forty miles away joined residents in "beating banjos, singing African songs, drinking, and worst of all, laughing in a

³⁴Winthrop D. Jordan, *White Over Black: American Attitudes Toward the Negro, 1550-1812* (Chapel Hill: University of North Carolina Press, 1968), pp. 119-120; Thomas J. Davis, "These Enemies of Their own Household: A Note On the Troublesome Slave Population in Eighteenth-Century New York City," *Journal of the Afro-American Historical and Genealogical Society*, 1984, pp. 133-47. See also Foote, 1991, cited in Howard University and John Milner Associates, Inc., "Research Design," p. 12.

³⁵This data on population is taken from Evarts B. Greene and Virginia D. Harrington, *American Population Before the Federal Census of 1790* (1932, rpt. Gloucester, Mass., 1966), pp. 94-104; and Thomas J. Davis, "Slavery in Colonial New York," (Ph. D. diss., Columbia University, 1974), p. 2.

³⁶Thomas J. Davis "New York's Long Black Line: A Note on the Growing Slave Population," *Afro-Americans in New York Life and History*, 2 (1978):47; idem, "These Enemies," p. 134.

³⁷Kruger, p. 93.

³⁸See Nan A. Rothschild, *New York City Neighborhoods: The 18th Century* (New York: Academic Press, 1989).

³⁹This discussion of Pinkster is taken from Stephen C. Green, *The Black Family in Slavery*.

way that seemed to set their very hearts rattling within their ribs."⁴⁰ Pinkster Day was Christian Pentecost or Whitsuntide, derived from Shavuot, the Jewish festival which celebrates the receiving of the commandments by Moses and early summer harvest, but its celebration in New York, Philadelphia, and other Middle Atlantic colonies and states was distinctly African in practice.

The location of the African Burying Ground itself was symbolically and socially significant in the life of early New York. Forbidden to inter their dead in most church cemeteries, and probably wishing to attain a degree of privacy and autonomy in their funerary practices, New York's Africans appropriated a parcel of ground outside the town, in a "remote" place. Thus today this site symbolizes both the oppression under which enslaved peoples lived in America, and their ability to persist in honoring their African heritage while forging a new culture. It is also significant that many of those buried at the site probably helped materially in the building of the city which throughout the eighteenth century refused to formally acknowledge their final resting place. The subsequent history of this sacred ground symbolically underscores European-Americans' systematic denial of the importance of the contribution of African-Americans to the development of our nation toward an urban, industrial world power.

Theme XXX.E American Ways of Life -- Ethnic communities

Ethnic groups in America each have individual histories of arrival, encounter, struggle, assimilation, and persistence of cultural heritage. The relationship between Africans and the larger society in the British colonies and the newly formed nation during the eighteenth century was largely determined by the legal institution of slavery and its economic and social correlates. Thus the experience of the ethnic group "African Americans" needs to be understood as different from that of other immigrant groups.

Most studies of African-American history focus on either slaves or free Africans. But the African-American ethnic community was comprised of both enslaved and free people. Evidence from the Burying Ground will not reveal whether any individual was enslaved or free. Yet this very inability to distinguish legal status points up the ethnic unity of this population. That unity was not a given -- Africans who were brought to America came from a great many diverse ethnic groups. A number of individuals recovered from the Burying Ground site have filed teeth, in either hourglass or pointed shapes. Such tooth-filing is practiced in several African ethnic populations, and is used to signify membership in particular social groups.⁴¹ Similar practices were observed in slaves buried at Newton Plantation in Barbados, where they are attributed to African-born members of the community. It is possible such practices lost their significance as the social distinctions brought from Africa were transformed in the American setting. On the other hand, when individuals were buried with African adornments (such as beaded jewelry and cowrie shells) a deliberate expression of identity was made. The Burying Ground offers a chance to ask how diversity was expressed and how it was contained within an overarching ethnic identity vis-a-vis European-Americans.

⁴⁰Quoted in Gutman, p. 334.

⁴¹See Jerome S. Handler, R.S. Corruccini, and R.J. Mutaw, "Tooth Mutilation in the Caribbean: Evidence from a Slave Burial Population in Barbados," *Journal of Human Evolution* 11 (1982):297-313; T. D. Stewart and J. Groome, "The African Custom of Tooth Mutilation in America," *American Journal of*

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s documentation on file (NPS):

Preliminary Determination of Individual Listing (36 CFR 67) has been requested.

Previously Listed in the National Register.

Previously Determined Eligible by the National Register.

Designated a National Historic Landmark

Recorded by Historic American Buildings Survey: # _____

Recorded by Historic American Engineering Record: # _____

Location of Additional Data:

State Historic Preservation Office

Other State Agency

Federal Agency

Local Government

University

Other: Specify Repository: _____

Burying Ground

U.S. Department of the Interior, National Park Service

National Register of Historic Places Registration Form

TOPOGRAPHICAL DATAof Property: approximately 7

References:	Zone	Easting	Northing	Zone	Easting	Northing
A	18	584987	4507248	B	—	—
C	—	—	—	D	—	—
E	—	—	—	F	—	—

Boundary Description:

The boundaries of the African Burying Ground site are defined as follows:

South: The northern lot line of Lot 1 of Block 122 on the south side of Chambers Street.

West: A line extending along the eastern curbline of Broadway, crossing Chambers, Reade and Duane streets.

North: The southern lot lines of Lots 1 and 50 of Block 156 on the north side of Duane Street.

East: A line extending northerly from the northeast corner of Lot 1 of Block 122 across Chambers Street, along the eastern lot line of Block 153, Lot 24, across Reade Street, along the eastern lot line of Block 155, Lot 1, across Duane Street, to the southeast corner of Lot 1 of Block 156.

Boundary Justification:

The boundaries for the National Historic Landmark site are based on the described historical expanse of the burying ground. In contrast to most archaeological sites, the much-publicized African Burying Ground, as an entity, has come to have indisputable significance to the African-American community in particular, as well as obvious importance to the public at large. For this reason, excavated and unexcavated portions of the site, and also areas where no burials are thought to remain, are included within the boundaries. Conditions on the edges of the site have also influenced the boundaries of the National Historic Landmark site. Existing city streets and surveyed lots, easy to reference and define, have been used; the presence of intrusive below-grade subway tunnels helped to determine the east and west boundaries. Therefore, the boundaries represent both the historic and present-day conception of the site, as well as the extent of the preserved Burying Ground, although the integrity of the site varies. A number of lines of evidence were used to delineate the extent of the burying ground:

The Van Borsum patent is repeatedly linked to the Burying Ground in historic documents, and late eighteenth-century sources tend to assume the equivalence of the two. Survey maps clearly label the patent lands as the "Negros Burial Ground." An overlay of the probable bounds of this patent on the current street grid is provided in Figure 12.

It is possible that the original patent was a geographically defined entity, corresponding to the low area between the plateau of the Common and the fresh-water pond. This topography probably made the patent lands unsuitable for farming and its separation from the urban center

Burying Ground

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may help to explain why the patentee's heirs did not more actively pursue their claim to the land. The use of the patent for potteries, grazing, and as a burial place for Africans, contributed further to its marginal character in relation to the colonial town.

The slope down to the north from the high ground of the Common (the present-day City Hall Park) began roughly at Chambers Street. This probably marks the southern edge of the area used for burials. The northern lot line of Lot 1 of Block 122 (City Hall Park) is used for the boundary in order to be as close as possible to the southern edge of the Van Borsum patent. The line of the mid-eighteenth century palisade (see Figure 9) is rejected as a boundary, since the Burying Ground is known to have been used prior to its construction. The entire area north of Chambers Street was outside the town through at least the 1730s.

Archaeological and utility excavations in City Hall Park have uncovered human remains in the past.⁴² Reports of these finds were studied to determine whether the Burying Ground might have extended below Chambers Street. Human bone found in the archaeological excavations between City Hall and the Tweed Courthouse (Figure 2) was not from burial contexts. The examination of skeletal material found during repair of a water main break indicated that it probably came from burials. The bones were found near the northeast corner of City Hall Park. Three to eight adult individuals were represented by the commingled remains. Two individuals were identified as of European descent. The date of interment is unknown.

The remains from City Hall Park sites are probably associated with New York's almshouses rather than the African Burying Ground. The eighteenth-century almshouse was located on the current site of City Hall, and the later almshouse was where the Tweed Courthouse now stands. Alternatively, the burials may have been of Revolutionary War prisoners or British soldiers housed in barracks located along present-day Chambers Street. In any case, at this time these finds do not warrant extension of the boundary of the African Burying Ground into City Hall Park.

Archaeological investigation of the site has shown that burials occurred to the north of the northern boundary of the Van Borsum patent. They did not extend as far north as Duane Street in the western portion of the site, however, and it is likely they were contained south of the patent line for part of the ground's history. To the east, the patent boundary crossed present-day Duane Street in a northeasterly direction. Burials may have occurred slightly to the north of the boundary line, beneath Duane Street and possibly under the southern edge of the block to the north. However, excavations for Federal Plaza and for the subway line running beneath Lafayette Street would have destroyed any remains in this small area. The southern lot lines of Lots 1 and 10 of Block 156 on the north side of Duane Street is a reasonable northern boundary for the African Burying Ground site.

To the east, both historical geography and recent construction help to define the site. The Little Collect pond was immediately to the east of Block 155, and may have actually extended

⁴²Joel W. Grossman, "The Buried History of City Hall Park: The Initial Archaeological Identification, Definition and Documentation of Well-Preserved 18th. Century Deposits and the Possible Structural Remains of N.Y.C.'s First Almshouse," prepared by Grossman and Associates, Inc., prepared for the New York City Department of General Services, 1991; Sherene Baugher et al., "The Archaeological Investigation of the City Hall Park Site, Manhattan," prepared by the New York City Landmarks Preservation Commission, prepared for the New York City Department of General Services, 1990; Leslie Eisenberg, "Final Case Report, M87-2391. Archaeology/Scene Search/Forensic Recovery Information" (see

1 Burying Ground

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into the block at one time. Burials at the immediate water's edge would have been difficult. The racks for two subway lines are beneath Centre Street, between Chambers and Reade, and one subway line runs north below Lafayette Street. The subway tunnels would have obliterated earlier deposits.

On the west, a subway tunnel runs beneath Broadway. It is also likely this thoroughfare, a recognized roadway along high ground, formed the western edge of the Burying Ground from at east the 1730s.

It is possible that further physical evidence will demonstrate that the historical boundaries of the Burying Ground extend beyond those drawn for the National Historic Landmark Site. If such physical evidence links areas outside the site to the African Burying Ground, the boundaries should be expanded. It should be noted that the Burying Ground is located in an area of intensive urban development that began during the eighteenth century. Numerous other historical and archaeological resources have sites which may coincide with that of the African Burying Ground, and this nomination in no way precludes the eligibility of other resources in or near the established boundaries of this site for the National Register of Historic Places.

FORM PREPARED BY

Title: Jean Howson and Gale Harris, under the direction of Marjorie Pearson, Director of Research and Daniel Pagano, Urban Archaeologist with contributions by Dr. Sherrill D. Wilson, Urban Anthropologist

ization: New York City Landmarks Preservation Commission

t/#: 225 Broadway, 23rd Floor

Town: New York

: New York

10007

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November 9, 1992

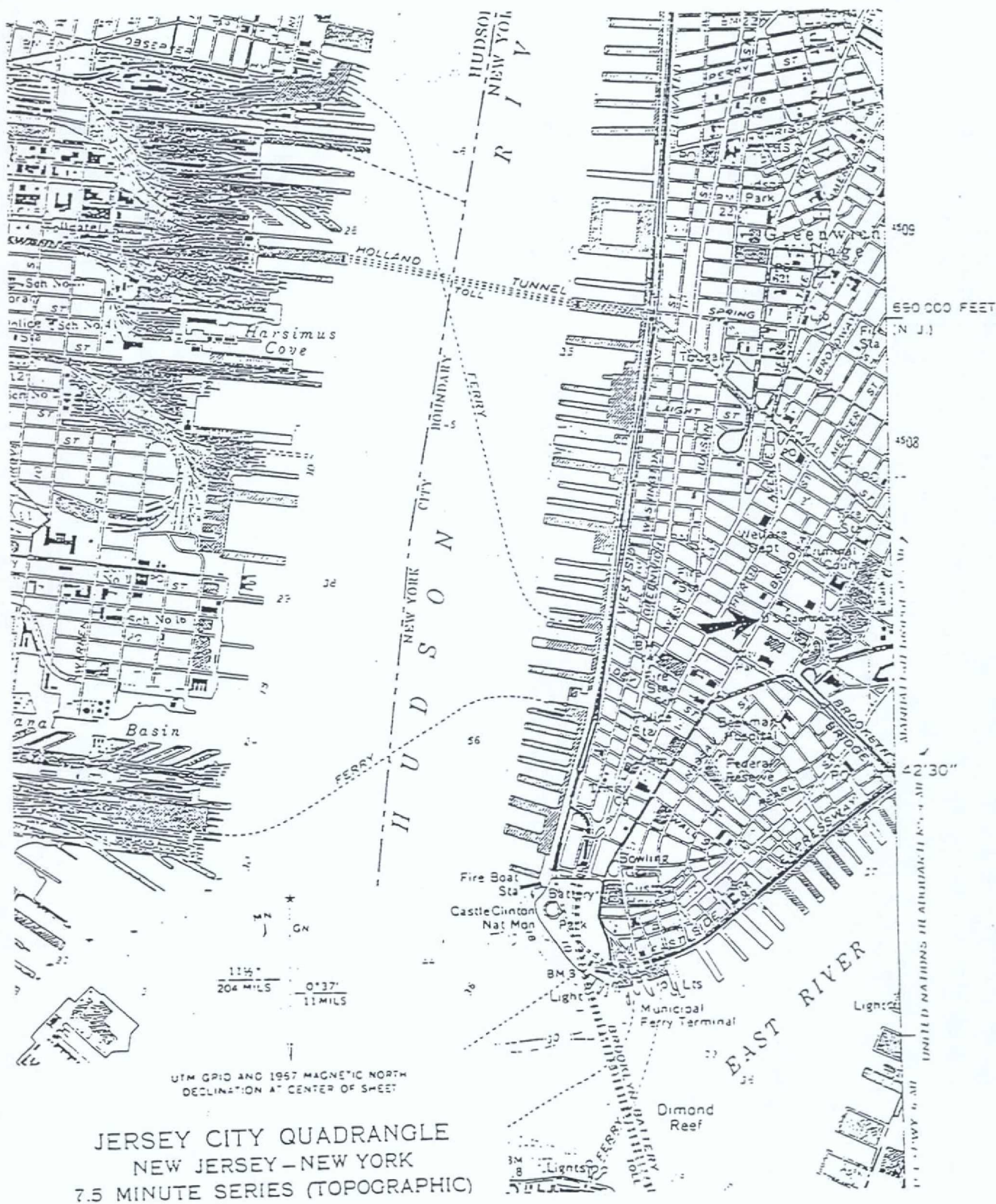


Figure 1. Portion of USGS Jersey City Quadrangle.

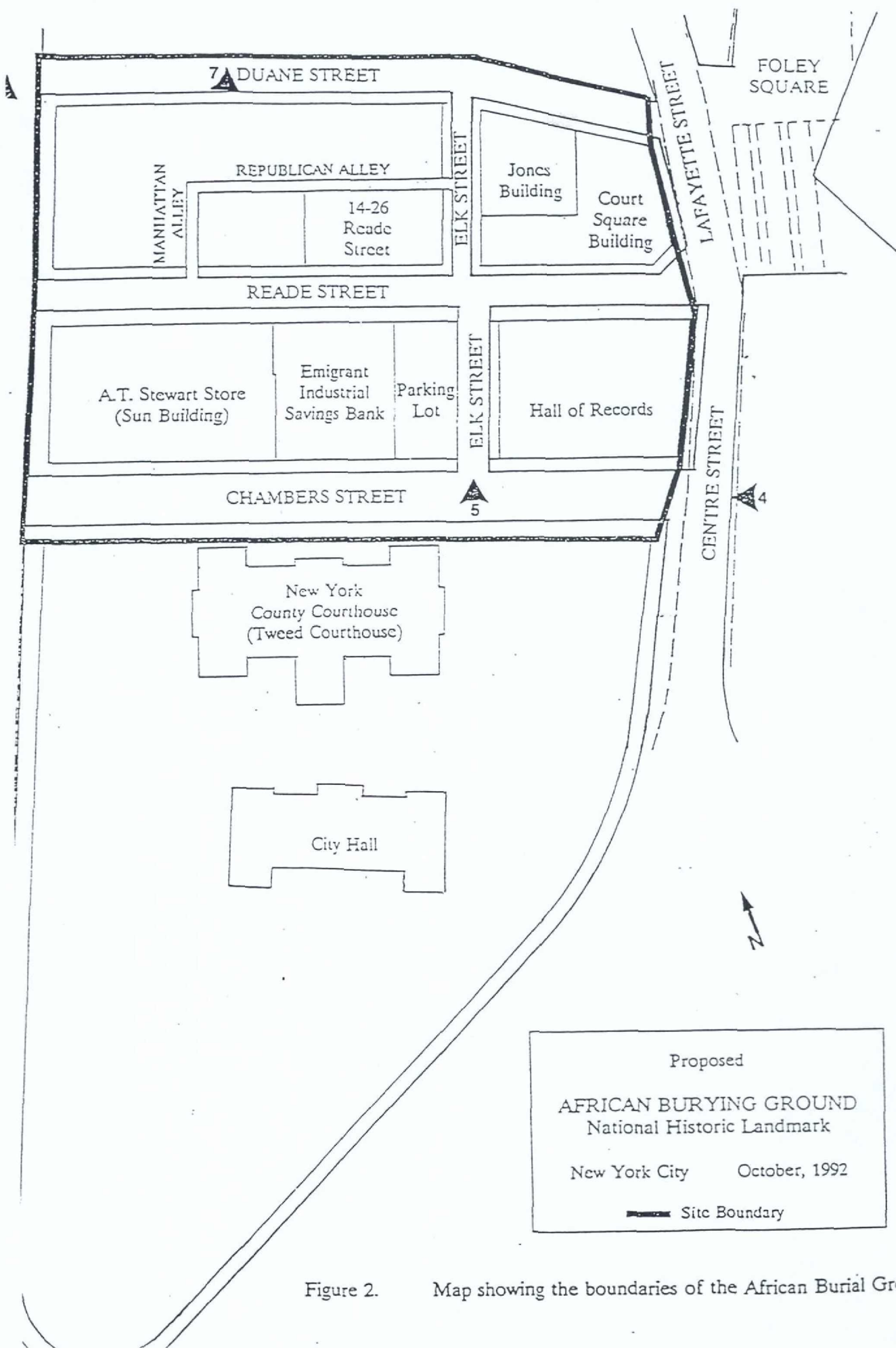


Figure 2. Map showing the boundaries of the African Burial Ground.

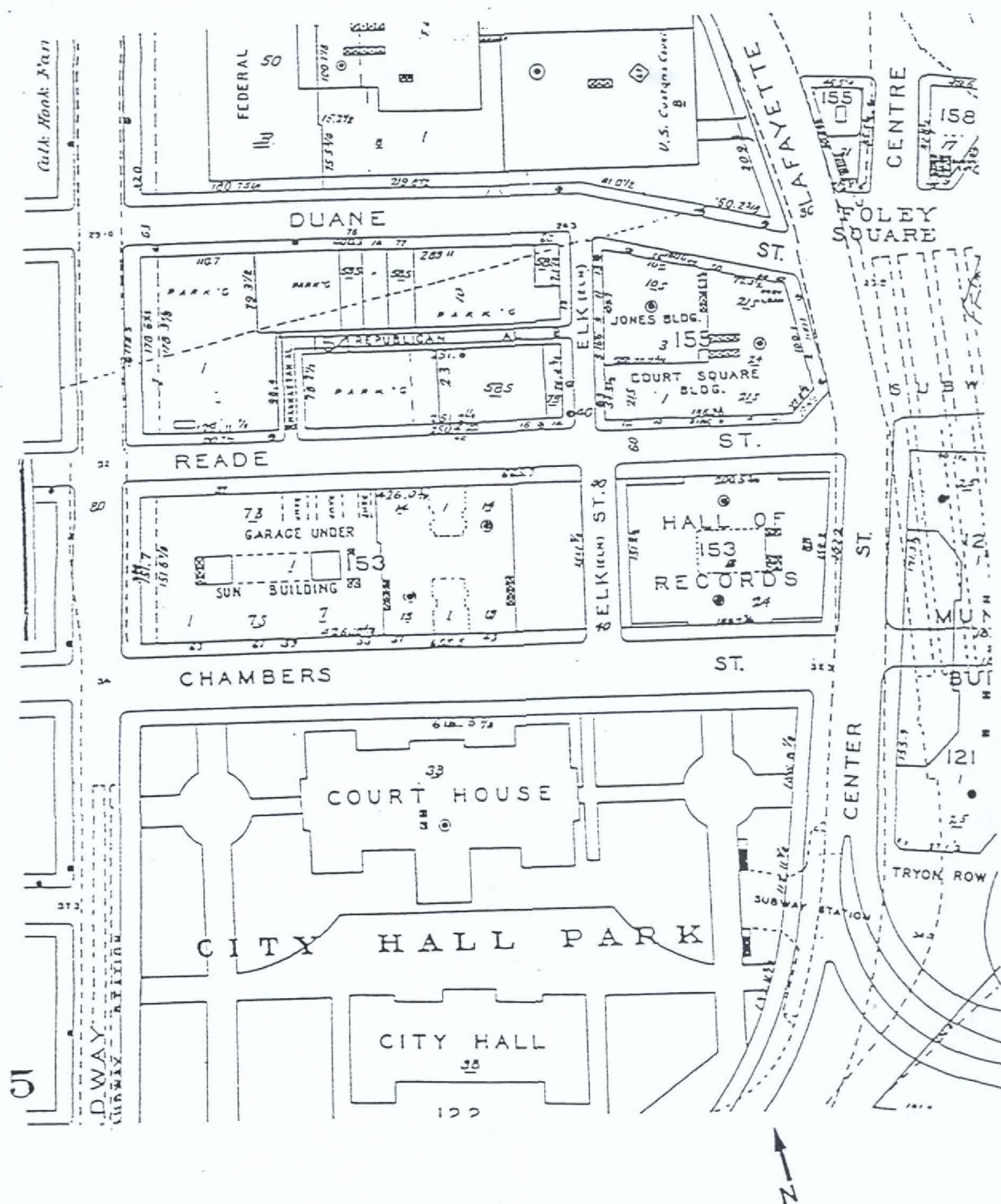


Figure 3.

Property map showing blocks 153-155 from REDI/Sanborn, *Manhattan Land Book*, 1991-92.

Note: Dashed line in the south half of Block 154 indicates actual western edge of 14-26 Reade Street.

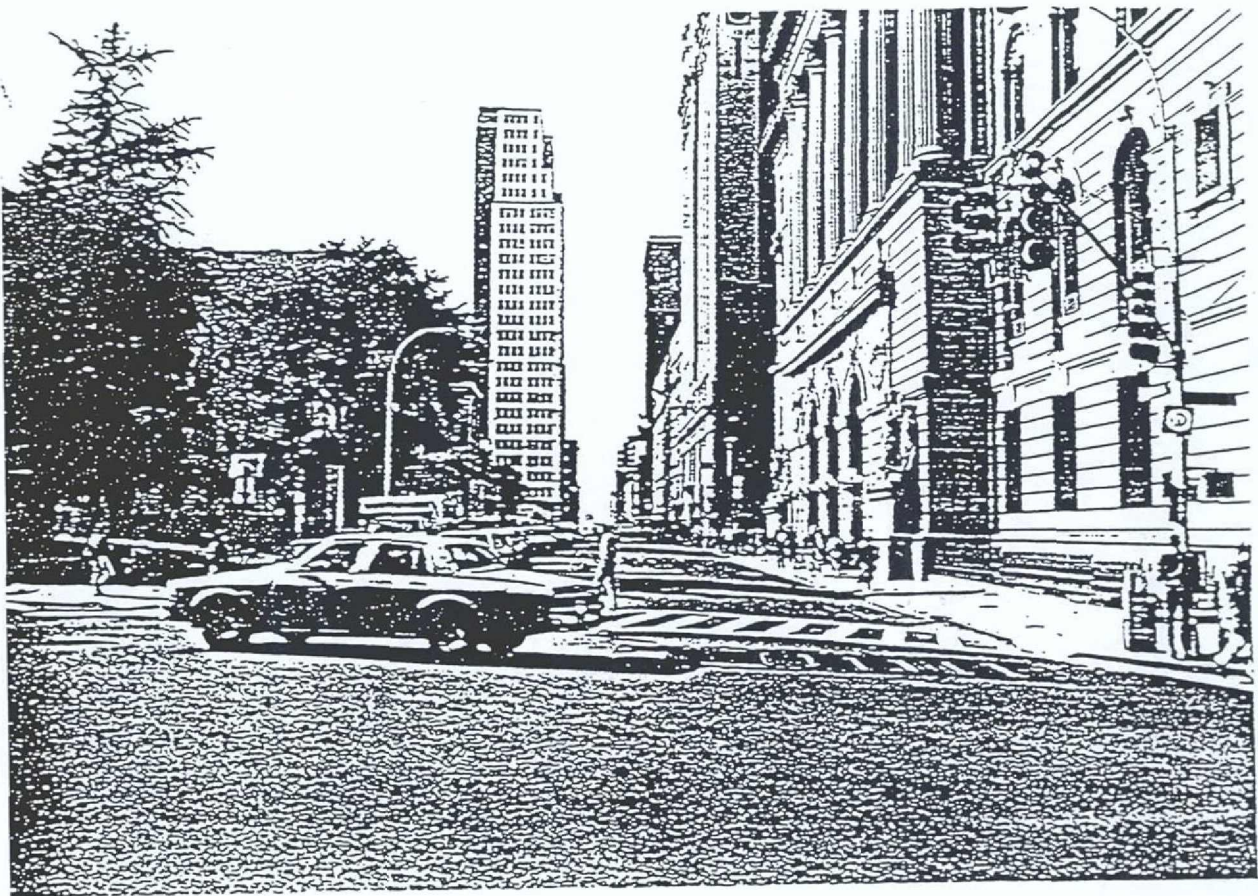


Figure 4. View of Chambers Street, southern boundary of the African Burying Ground National Historic Landmark, New York City. (Photograph: Carl Forster, 1992)

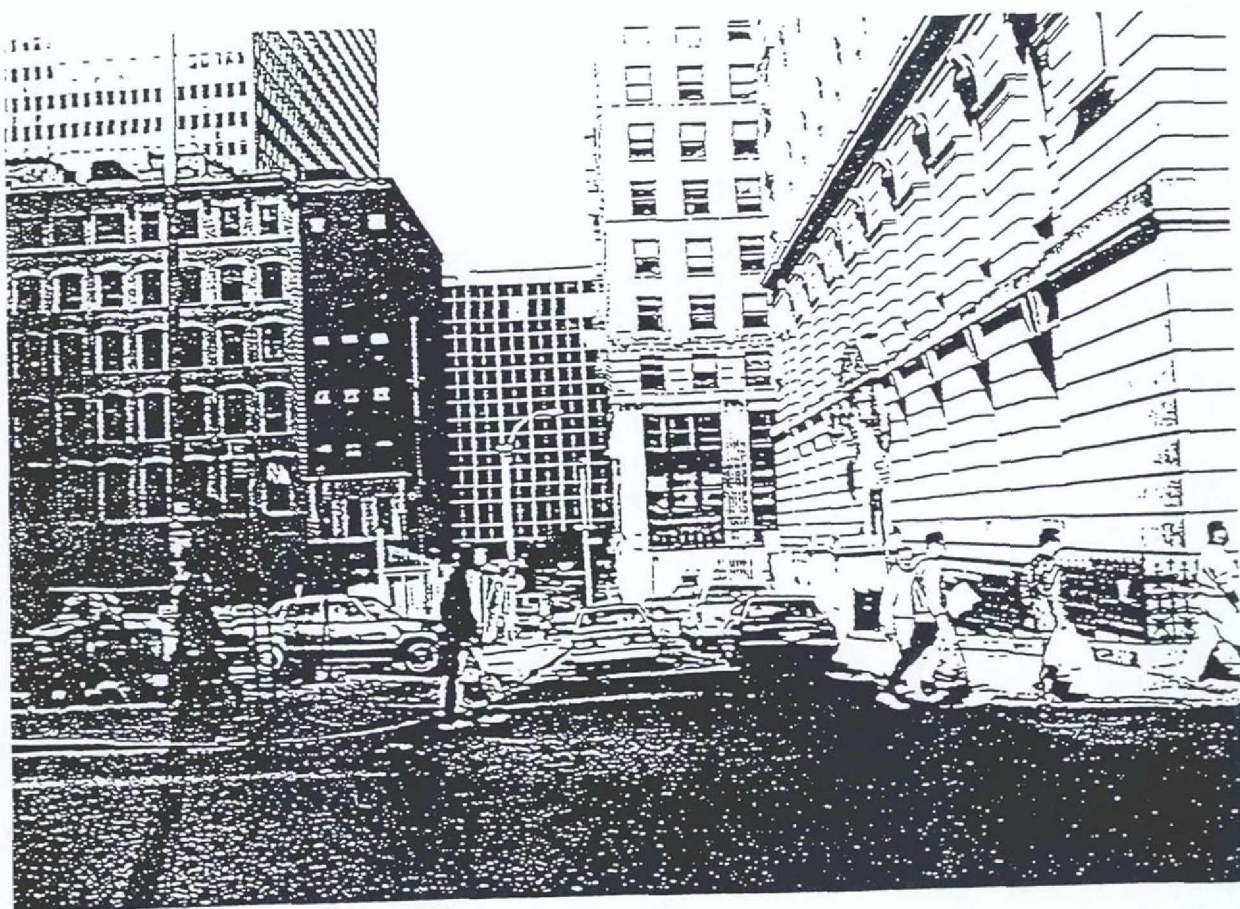


Figure 5. View of Elk Street, from Chambers Street, African Burying Ground National Historic Landmark, New York City. (Photograph: Carl Forster, 1992)



Figure 6. View of African Burying Ground National Historic Landmark from corner of Broadway and Duane Streets. Federal building excavation in foreground. New York City. (Photograph: Carl Forster, 1992)



Figure 7. View of northeast portion of the African Burying Ground National Historic Landmark from Duane Street. Pavilion site in foreground. New York City. (Photograph: Carl Forster, 1992)

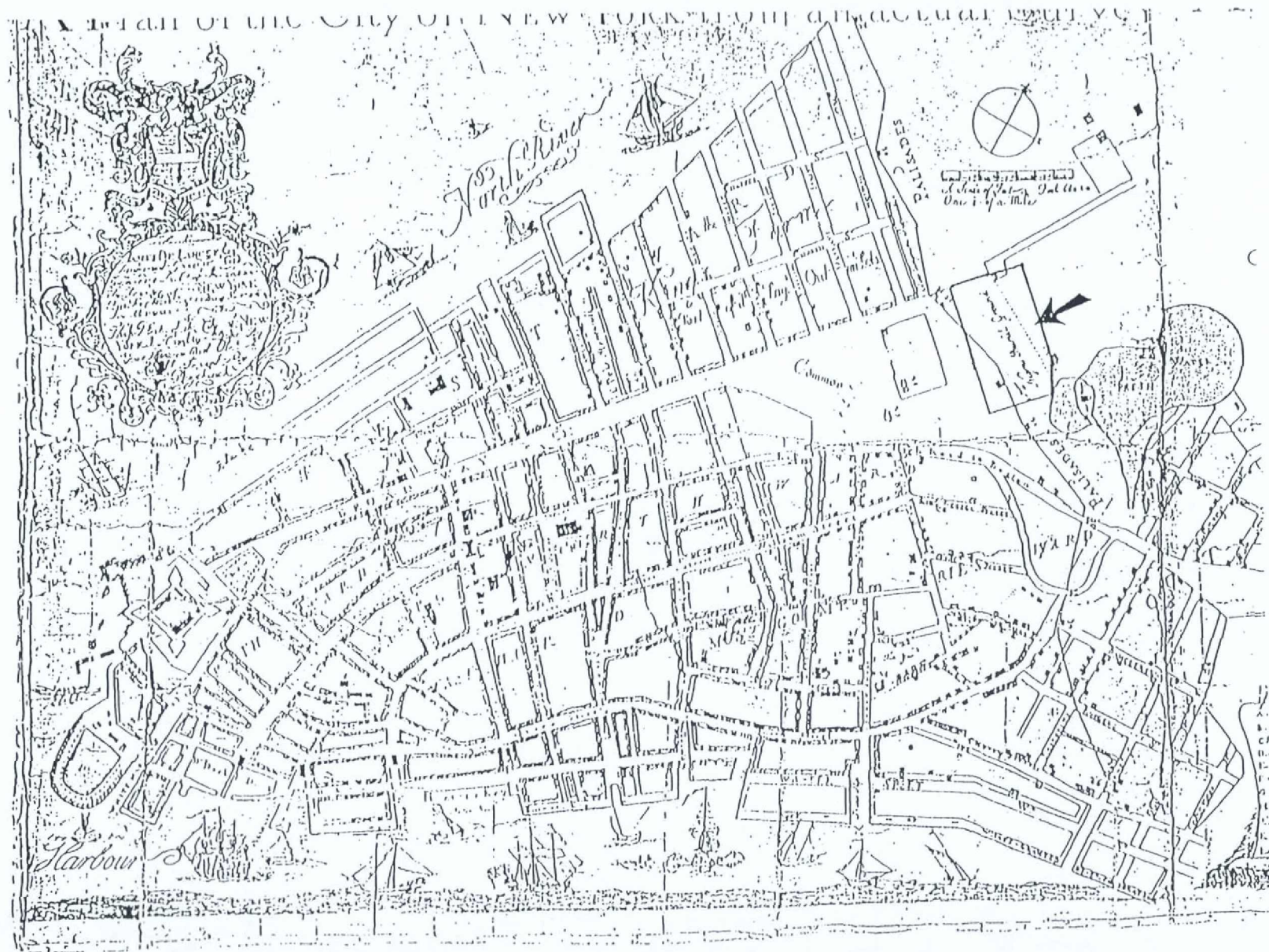


Figure 9. *A Plan of the City of New York from an Actual Survey Anno Domini M, DDC, LV* (The Maerschalek or Duyckinck Plan), by F. Maerschalek, 1755, depicting 1754 (Stokes, vol. 1, pl. 34).



Figure 10. *British Headquarters Manuscript Map of New York and Environs, [1782?]. Sheet 2.* Map Division, New York Public Library.

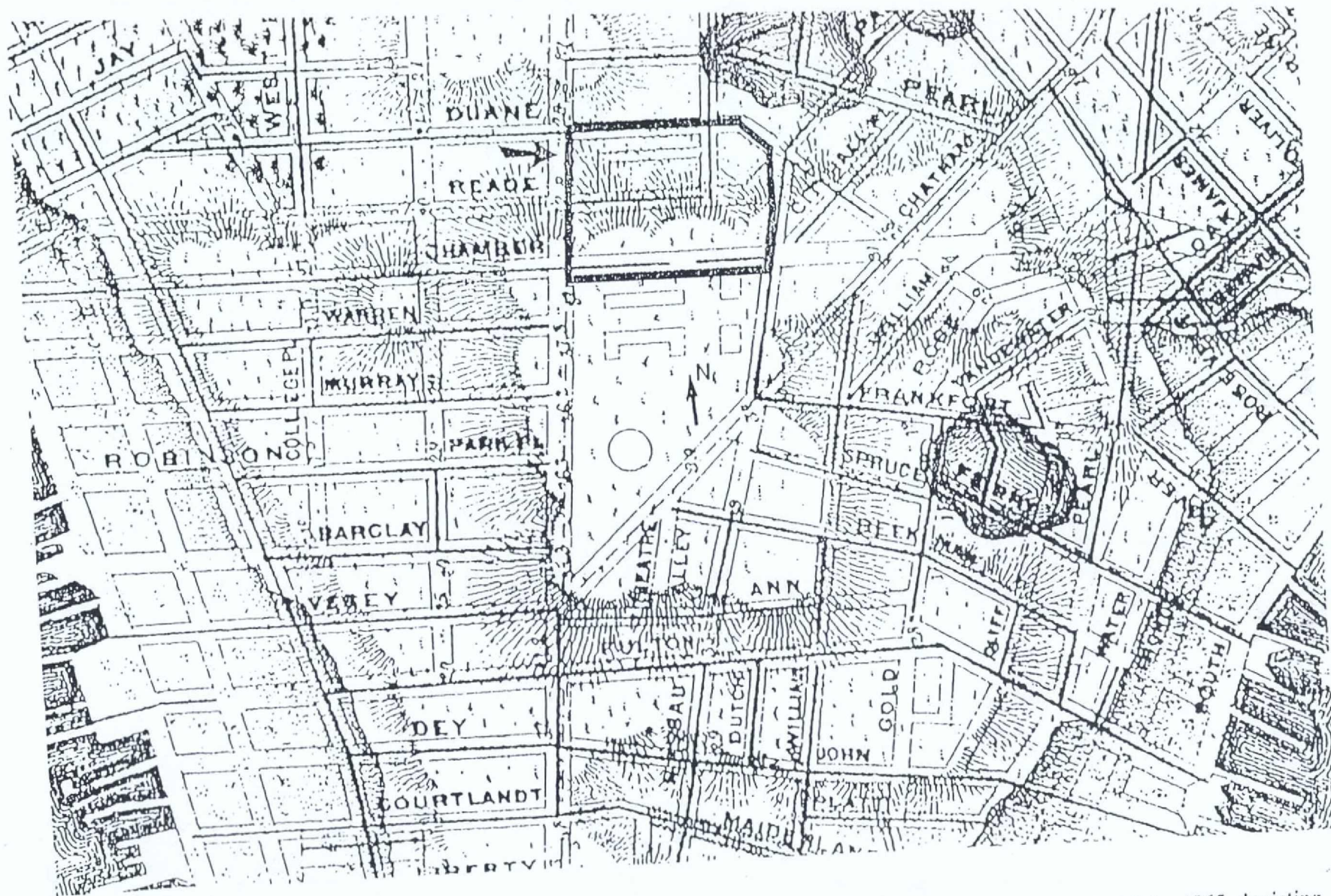


Figure 11. *Sanitary and Topographical Map of the City and Island of New York*, (The Viele Map) by Egbert L. Viele, 1865, depicting 1864 (Stokes, vol. 3, pl. 155b).

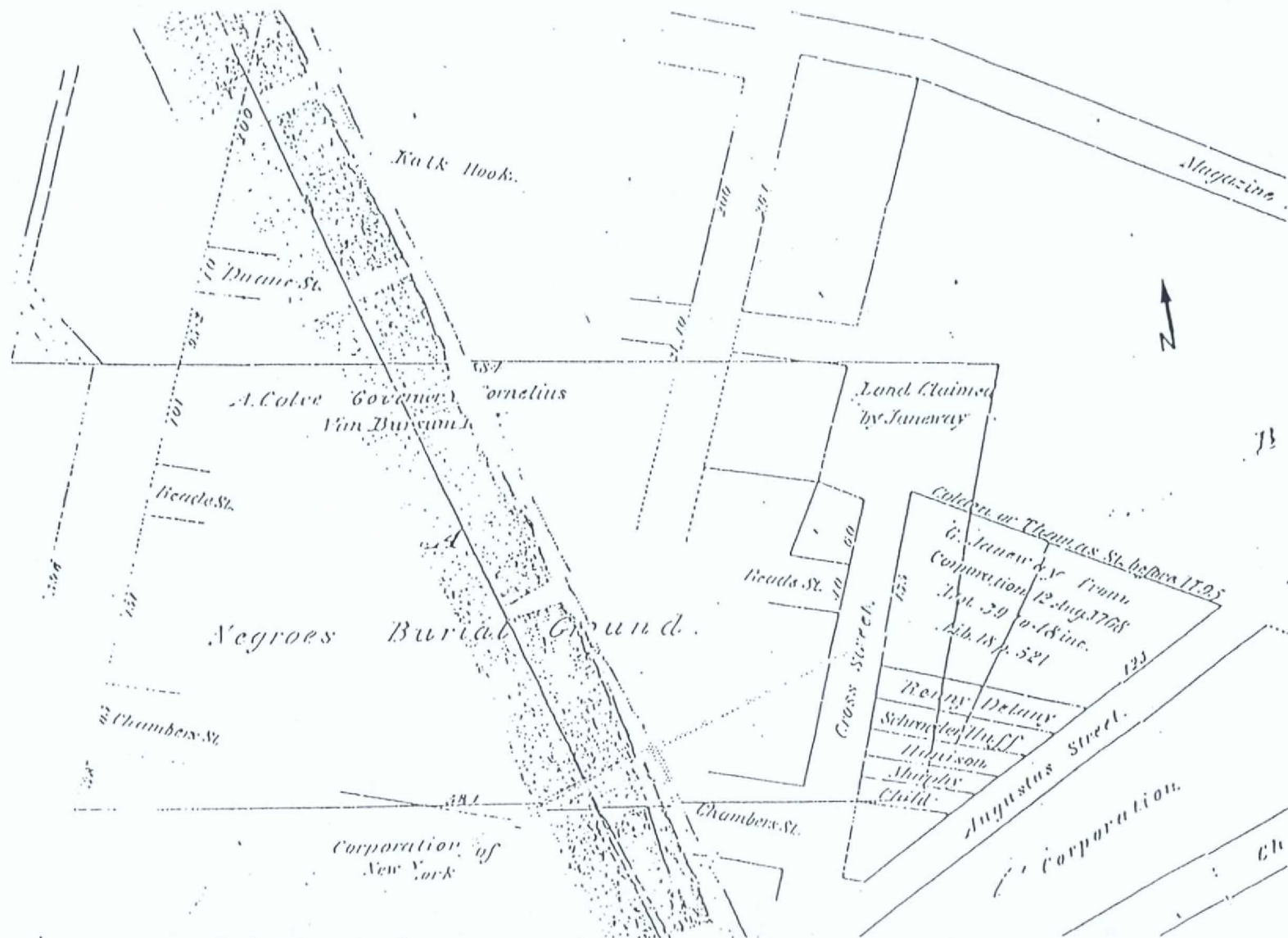


Figure 12. Survey map of the Van Borsum Patent/"Negroes Burial Ground" showing location in relation to Chambers, Reade, and Duane Streets. From Murray Hoffman, *A Treatise upon the Estate & Rights of the Corporation of the City of New York as Proprietors*, 1862. Vol. 2, Diagram 8. (Map provided by Christopher Moore)

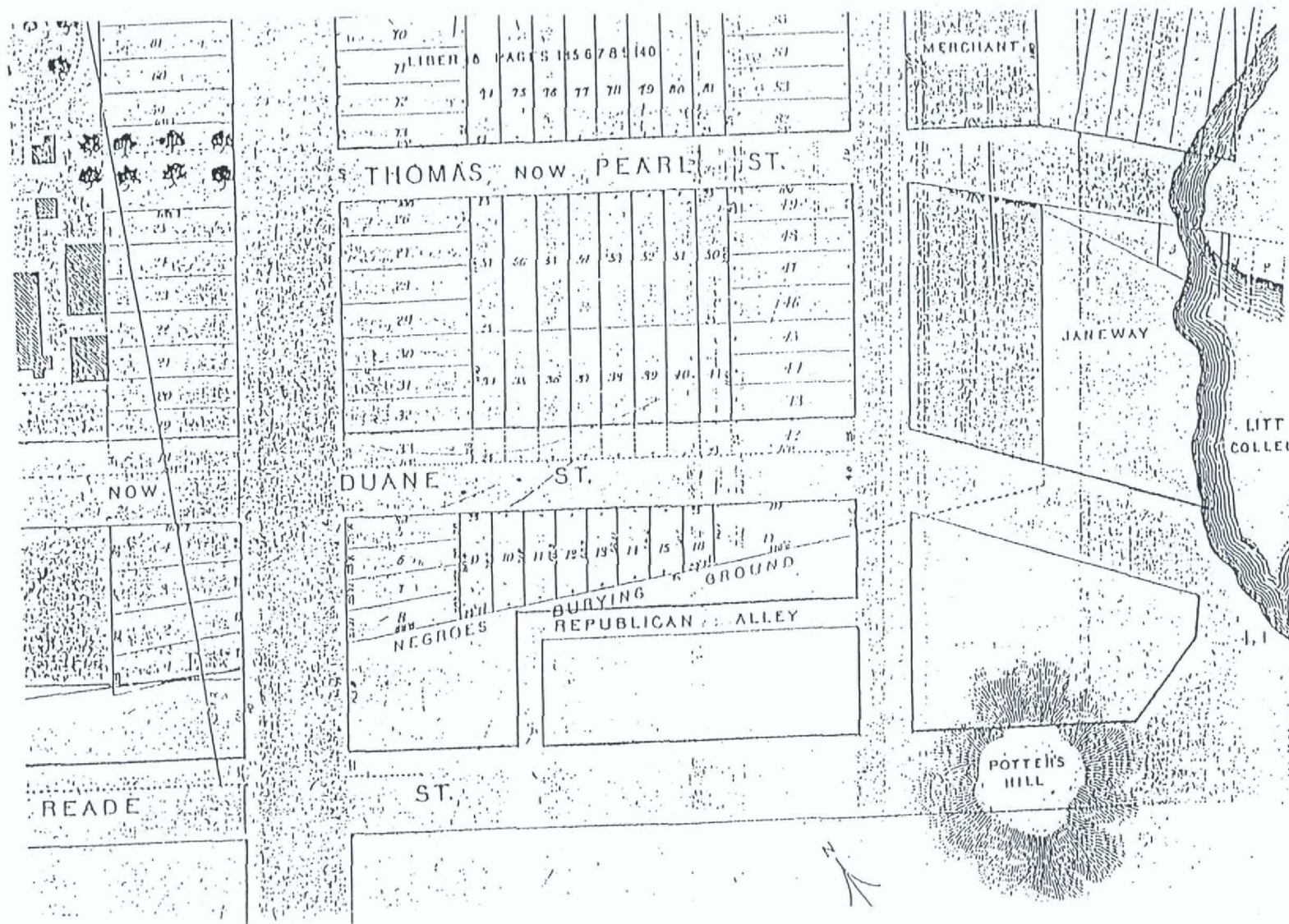


Figure 13. Detail from *Map of the property formerly known as the 'Calk Hook'...*, compiled by John B. Holmes, C.E. and City Surveyor. Municipal Archives, Farm Map Number 6. This map was based on the 1785 survey of the Calk Hook property, filed with the partition deed (New York County, Liber 46, page 139).

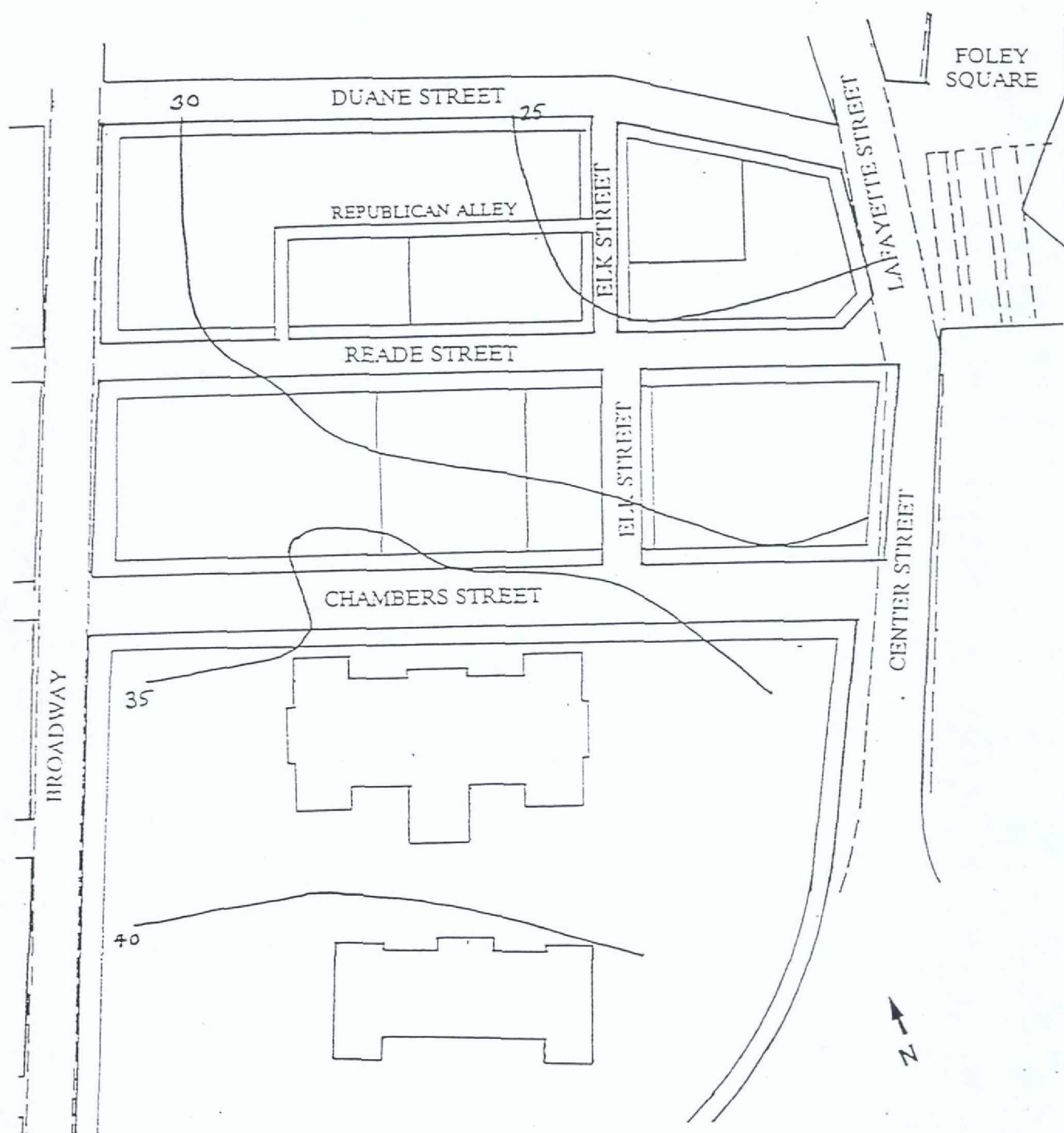


Figure 15. Map of the area of the African Burying Ground showing present contours.

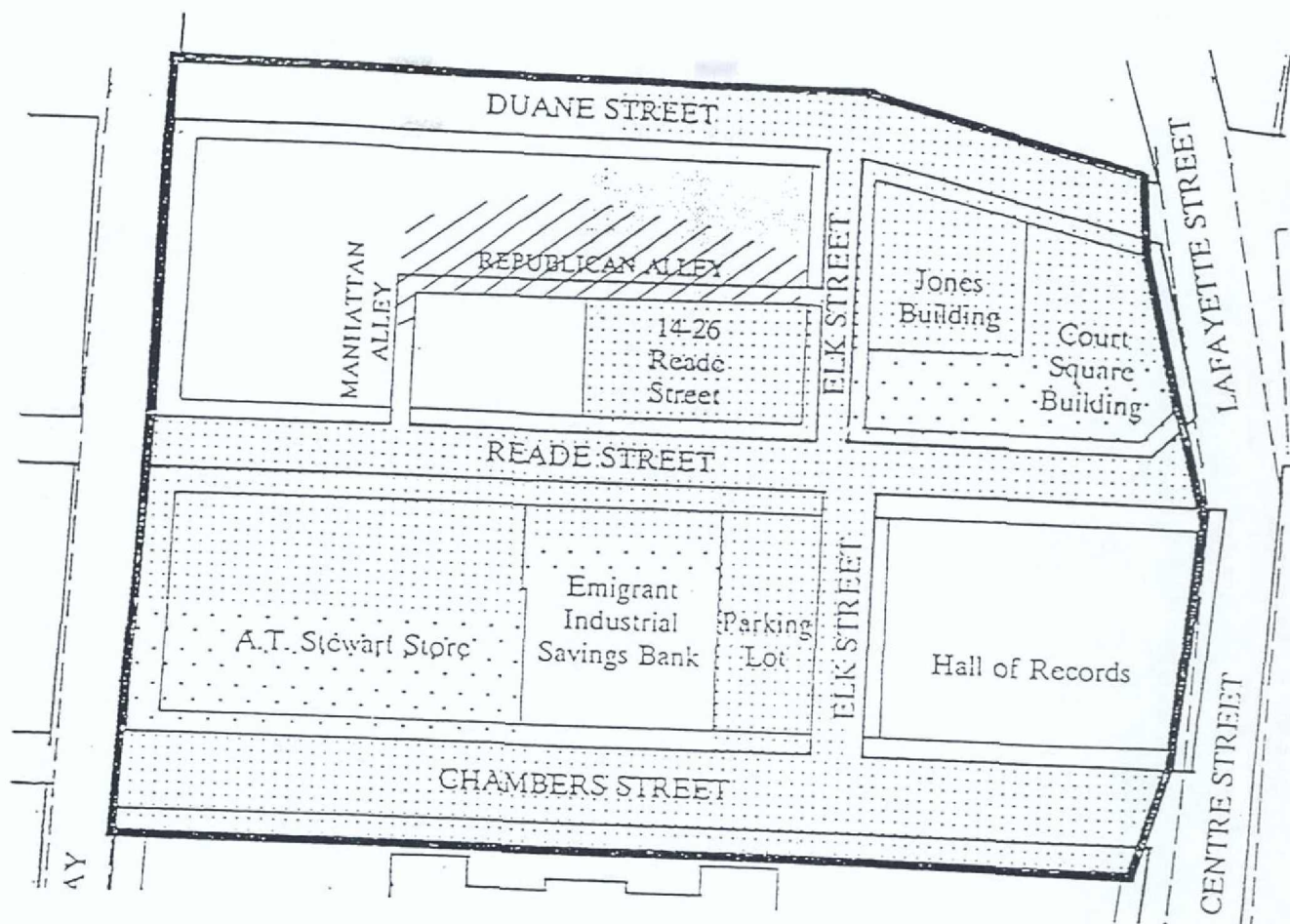


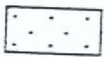


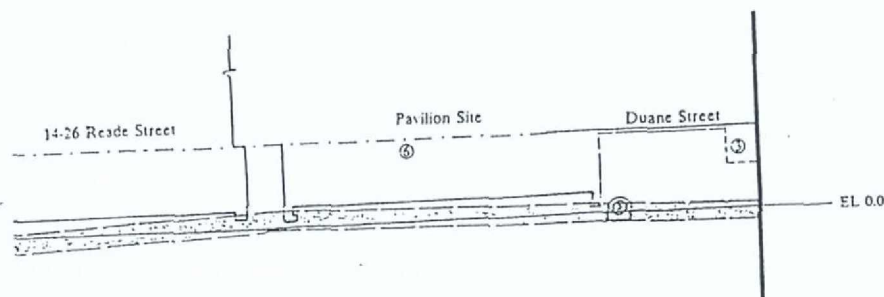
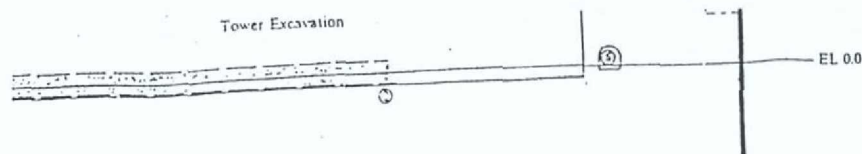


Figure 16. Plan showing sensitive areas of the African Burying Ground Site

-  area known to contain intact burials (Pavilion site)
-  areas most likely to contain intact burials
-  areas unlikely to contain intact burials
-  area excavated that has yielded information of major scientific importance
-  unshaded areas within the historic boundaries of the African Burying Ground (See Figures 9 and 12) but have no potential for preservation of intact burials

Note: Subway tunnels indicated with dashed line



1 Durell Stone & Associates and Eggers & Higgins, Associated Architects to the New York City
 2 Manhattan Civic Center, 1970; borings logs provided by the City of New York Department of
 3 444, New York Civic Center, 1963; and the Draft Archaeological Site Plan (Figure 4).

id is not thought to extend south of Chambers Street.

plan (Figure 4) and the known boundary of the Van Borsum patent, burials in this area probably

of Duane Street are presumed to have had vaults extending beneath the sidewalk.

toward Broadway in this area. Data from borings and building records indicate disturbances from
 the basement of tower building (under construction).

sted for the "Pavilion" area, even though this portion of the site has already been excavated.
 his part of the site during archaeological fieldwork. The north half of the "Pavilion" site has been
 recess ramp.

is cut through from Chambers to Reade. It's filled basement is beneath the street bed. Three
 Elk Street (shown with dashed line).

s block. This location is thought to have been a hillside, graded in the late eighteenth or early
 and probably any burials in this area would have been destroyed at that time. Excavation of the
 have obliterated any that did survive.

Subsurface Sections, African Burial Ground



schematic projection of
 stratum potentially
 containing burials



standing buildings and
 basements, footings, etc.



filled former basements,
 footings, etc.

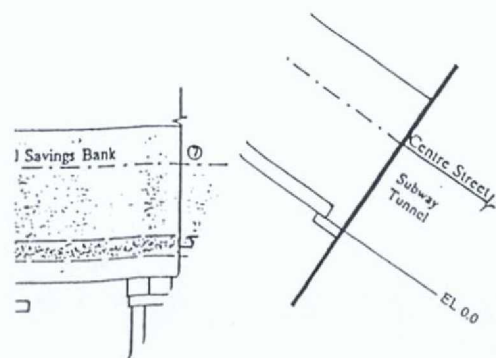
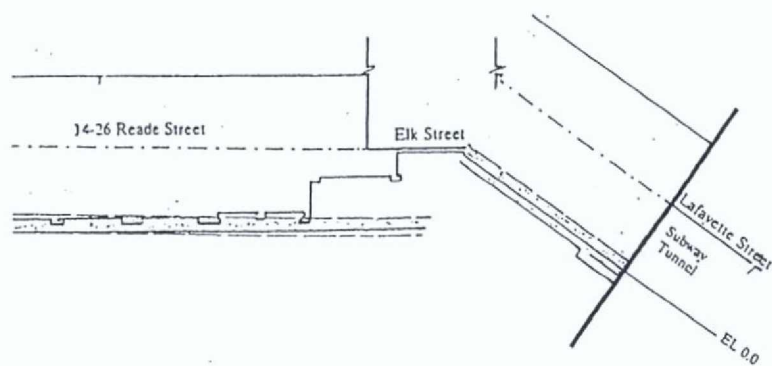
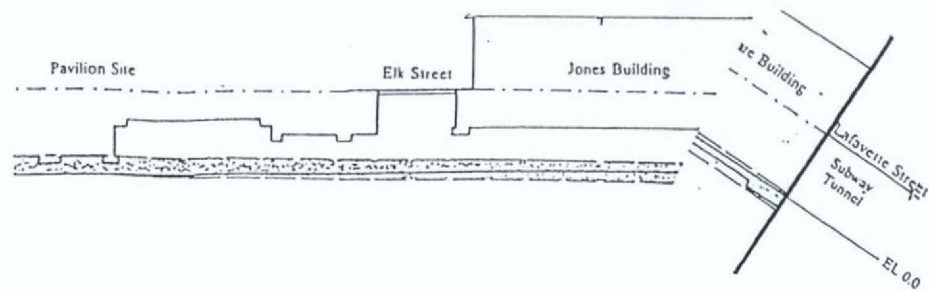


projected
 street grade



sewer

20 feet



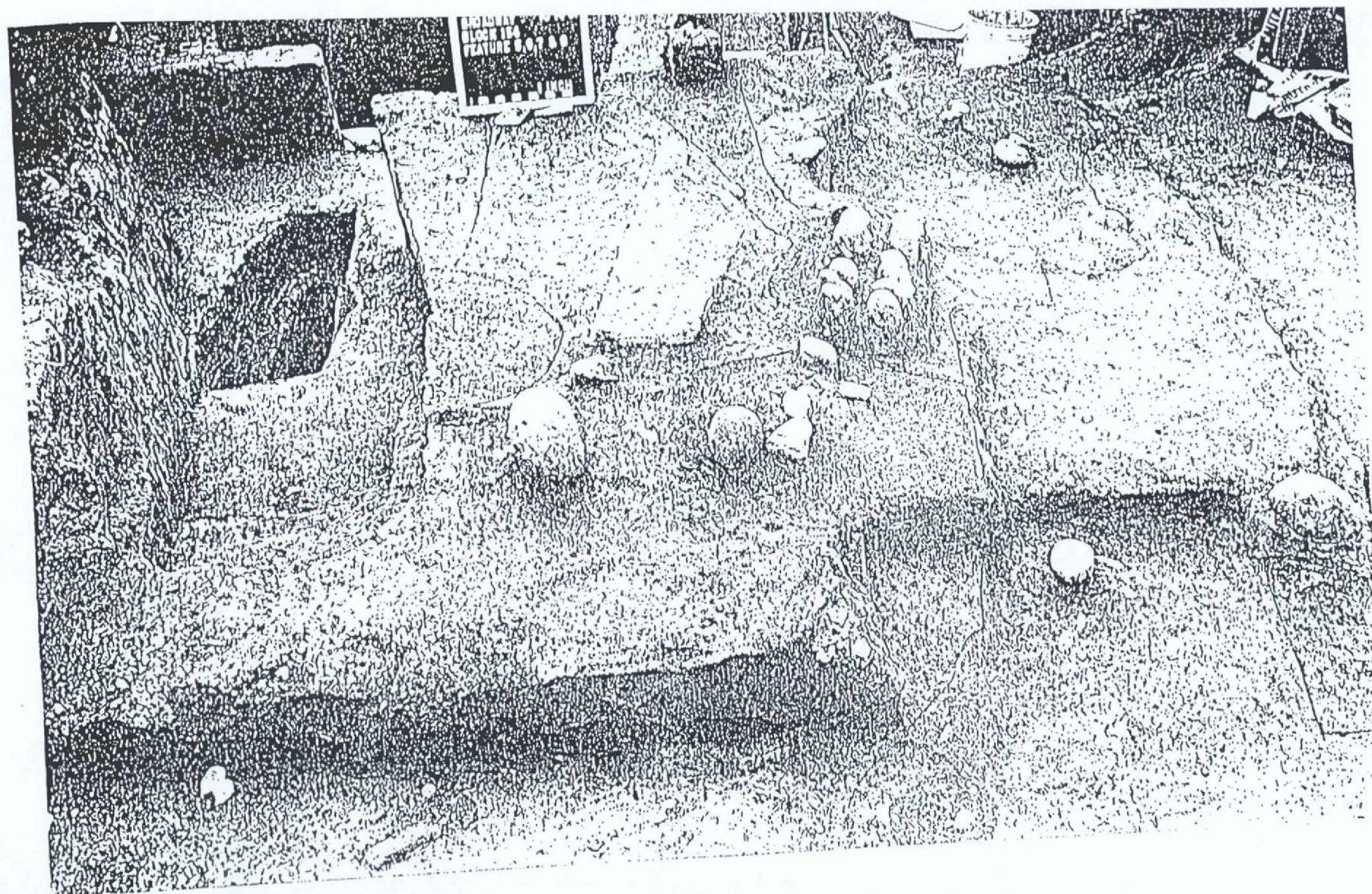


Figure 23. Headstone and cobbles marking graves. African Burying Ground National Historic Landmark, New York City.
(Photograph: Dennis Seckler, 1992).

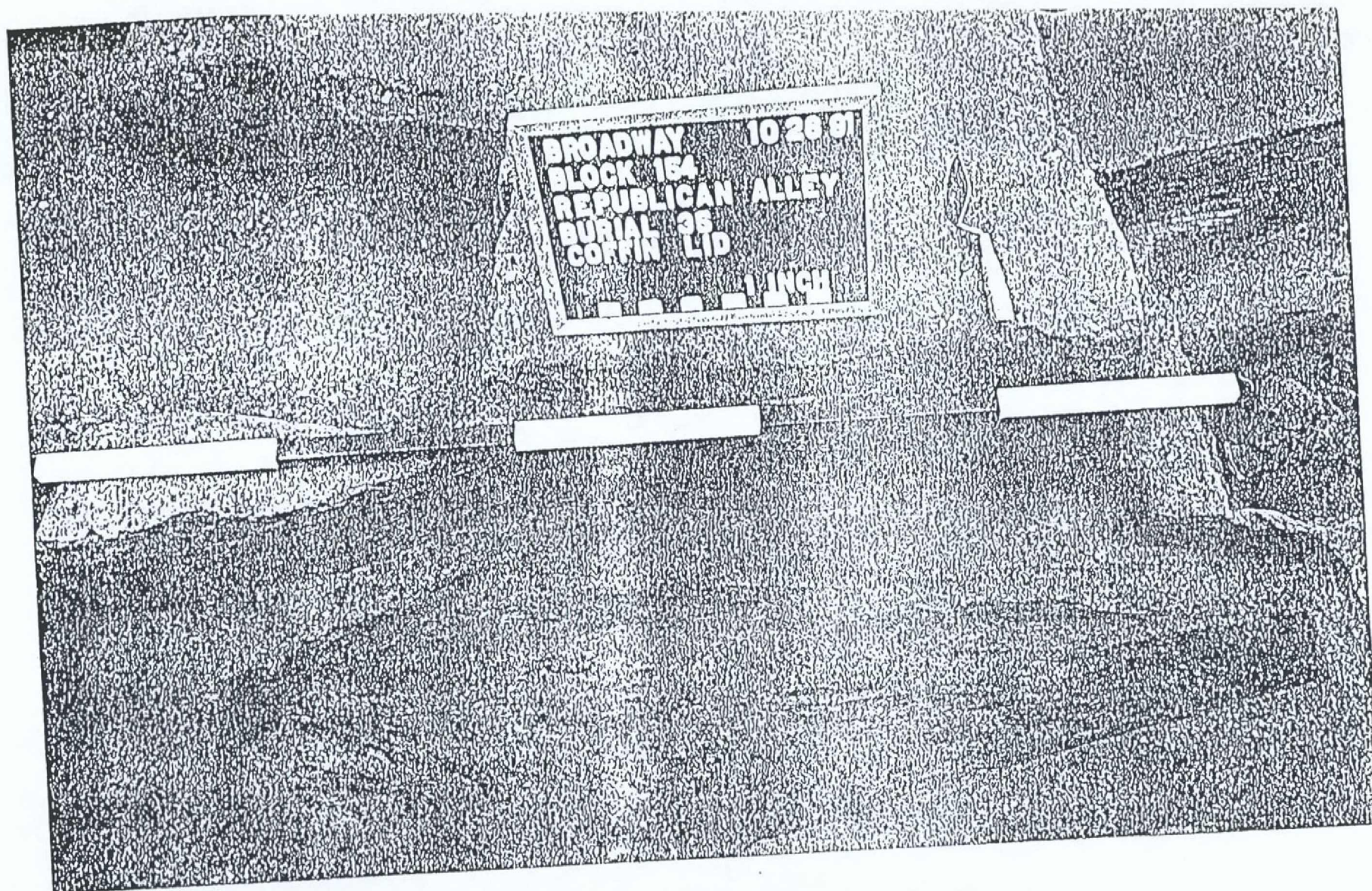


Figure 24. Remains of wood coffin. African Burying Ground National Historic Landmark, New York City.
(Photograph: Dennis Seckler, 1992).

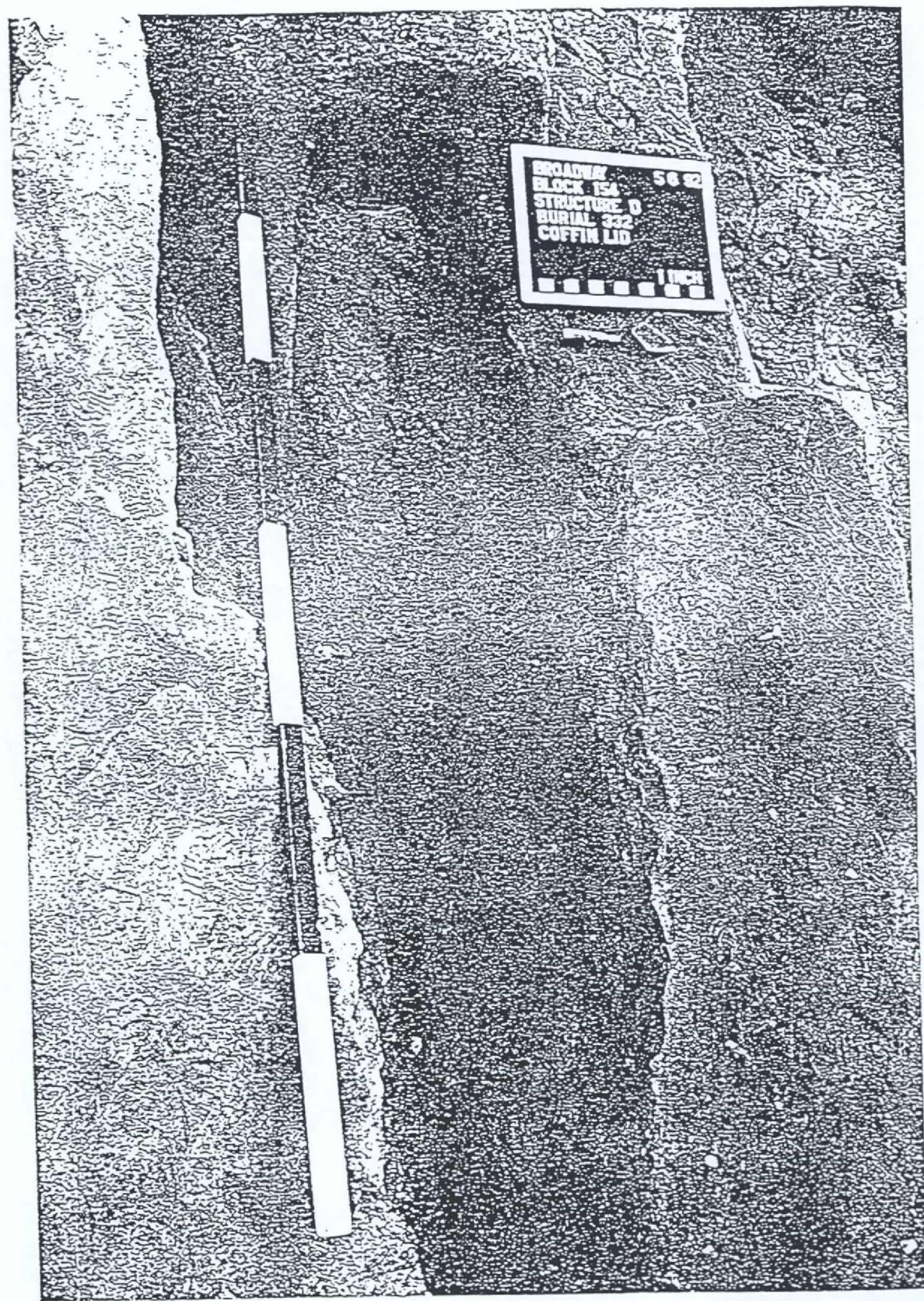


Figure 25. Tack-decorated coffin lid with initials "H W" and date "17[3]8." African Burying Ground National Historic Landmark, New York City. (Photograph: Dennis Seckler, 1992).

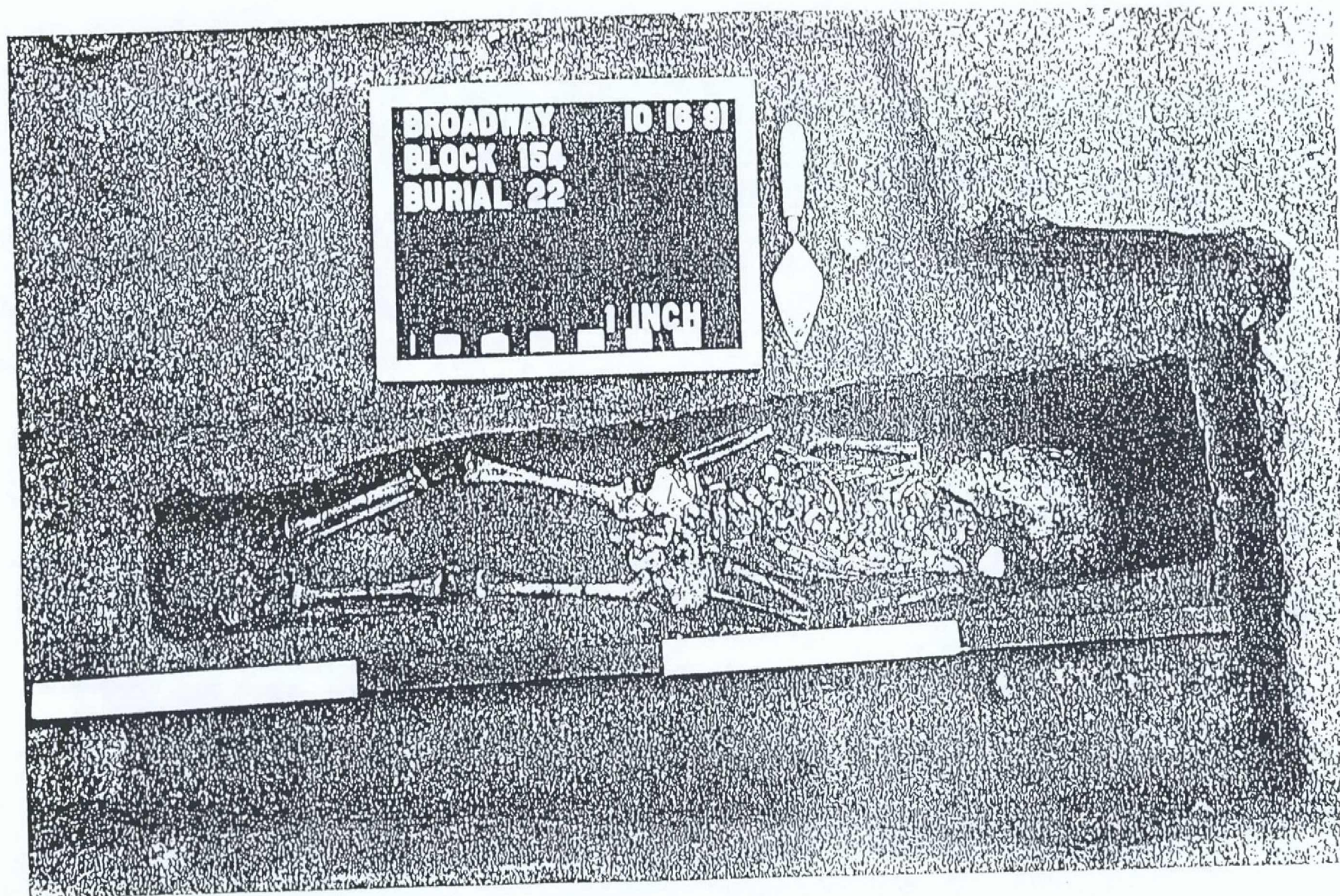


Figure 26. Remains of young child. African Burying Ground National Historic Landmark, New York City.
(Photograph: Dennis Seckler, 1992).



Figure 27. Grave with burial of a woman and two infants in separate coffins. African Burying Ground National Historic Landmark, New York City. (Photograph: Dennis Seckler, 1992).

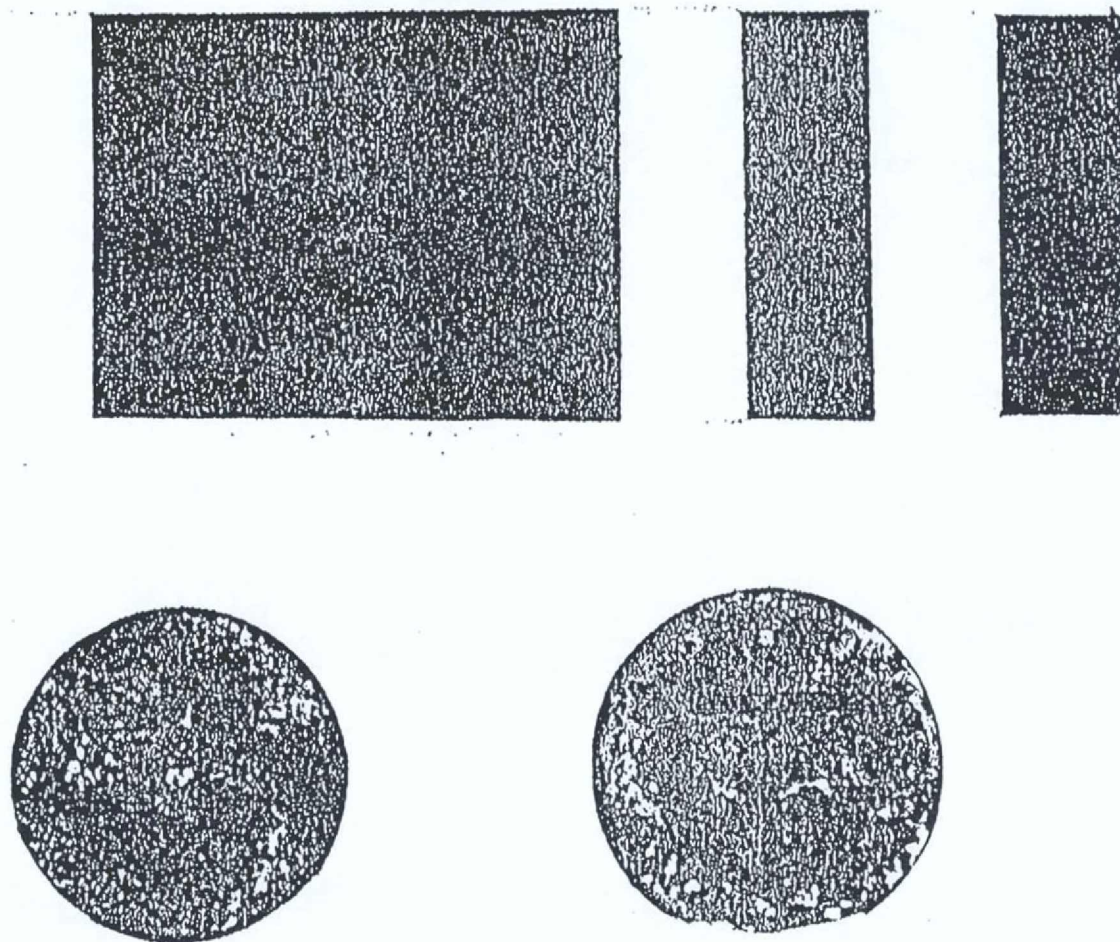


Figure 28. Gilt buttons with molded anchor design. African Burying Ground National Historic Landmark, New York City.
(Photograph: Dennis Seckler, 1992).



Figure 29. Detail of remains of a woman wearing a girdle of glass beads and cowrie shells. African Burying Ground National Historic Landmark, New York City. (Photograph: Dennis Seckler, 1992).



LANDMARKS PRESERVATION COMMISSION

225 BROADWAY, NEW YORK, N. Y. 10007

(212) 553-1100

November 10, 1992

Mr. M. Lanzone
General Services Administration
Room 1300, PGA
14th & F Street, N.W.
Washington, D.C. 20041

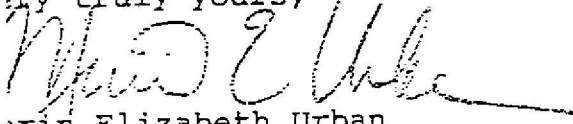
Dear Dale:

We discussed yesterday, enclosed please find a copy of the National Landmark nomination prepared by the New York City Landmarks Commission. A copy of this nomination has also been transmitted to the Regional Director, William Diamond, under separate cover.

The Landmarks Preservation Commission has incorporated comments received from the GSA's consultants, John Milner and Associates, and has worked closely with the staff of the National Parks Service to ensure that their concerns have been addressed.

Please do not hesitate to call me if you have any questions.

Very truly yours,


Erin Elizabeth Urban
Executive Director, LPC

EU/rt

cc: William Diamond, GSA
Marjorie Pearson, LPC
Daniel Pagano, LPC

APPENDIX B

Glossary of Terms Related to the Study of Anthropology and Archeology

The study of the African Burial Ground is of interest to researchers and scholars in many fields, most notably anthropology and history.

Anthropology (from the Greek anthropos = man, and ology = the study of) is the study of human beings in terms of their physical make-up and cultural behavior. The goal of many anthropologists is to explain why humans behave the way we do. The field is usually divided into four sub-fields: archeology, physical anthropology, cultural anthropology, and anthropological linguistics.

Before defining the sub-fields of anthropology, it is useful to understand what anthropologists mean by the term culture. **Culture** may be defined as the sum of ideas, behaviors, and material items relative to a specific group of people for a specific time period.

Examples of ideas may include: values, beliefs, philosophies, scientific concepts, etc. Behaviors may include: the ways people make a living (economic behavior), the way people organize themselves politically (political behavior), the way people act toward each other (social behavior), etc. Material items include such things as: tools, implements, artworks, writings, clothing, foods, etc. Certain phenomena, such as institutions, cross-cut the categories of ideas, behavior, and material goods. For example, the institution of education (or the school system) is behavioral (as in the methods teachers use); is based on ideas (as in what subjects are deemed important); and material goods are necessary for its implementation (such as, pencils, chalk, blackboard, school building, etc.).

Anthropologists never use the term culture to refer to the idea of "refined taste" (as in "that individual is a very cultured person"), since the idea of refined taste is itself an idea relative to a specific culture.

Archeology is the study of human cultures that have existed in the past. As such, the information archeologists work with is derived from the material (or physical) evidence people leave behind. This evidence may be in the form of artifacts and ecofacts.

Artifacts may be defined as material items created by people (such as tools or clothing).

Ecofacts are natural items, such as seeds or bones. After an ecofact has been modified by a human being, such as in the transformation of a reed into a flute, the natural item becomes an artifact.

Archeologists who study culture before the advent of writing work within the field of prehistoric archeology. Those who study culture after the advent of writing (and therefore have written records at their disposal) work within the field of historical archeology. Archeologists studying the African Burial Ground are historical archeologists particularly interested in the colonial period of American history.

Some of the terms archeologists use are:

Excavation - the removal of soil in order to uncover physical evidence. Excavation is accomplished by various tools, depending on the situation. The most common tools include: shovels, trowels, and fine tools, such as those used by dentists (dental picks, for example) and sculptors to model clay.

Site - the area where an excavation takes place. A site may be the remains of a village, a house, a cemetery, or a single burial, etc.

Cultural feature - an assemblage of artifacts that indicates a cultural activity, such as a large lot of bottles; or a non-mobile artifact, such as a privy or foundation.

Site grid - A grid pattern superimposed on a site, based on the compass points. Site grids allow archaeologists to document the location of artifacts and features within a site, since the grid is ultimately tied in with the world's lines of latitude and longitude.

Plan drawing - a scale drawing of an artifact or cultural feature that records the shape and dimensions of the object(s), as well as its/their location in space according to the site grid.

Soil sample - soil collected during excavation that is analyzed for various purposes. For example, soil from the region of the pelvis of a skeleton may contain evidence of an individual's diet.

Historical archeologists studying the African Burial Ground use the following terms:

Interment - a burial.

Burial shaft (or grave shaft) - the pit which is dug during interment, in which the deceased is placed.

Burial artifacts - artifacts associated with the burial, purposefully. Burial artifacts may include items of personal adornment, or items placed into graves reflecting cultural traditions.

Coffin hardware - items such as nails and handles associated with the coffin (or casket)

Other terms of importance to archeologists that have come into usage in recent times include:

Cultural resource management - the undertaking of archeological, historical, and other research to locate, identify, evaluate and investigate archeological and historic sites in compliance with federal laws and implementing regulations protecting such sites.

Environmental impact statement - a document required by law for most large construction projects. Different sections detail the effect the proposed construction will have on the natural environment, on any cultural resources (or archeological sites) present, and on the socioeconomic character of the area.

Physical Anthropology is the study of the physical make-up of the human being, and is usually divided into such topics as: evolution, genetics, and human variation. Physical anthropologists studying the individuals interred at the African Burial Ground are particularly interested in osteology, or the study of bones. Osteological analyses (such as the study of the dimensions and chemical composition of bones) enables anthropologists to reconstruct (in part) the life histories of individuals in terms of their age, gender, stature, diet, health and disease, and ancestry. When certain characteristics (such as age and gender) are studied for a population, the field is called demography.

Cultural Anthropology (or ethnology) is the study of present-day cultures. Many cultural anthropologists try to describe a particular culture so that it may be compared with other cultures. In this manner, anthropologists try to explain why human groups behave similarly or differently. Archeologists studying the African Burial Ground use the research of cultural anthropologists who have studied the cultures of Africa. In this manner, archeologists may be able to trace specific

cultural traits to their geographical point of origin, and thereby explain their meaning. Oftentimes, the records of cultural anthropologists are supplemented by the writings of historians and travelers.

APPENDIX C

Glossary of Terms Related to the Historical Context of the African Burial Ground

The study of archeology is based on the physical remains of cultures that have existed in the past. Physical evidence may consist of human bones, tools, food remains (such as animal bones and seeds), jewelry, and any other material items that have withstood the destructive forces in the environment (such as rain and changes in temperature). Archeologists studying cultures with written records have one more tool at their disposal – **documentary evidence**.

The shape, size, and form of documents vary from culture to culture. An ancient Egyptian document may be carved in stone, while an Aztec (Mexican Indian) document may be drawn with natural dyes on paper. Documents from colonial New York include records kept by the government and churches, maps, letters, diary entries, newspapers, and books. For archeologists, these records supplement their interpretation of culture based on physical evidence.

What follows are some terms that may be useful in understanding New York's colonial past.

The first European colony in Manhattan was called **New Amsterdam**. It was established in 1624 by the **Dutch West India Company**, a private company chartered by the government of Holland. In New Amsterdam, the company's goal was to trade with Native Americans for animal furs which were then shipped to Holland.

The Native Americans from the area which would become New York City, Long Island and Westchester were speakers of the Algonquian language; hence they are often called **Algonquians**. The group of Algonquians from the area of New Amsterdam and eastern New Jersey were the **Lenape**. The other major Native American language spoken in New York State was Iroquoian, whose people are known as the **Iroquois** (and sometimes the Five Nations).

The Dutch colonists who settled in New Amsterdam were actually composed of several different ethnic groups. The most numerous group among them was the **Walloons**, French speaking Protestants from the Spanish Netherlands (what would be today southern Belgium). Escaping religious persecution by the Spanish Catholics, many Walloons sought refuge in Holland before coming to the New World.

The third most numerous group in the colony was the **Africans** who came to New Amsterdam (and later New York) from diverse parts of Africa, including the countries in the western and central parts of the continent, and the large island off the eastern coast, Madagascar. Other Africans had lived in parts of the New World, including the colonies controlled by Spain and England in the Caribbean, South America, and the Atlantic coast of the U.S. The institutions that Africans established in the New World all bore the prefix African.

APPENDIX D:
RESUMES

CURRICULUM VITAE

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Present Positions

- 1989- Associate Professor of Anthropology and Curator
of the W. Montague Cobb Human Skeletal Collection,
Department of Sociology and Anthropology,
Howard University.
- 1985- Research Associate, Department of Anthropology, National
Museum of Natural History, Smithsonian Institution.
- 1986- Graduate Associate Professor, Graduate School of Arts and
Sciences, Howard University.
- 1987- Adjunct Associate Professor, Department of Anatomy,
College of Medicine, Howard University.

Academic Preparation

- 1978 B.A. College of Liberal Arts, Howard University
(Anthropology major, Geology, minor).
- 1979-
1982 Fellow, National Science Foundation.
- 1980 M.A. Anthropology, University of Massachusetts-Amherst

Special studies in laboratory methods in human
psychophysiology, Department of Biological
Anthropology, University of Oxford; life-event/
social stressor methodology, Social Research
Unit, Bedford College, University of London, UK.
- 1985 Ph.D. Anthropology, University of Massachusetts-Amherst

Specialization

Biological anthropology, bioarchaeology, paleopathology, medical
anthropology, psychophysiology, urban ethnology, social inequality,
ethnicity, Afro-Americans, history of anthropology, ideological

May, 1992

influences on museums and archaeological interpretation, epistemology; North America and Britain.

Teaching

- 1979-1980 Teaching Assistant, WEB DuBois Department of Afro-American Studies, University of Massachusetts, Amherst.
- 1981 Teaching Assistant, Department of Anthropology, University of Massachusetts, Amherst.
- Spring 1982 Adjunct Assistant Professor, Psychophysiology Project, Delaware State College, Dover
- 1982-1985 Lecturer in Anthropology, Department of Sociology and Anthropology, Howard University.
- 1983- Co-Lecturer, Dental Paleopathology; Anthropology 900-606, Department of Anatomy with the College of Dentistry, Howard University
- 1985-1989 Assistant Professor of Anthropology, Department of Sociology and Anthropology, Howard University.
- 1986- Faculty Preceptor, Minority Access to Research Careers (MARC) Honors Research Training Program, Department of Psychology, Howard University.
- Spring 1989 Visiting Associate Professor of Anthropology, Department of Sociology and Anthropology, Spelman College, Atlanta, GA.
- Spring 1990 Guest Lecturer, Smithsonian Campus on the Mall, course on Buried Heritage: The Archaeology of African American Life, Smithsonian Institution, Washington, DC.
- Summer 1990 Visiting Associate Professor of Anthropology, Dipartimento Di Biologia Animale E Dell'Uomo, Universita Di Roma, Italy.
- Spring/Summer 1990 & 1991 Lecturer, Institute for Policy Studies, The Washington School, course on The Construction of Racial Ideology in the United States, Washington, DC.
- Spring/Summer 1991 Lecturer, District of Columbia Public School's Teachers Training Program, course on the Construction of Racial Ideology in the United States: Issues in Education, Washington, DC.
- Summer 1991 Lecturer, The Washington Center Fellows, course on The Construction of Racial Ideology in the United States, Washington, DC.

(see Present Positions)

Administrative Positions

- 1987- President, Association of Black Anthropologists, American
1989 Anthropological Association.
- 1987- Coordinator of the Anthropology Program, Department of
1989 Sociology and Anthropology, Howard University.

Publications

Technical Publications:

- Blakey, ML
1981 "Hypoplasia and Hypocalcification in Deciduous Dentition from Dickson Mounds," In Biocultural Adaptation: Comprehensive Approaches to Skeletal Analysis, D. Martin and P. Bumstead (eds). Research Reports 20, Department of Anthropology, UMass. 24-34.
- Blakey, ML
1983 "Sociopolitical Bias and Ideological Production in Historical Archaeology, In The Socio-Politics of Archaeology, JM Gero, DM, Lacy, and ML Blakey (eds) Research Reports 23, Department of Anthropology, UMass. 5-16.
- Gero, J, Lacey, D, and Blakey, ML (eds)
1983 The Socio-Politics of Archaeology, Research Reports 23, Department of Anthropology, University of Massachusetts.
- Blakey, ML and Armelagos, GJ
1985 "Deciduous Enamel Defects in Prehistoric Americans from Dickson Mounds: prenatal and postnatal stress," American Journal of Physical Anthropology 66:371-380.
- Blakey, ML
1985 Stress, Social Inequality, and Culture Change: An Anthropological Approach to Human Psychophysiology, Ph.D. Dissertation, Department of Anthropology, UMass.
- Blakey, ML
1986 "American Nationality and Ethnicity in the Depicted Past" Proceedings of the World Archaeological Congress, Southampton and London. Allen and Unwin Publishers.
- Blakey, ML
1987 "Skull Doctors: Intrinsic Social and Political Bias in the History of American Physical Anthropology; with special reference to the work of Ales Hrdlicka," Critique of Anthropology 7:7-35.

key, 1992

Blakey, ML
1987 "Racism Through the Looking Glass: An Afro-American Perspective," World Archaeological Bulletin 2:46-50.

Blakey, ML
1988 "Social Policy, Economics, and Demographic Change in Nanticoke-Moor Ethnohistory," American Journal of Physical Anthropology 75:493-502.

1990 "American Nationality and Ethnicity in the Depicted Past," In Politics of the Past, P. Gathercole and D. Lowenthal (eds). London: Allen and Unwin. pp. 38-48.

Blakey, ML, Coppa, A, Damadio, S, and Vargiu, R
1990 Comparison of Dental Enamel Defects in Christian and Meroitic Populations at Geili, Central Sudan," International Journal of Anthropology. 5:193-202.

Blakey, ML
1991 "Man and Nature: White and Other," In Faye Harrison (ed) Decolonizing Anthropology. Washington, DC: American Anthropological Association and Association of Black Anthropologists. pp. 8-16.

Blakey, ML, Leslie, TE, and Reidy, J
1992 Chronological Distribution of Dental Enamel Hypoplasia in African American Slaves: A Test of the Weaning Hypothesis. American Journal of Physical Anthropology. Supplement 14: 50.

Review Articles:

Blakey, ML
1987 "Comment on 'Toward a Critical Archaeology (MP Leone, PB Potter, and PA Shackel)," Current Anthropology 28:3.

Blakey, ML
1989 Review of Ecological Imperialism: The Biological Expansion of Europe, 900-1900, by Alfred Crosby (1986) Cambridge University Press, for Medical Anthropology Quarterly 3:417-421.

Essays:

Blakey, ML
1985 "Black Anthropologists at the Fifty Fourth Annual Meeting of the American Association of Physical Anthropologists, Notes from the ABA 11:8-9.

Blakey, ML
1986 "Archaeologists and Apartheid," Anthropology Newsletter, 27:2,2.

- Blakey, ML
 "Patricia A. Jones-Jackson," (obituary) Anthropology Newsletter 27:9,4.
- Blakey, ML
 1987 "The World Meets to Discuss the Past," Notes from the ABA 13: 2-3, 12-17.
- Blakey, ML
 1989 "A Comment on Representation," Notes from the ABA 14:2-5.
- Blakey, ML
 1989 "The Future of Anthropology," Anthropology Newsletter 30:7,8.
- Blakey, ML
 1989 "The Professional Caucus: Place of Refuge, Source of Change," Academe, September-October: 15-18.

Forthcoming:

- Blakey, ML and Rankin-Hill, L
 1992-1993 "W. Montague Cobb: Physical Anthropologist, Anatomist, and Activist," In I. Harrison, G. Jordan, and St. Clair Drake (eds), African-American Pioneers in Anthropology, Chicago: University of Illinois Press.
- Blakey, ML, Jenkins, S, and Leslie, T.
 "Dental Indicators of Fetal and Childhood Health
 19th Century African Americans
Research in Alcohol, Drug Abuse, and Mental Health. Washington, DC: Howard University Press.

In Preparation:

- "Psychophysiological Stress as an Indicator of Disorder in Industrial Society," Diagnosing America, University Michigan Press.
- (with SB Jenkins, TE Leslie and D Jamison)
 "Dental Indicators of Fetal and Childhood Health in the Archaeological Remains of an Early 19th Century African American Community," submitted to the American Journal of Physical Anthropology.
- "Race, Nationalism, and the Afrocentric Past," Making Alternative Histories, School of American Research, Santa Fe.

Major Reports:

ey, 1992

188

The W. Montague Cobb Skeletal Collection Curation Project. First Report. pp. 23 and appendices.

Research

- 1966-1968 Excavator/Member, Maryland Archaeological Society
- 1968
Summer Researcher, dietary influences on facial morphology, dental attrition and disease, Department of Anthropology, Smithsonian Institution.
- 1977
Summer Researcher, archaeological survey of the periphery of Cerro Maya Ceremonial Complex, Corozal, Belize, Howard University in cooperation with Southern Methodist Univ.
- 1978
Summer Researcher, gerontology and ethnicity, Ethnic Minority Outreach Project, Asbury Methodist Village, Gaithersburg, MD.
- 1978-1985 Principal Investigator, fetal and infant dental enamel defects in the Dickson Mounds archaeological population, Illinois, Department of Anthropology, UMass.
- 1979-1980 Principal Investigator, social stress, disease, and coping in a multi-ethnic London community, European Field Program, UMass., in cooperation with the Sickel-Cell Centre, Willesden General Hospital, London, UK.
- 1980-1985 Principal Investigator, Nanticoke-Moor ethnography and historical demography project, Delaware, National Science Foundation fellowship (1980-1982).
- 1981
Summer Graduate Academic Intern, history of physical anthropology, National Anthropological Archives, Smithsonian Institution.
- 1984
Summer Consultant Archaeologist, phase I CRM survey of District of Columbia sites, DC Recreation Dept. and Thunderbird Res. Corp., Catholic Univ.
- 1985
Summer Consultant Archaeologist/Physical Anthropologist, Swirl Project, Washington, D.C., Thunderbird Res. Corp., Catholic Univ.
- Visiting Scientist, biohistorical study of the FABC free black skeletal population, 1823-1841, Department of Anthropology, Smithsonian Institution.
- 1986-1987 Co-coordinator, First African Baptist Church biohistory project, Department of Anthropology, Smithsonian Inst.

- 987-1988 Principal Investigator, initial study and curation of the W. Montague Cobb Skeletal Collection, Howard Univ.-Sponsored Faculty Research Grants (\$10,000).
- 988-990 Collaborator, Study of dental paleopathology in the Geili (Sudan) and Italian Iron Age populations, University of Rome, Italy.
- 990 Principal Investigator, study of dental defects and weaning age in African American slave skeletons in the Department of Anthropology, Smithsonian Institution.
- 991- Principal Investigator, study of nutritional stress, maturation, and size in the W. Montague Cobb Skeletal Collection, Howard University-Sponsored Faculty Research Grants (\$7,000)
- 1992-1994 Project Director, W. Montague Cobb Collection curatorial project: phase II, National Science Foundation (\$177,000).

Symposia and Colloquia Organized and Chaired

- 1981 Symposium on the Sociology of Archaeology, Northeastern Anthropological Association, Saratoga Springs, NY. (organized and chaired with J. Gero).
- 1982 Symposium on the Socio-Politics of Archaeology, Society for American Archaeology, Minneapolis, MN. (organized and chaired with J. Gero).
- 1983 A Dialogue with Third World Women, a lecture series, Third World Women's Project, Institute for Policy Studies, Washington, DC. (co-organizer).
- 1987 Contributed Papers in Paleopathology, American Association of Physical Anthropologists, New York, NY. -(chair).
- 1988 South Africa Today, lecture series, Office of Folklife Programs and Smithsonian Associates, Smithsonian Institution. (co-organizer/co-moderator).
- Symposium and Workshop on Dental Enamel Defects, American Association of Physical Anthropologists and the Dental Anthropological Association, Kansas City, MO. (co-organized and chaired with A. Goodman).
- 1989 Case Studies: Florida and Virginia, Digging the Afro-American Past: Archaeology and the Black Experience, University of Mississippi, May 17-20 (moderator).
- On Common Ground: Skeletal Biologists and Community

Interests, First Inter-Congress, World Archaeological Congress, Vermillion, SD. August 10th (co-organizer and chair).

Plenary on Racism in America: The Divided Society, Annual Meetings of the American Anthropological Association, Washington, DC., November 17th (co-organizer and chair).

Presented Papers

- 1979 "An Analysis of Hypoplasia and Hypocalcification in Deciduous Dentition from Dickson Mounds," Northeastern Anthropological Association Annual Meeting, Heniker, NH.
- 1981 "Stress and Coping in a Black British Community," American Association of Physical Anthropologists Annual Meeting, Detroit, MI.
- "Some Social, Economic, and Ethnic Influences on What Archaeologists Do," Northeastern Anthropological Assoc. Annual Meeting, Saratoga Springs, NY.
- 1985 "Social Policy, Economics, and Demographic Change in Nanticoke-Moor Ethnohistory," American Association of Physical Anthropologists Annual Meeting, Knoxville, TN.
- "Sociobiology and Racism," Conference on Academics and Labor, American Institute for Marxist Studies.
- (with Lesley Rankin-Hill) "W. Montague Cobb: Preeminent Afro-American Anthropologist," American Anthropological Association Annual Meeting, Washington, DC.
- "Apologies in Nature: The Political Legacy of Ales Hrdlicka, Physical Anthropologist," Works in Progress, Smithsonian Institution Archives.
- 1986 "American Nationality and Ethnicity in the Depicted Past," World Archaeological Congress, Southampton and London, England.
- 1987 "Fetal and Childhood Health in Late 18th and Early 19th Century Afro-Americans: Enamel Hypoplasia and Hypocalcification in the FABC Skeletal Population," American Association of Physical Anthropologists Annual Meeting, New York, NY.
- "Man and Nature: White and Other," Symposium on Decolonizing Anthropology, Annual Meeting of the American Anthropological Association, Chicago, IL.
- 1988 (with M.E. Mack) "The Significance of Dental Defect

1992

Width in Relation to Growth and Developmental Indicators
In the Skeleton," American Association of Physical
Anthropologists Annual Meeting, Kansas City, MO.

(and A. Coppa, S. Damadio, and R. Vargiu) "A Comparison
of Dental Enamel Defects in Christian and Meroitic
Populations at Geili, Central Sudan," American
Association of Physical Anthropologists Annual Meeting,
San Diego, CA.

"Biohistory and Community Development," First Inter-
Congress, World Archaeological Congress, Vermillion, SD.

"Ideology of White Supremacy Reflected in the Exhibits
of the National Museum of Natural History," Invited
Speaker, Theme Session, Annual Meeting of the New
England Museums Association, Stratton, VT.

"Evolving New Roles and Relationships with the
Descendants of Those We Study: The Reburial Issue"
Invited Speaker, Annual Meeting of the Pennsylvania
Archaeological Council, Harrisburg, PA.

91

"Biological Anthropology and Human Rights," Martin
Luther King Distinguished Lecture in Anthropology,
University of Michigan, Ann Arbor, MI.

"Toward A Critical Human Biology" and "Problems and
Prospects for the Study of Dental Enamel Hypoplasia,"
Department of Anthropology, Michigan State University,
East Lansing, MI.

"Toward A Critical Human Biology," Department
of Anthropology, University of Maryland, College Park,
MD.

"Passing the Buck: Naturalism and Denial," invited
session on Unfinished Business: Race and Racism Re-
Considered, I: Institutional Constructions and
Confrontations, Annual Meeting of the American Anthro-
pological Association, Chicago, IL.

(with R. Vargiu and A. Coppa) "L'Ipoplasia Dello
Smalto Dei Denti Nelle Necropoli Di Campovalano Di
Campi (Teramo) e Di San Marzano (Salerno)."
Sommari Dei Contributi Scientifici, IX Congresso Degli
Anthropologi Intaliani, Bari, Italy.

1992

(and TE Leslie and J Reidy) "Chronological Distribution
of Dental Enamel Hypoplasia in African American Slaves:
A Test of the Weaning Hypothesis," Annual Meeting of
the American Association of Physical Anthropologists,

, 1992

Las Vegas, NM.

"The Politics of "Racial" Studies in Western Science,"
 Symposium on the Historical Biology of African Peoples,
 7th-International Conference of the International
 Society for the Study of Hypertension in Blacks,
 Atlanta, GA.

Professional and Community Service

ships:

- 16- Member, Editorial Committee, Science and Nature.
- 19
- 10- Member, Editorial Board, Critique of Anthropology.
- 12- Member, Editorial Board, Medical Anthropology Quarterly.
- 86- Periodic review of manuscripts for American Journal of Physical Anthropology, American Journal of Human Biology, Yearbook of Physical Anthropology, Current Anthropology, and Medical Anthropology.

American Anthropological Association:

President, Association of Black Anthropologists (1987-1989); Member, Panel on Disorders of Industrial Societies (1987-1990); Executive Council of the Society for Medical Anthropology (1989-1992), Committee on the Status of Minorities in Anthropology (1987-); Committee to Revise the Principles of Professional Responsibility and Code of Ethics (1987-1989); Member, Commission on the Treatment of Human Remains (1989-1990).

Howard University:

Member, President's Review and Advisory Committees for the Deanship of the College of Liberal Arts (1985-1987); 1986 Annual Conference Committee of the Social Sciences Division (1985-1986); Commission for Curricular Reform of the College of the Liberal Arts (1988-1989); Review Panel, University-Sponsored Faculty Research Grants in the Social Sciences and Humanities (1988); Chairman, Task Force on Graduate African American Studies (1990-1991); Secretary, Division of Social Sciences (1990-1991); and others.

Public Education and Media:

Lectures on anthropology at the School Without Walls and-McKinley High School; radio interviews on archaeology for Radio UDC Crosstalk, on repatriation of Native American skeletal remains for Late Night America, PBS, on biological determinism for WPFW, Pacifica Radio, and on the concept of race for New Voices Radio, NPR; interviews on Afro-American Bio-history for the Washington Afro-American and Amsterdam News, on race and sports for USA Today and the Washington Afro-American; interview in The Washington Post on Eurocentrism in Smithsonian exhibits; Interview in Essence Magazine on color prejudice in Afro-American communities; featured in a Carnegie Foundation funded documentary, "College: What of the Dream," and American education, and other media handling. Numerous lectures for District of Columbia Public Schools administrators, faculty, and students concerning multicultural education. Speeches and lectures at colleges and universities.

Professional Meetings

Intercollegiate Geological Conference, Boston (1976); Symposium on Maya Art, Archaeology, Iconography, and Architecture. Guatemala City (1977); American Association for the Advancement of Science, Washington, DC (1978); Society for Human Biology Annual General Meeting, London (1980); American Anthropological Association Annual Meetings (1976, 1980, 1982, 1985, 1986, 1987, 1988, 1989, 1990, 1991); National Conference on High Blood Pressure Control, Washington, DC (1983); American Association of Physical Anthropologists Annual Meeting (1981, 1984, 1985, 1987, 1988, 1989); World Archaeological Congress, Southampton and London (1986); and others.

Current Memberships

Human Biology Council Fellows, American Association of Physical Anthropologists, American Anthropological Association, Association of Black Anthropologists, Society for Medical Anthropology, World Archaeological Congress, Paleopathology Association, Society for the Study of Afro-American Life and History, and others.

Honors

Honorary Member, Golden Key National Honor Society.

CURRICULUM VITAE

Lesley Rankin-Hill
University of Oklahoma
Department of Anthropology
455 W. Lindsey, Room 521
Norman, Oklahoma 73019
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(405) 325-9438 [H]

EDUCATION

B.A.	Smith College Northampton, Massachusetts Anthropology & Sociology	1973
M.A.	University of Massachusetts Amherst, Massachusetts Anthropology	1977
Ph.D.	University of Massachusetts Amherst, Massachusetts Anthropology	1990

PROFESSIONAL EMPLOYMENT

1989-present	<u>Assistant Professor of Anthropology</u> Anthropology Department University of Oklahoma, Norman
1979-1987	<u>Assistant Professor of Anthropology</u> Sociology/Anthropology Department University District of Columbia
1982 Fall	<u>Acting Chair</u> Sociology/Anthropology Department University District of Columbia
1976-79	<u>Instructor</u> Sociology/Anthropology Department Federal City College
1976	<u>Educational Specialist/Academic Coordinator</u> Project Stride College of Continuing Education Federal City College
1973-76	<u>Teaching Assistant/Associate</u> Anthropology Department University of Massachusetts, Amherst

1974
Summer

Assistant Director Pre-Freshman Program
Collegiate Committee for the Education of
Black Students
University of Massachusetts, Amherst

1973
Summer

Oral History Coordinator and Teacher
Tri-City Educational Component
University of Massachusetts, Amherst

PUBLICATIONS AND MANUSCRIPTS

Referred Book Chapters

1991
Ms.

"Afro-American Biohistory: A Review" in
Studies in African-American Archaeology.
Teresa Singleton, Editor. University of
Virginia Press (submitted and reviewed).

Ms.

"Wm. Montague Cobb: Preeminent Afro-American
Physical Anthropologist". Blakey and
Rankin-Hill in Afro-American Pioneers in
Anthropology. Harrison, Harrison, Jordan,
Drake Eds. University of Illinois Press
(submitted and reviewed).

Journal Articles

1993

A Cross-Cultural Comparison of Adaptation to
Chronic Pain Among Anglo Americans and Native
Puerto Ricans. Bates, Rankin-Hill, Sanchez-
Ayendez, Mendez-Bryan Medical Anthropology
(submitted).

1992

"William Montague Cobb 1904-1990". American
Journal of Physical Anthropology (submitted).

1991

"Cortical Thickness in a 19th Century Free
Afro-American Population" American Journal of
Physical Anthropology (supplement) 12:148.

1989

"Mortality and Health in a 19th Century
Philadelphia Afro-American Population"
American Journal of Physical Anthropology
78:287.

1988

"Multicausal Factors Affecting Reproductive
Outcome". Rankin-Hill, Melnick and Scott.
American Journal of Physical Anthropology
75:259.

1986

"Wm. Montague Cobb: Portrait of a Scholar"
Journal of the Social Sciences 3:3-7
University District of Columbia.

Dissertation and Thesis

1990

Afro-American Biohistory: Theoretical and
Methodological Considerations (Dissertation).

1977

Patterns of Disease and the Differential Utilization of Medical Services: A Medical Anthropology Model (Thesis).

Unrefereed Publications

1984

Youth Oral History Projects: A How-to-Manual,
Latin American Youth Center, Washington, D.C.

"And the Streets Were Not Paved in Gold" A
bilingual audio-visual script with Wheaton,
Rankin-Hill, Cadaval and Leiva. Latin American
Youth Center Washington, D.C.

1983

"From Our Eyes: A History of a Latino Community".
A bilingual audio-visual script Rankin-Hill and
Wheaton. Latin American Youth Center Washington,
D.C.

PROPOSALS

1992

Biocultural Dimensions of Chronic Pain: A
Puerto Rican Study. National Science
Foundation (Funded \$57,000).

1990

Biocultural and Psychosocial Aspects of
Chronic Pain. National Institute of Mental
Health. (not funded \$50,000).

1990

Biocultural Dimensions of Chronic Pain: A
Puerto Rican Study. National Science
Foundation (approved not funded \$50,000).

1989

Biocultural Dimensions of Chronic Pain: A
Puerto Rican Study. National Science
Foundation (approved not funded \$50,000).

INTERNAL FUNDING

1992

Instructional Award for human evolution,
and osteological cast materials, models
and charts and anthropometric equipment
for teaching undergraduate and graduate
biological anthropology courses (\$7,230.73)
Teaching laboratory audiovisual equipment
for improving instructional presentation
with Drs. Gilman, Minnis, Pailles, Vehik,
Brooke, Wykcoff (\$ 1039.00).

FORMAL PRESENTATIONS

1992

19th Century African-American Lifestyles
and Health. University of Oklahoma's 1992
National Research Conference on African-
American Studies November 1992.

Adapting to Chronic Pain and Disease. Bates, Rankin-Hill and Sanchez-Ayendez. Presented at annual meeting of the American Anthropological Association, San Francisco, Ca.

On Adapting to Disability. Bates, Rankin-Hill, and Sanchez-Ayendez. Presented at the annual meeting of the Society for Applied Anthropology, Memphis, Tenn.

Latino Youth Oral History Projects: Teaching Skills, Community History and Identity. 9th Annual Multicultural Education Institute. University of Central Oklahoma, Edmond, Oklahoma.

The Latino Youth Oral History Project: Teaching Community History, Skills and Identity. Center for Research on Multi-Cultural Education Colloquium(CRME), University of Oklahoma.

"Cortical Thickness in a 19th Century Afro-American" (poster session). Presented at the annual meeting of the American Association of Physical Anthropologists. Milwaukee, Wisconsin.

"Afro-American Biohistory: Assumptions and Issues". Managing the Past and Controlling the Future: The Role of the Anthropologist Symposium (Co-organizer/co-chair). Presented at the annual meetings of the American Anthropological Association. New Orleans, Louisiana.

"Afro-American Biohistory and Health". Presented at the annual meetings of the American Anthropological Association. Washington, D.C.

"Mortality and Health of 19th Century Afro-Americans". The Biohistory of the First African Baptist Church Cemetery Symposium (organizer and chair). Presented at the annual meeting of the American Association of Physical Anthropologists. San Diego, California.

1991

1990

1989

FELLOWSHIPS AND AWARDS

- 1991 Southwestern Bell Faculty Fellowship
University of Oklahoma. Archival research in
Philadelphia the First African Baptist Church
Congregations and 19th century Afro-American
lifestyles and health.
- 1986-88 Research Collaborator, Smithsonian Institution
Anthropology Department, Museum of Natural
History.
- 1986 Smithsonian Institution Faculty Fellowship
Anthropology Department, Museum of Natural
History.
- 1986 Research Collaborator - Los Alamos National
Laboratory Historically Black Colleges and
Universities Scientific Faculty Research
Program. Los Alamos, New Mexico.
- 1985-87 Research Fellow - Center for Applied Research
and Urban Policy, University District of
Columbia.
- 1985 Office of Minority Graduate Recruitment
Fellowship.
University of Massachusetts, Amherst.
- 1979-83, 86 Professional Development Award, College of
Liberal and Fine Arts, University District
of Columbia.
- 1969-73 Smith College Club of New York Scholarship
Smith College, Northampton, Massachusetts

UNIVERSITY AND PROFESSIONAL SERVICE

- 1992 National Science Foundation Minority Graduate
1993 Fellowship Review Panel.
- 1992 University of Oklahoma Rhodes Scholarship Review Panel
- 1992-1993 John Milner Associates Peer Oversight Committee:
First African Baptist Church Cemetery Osteological
Analysis.
- 1991 Adjunct Fellow, Center for Research on
Multi-Cultural Education Colloquium (CRME).

1990-1991

Member, Committee A - Department of Anthropology.

Member, Ad Hoc Committee on Departmental
Evaluation, Tenure and Promotion Guidelines.

1988-1991

Association of Black Anthropologists
Executive Committee Member.

1990

Conference Planning Committee "Beyond
Decree: A Centennial Commitment to Cultural
Diversity" Center for Research in Minority
Education (CRME).

Graduate student paper competition judge
for centennial conference "Beyond Decree: A
Centennial Commitment to Cultural Diversity"

College of Arts and Sciences 1991 National
Endowment for the Humanities Summer Stipend
Selection Committee.

CURRICULUM VITÆ

WARREN T.D. BARBOUR
762 Auburn Avenue
Buffalo, New York, 14222-1417
(716) 885-0259 (Home)
June 10th, 1992

SOCIAL SECURITY # 188-34-4922

ACADEMIC TRAINING

1961-65 Bachelor of Arts degree in Anthropology, Pennsylvania State University

1965-66 One year of work toward Master of Arts degree in Anthropology at Pennsylvania State University

1966-70 Master of Arts degree in Anthropology at the University of Rochester. Courses in British Social Anthropology and Archaeology

1970-76 Ph.D University of Rochester

Dissertation Title: The Figurines and Figurine Chronology of Ancient Teotihuacán, Mexico

PRINCIPAL FIELDS OF INTEREST

Archæology, Prehispanic Mesoamerica
Prehistoric State Formation and Collapse
Paleodermatoglyphics
Historic archæology, Northeastern and Southeastern United States
Cultural Resource Mangement Northeastern United States
Computer Applications in archæology

PROFESSIONAL POSITIONS

1977- Associate Professor, Department of Anthropology,
present State University of New York, Buffalo

1991- Director, Graduate Studies, Department of Anthropology, State
present University of New York, Buffalo

- 1988- present Curator - Mesoamerican Collection Museum of the Department of Anthropology. University at Buffalo, SUNY.
- 1988- present Consultant for the de Young Museum (San Francisco Museum of fine Arts) on Highland Mesoamerican Figurines
- 1987- Director, Undergraduate Studies, Department of Anthropology, State University of New York, Buffalo
- 1986- present Senior Member The University Undergraduate College State University of New York at Buffalo.
- 1985-86 Visiting Research Associate, Department of Anthropology, American Museum of Natural History, New York. Research on the unpublished excavation material of George Clapp Vaillant from Teotihuacán, Mexico.
- 1981-82 Visiting Senior Scholar, Instituto de Investigaciones Antropológicas at the Universidad Nacional Autónoma de México. Sabbatical year.
Besides continuing research on the figurines of Teotihuacán, I was involved with the development of software (and the adaptation of existing software) for use in the archaeological field and laboratory environment.
- 1978-80 The founder and first Director of the Marian E. White Research Museum of Anthropology, State University of New York at Buffalo.
- 1977-79 Master (Chief Executive Officer), College of Urban Studies, State University of New York, Buffalo.
- 1970-77 Assistant Professor, Department of Anthropology, State University of New York, Buffalo.
- 1972-73 Director/Chairman, Afro-American Studies Department, State University of New York at Buffalo. Responsible for the transition from program to department status.
- 1971- present Fellow, Clifford Furnas Science College, State University of New York, Buffalo.
- 1966-69 Research Assistant for the Teotihuacán Mapping Project, University of Rochester, under the direction of René Millon.
- 1965-66 Graduate Teaching and Research Assistant, Department of Anthropology, Pennsylvania State University.

- 1965-67 Intensive surface survey and excavations for the Teotihuacan Mapping Project, Teotihuacan, Mexico.
- 1964 Extensive archaeological surface survey in the Teotihuacan Valley, Mexico. Participated in Aztec site survey for the Teotihuacan Valley Project under the direction of William T. Sanders, Pennsylvania State University.
- 1963 Excavation in Historic Archaeology at Ephrata, Pennsylvania, with John Witthoff, State Archaeologist.
- 1963-64 Lab assistant on various projects in Physical Anthropology for Paul T. Baker, Pennsylvania State University.

PUBLICATIONS AND MANUSCRIPTS

- 1988 Review of Architecture and Urbanization in Colonial Chiapas, Mexico by Sidney David Markman, in the Journal of the Society of Architectural Historians. September 1988
- 1987 "Ceramic Figurines from Oxtotipac" in The Teotihuacan Valley Project Final Report-- Volume 4, Part 2. Chapt. 13 Surface Survey and Special Studies. William T. Sanders ed. Occasional Papers in Anthropology, Department of Anthropology, The Pennsylvania State University. University Park, Pennsylvania.
- 1977 The Figurines and Figurine Chronology of Ancient Teotihuacán, Mexico University of Michigan Microfilm, Ann Arbor.
- in press "The Figurines from the Tlajinga Excavations at Teotihuacan, Mexico: an Overview." The XXI Mesa Redonda, Sociedad Mexicana de Antropología. Taxco, Mexico. (1983).
- Report " Gender and Division of Labor among three figurine types: The value of paleodermatoglyphics for longitudinal study of prehistoric ceramic Production." for completion of grant requirement National Endowment to the Humanities
- 1991 "A manual for the Collection of Paleodermatoglyphs from Ceramic Surfaces." second revised ed. Department of Anthropolgy SUNY Buffalo. (DTP)
- MS " The Ceramic Figurines of Ancient Teotihuacan, Mexico . The Teotihuacan Mapping Project Vol.4 (Due for submission to Univ, Utah Press Nov 1992)

- MS "Shadow and Substance: The Iconography of Host Figurines Associated with Ancient Teotihuacan, Mexico." Department of Anthropology SUNY Buffalo.
- MS "The Division of Labor in the Figurine Industry of Ancient Teotihuacan, Mexico." Department of Anthropology, SUNY Buffalo.

PAPERS AND LECTURES

- 1992 New Thoughts on Multiculturalism in the Undergraduate Curriculum.
Lecture give to the Undergraduate College SUNY at Buffalo, May 9th
- 1991 Participation in the Maya Ceramic Workshop San Ignacio Belize, Central America June 19 27.
- 1991 The Introduction of Pre-Hispanic material into World Civilization courses.
Given to the Undergraduate College April 1991
- 1990 Paleodermatoglyphics: A new field and it's implications for archaeology.
Lecture given at Wesleyan University Conn. Oct.
- 1990 "Colonial Tidewater Potters: A link between dermatoglyphic studies of modern and ancient populations." A presentation to the National Park Service, Yorktown-Jamestown National Historic Park, May
- 1990 "Paleodermatoglyphics: Direct evidence for the study of the division of labor in Prehistoric Societys." Lecture delivered at Cornell University Department of Anthropology, April
- 1988 "New Discoveries and New Interpretations at Ancient Teotihuacan, Mexico"
Lecture for the Houghton Chapter of the New York Archaeological Association. Buffalo, New York, November
- 1986 "Gender and Role in Teotihuacan Figurines." Paper presented at the University Seminar on Africa, Oceania and the Americas, Columbia University, December.
- 1986 "The Processes of Histories: Historical Approaches to Material Culture Change." Northeastern Anthropological Association Annual Meetings, Buffalo, New York, March .
- 1986 "Shadow and Substance: The Iconography of Host Figurines Associated with Ancient Teotihuacan, Mexico." Society for American Archaeology, Annual Meetings, April.

- 1985 Symposium discussant at the University Seminar on Africa, Oceania and the Americas, Columbia University. Topic: Rulership and the Ciudadela: Political Inferences from Architecture at Ancient Teotihuacán, Mexico, November.
- 1984 "The Use of Microcomputers in Archaeology: Lessons Learned in Setting up the Teotihuacan Figurine Data Base." Lecture presented at the Massachusetts Institute of Technology, Department of Anthropology, March.
- 1984 "Uses of Microcomputers in Anthropology: A General Introduction." Department of Anthropology, University of Massachusetts, Boston Harbor Campus, April.
- 1984 "Teotihuacan: An Ancient Mesoamerican Metropolis." The Houghton Chapter Annual Meeting at the Buffalo Museum of Science, May.
- 1983 "The Figurines from the Tlajinga Excavations at Teotihuacan, Mexico: an Overview." Society for Mexican Anthropology, Roundtable, Taxco, Mexico, August.
- 1983 "The Revised Figurine Chronology for Teotihuacan, Mexico." Seminar series of Mexican and North American archaeologists held at the archaeological zone, August.
- 1982 "The Division of Labor in Figurine Manufacture at Teotihuacan, Mexico: Results from a Study of the Dermatoglyphs (Fingerprints) Impressed in Clay figurines over a Thousand Year Period." Paper presented at the Instituto de Investigaciones Antropológicas, the National University of Mexico, August.
- 1982 "The Figurines from the Cave at Huecoxtoc, Oxtotipac, Mexico." Paper presented at the Instituto Investigaciones Antropológicas, the National University of Mexico, June.
- 1981 "Puppets and Portraits: Sexual Identification in the Figurines of Teotihuacan." Paper presented at a symposium on Mesoamerican figurines, Columbia University, New York, April.
- 1981 "Asymmetrical Rates of Change in the Figurines of Teotihuacan: New Data, New Synthesis, New Problems." National University of Mexico, Mexico City, October.

MEMBERSHIP IN SCHOLARLY AND PROFESSIONAL SOCIETIES

American Anthropological Association
American Association for the Advancement of Science
American Association of Physical Anthropologists
American Dermatoglyphic Association
American Institute of Archaeology (V. President Western N. Y. Chapt. 87-88)
Association of Black Anthropologists
New York Archaeological Council (Executive Committee, 1975-77)
Sigma Xi (Chapter Secretary, September 1972-June 1974)
Society for American Archaeology
Society of State University Latin Americanists (Executive Committee, 1977-79)
Society for Mexican Anthropology

UNIVERSITY SERVICE

Hearing Committee For The Maintenance of Public Order 1971-76
Department of Sociology Chairman Search Committee, 1971
Faculty Senate Committee on Promotion and Tenure, 1975-76
Policy Committee, Faculty of Social Sciences, 1975-78
Academic Vice-Presidential Advisory Committee on General Education, 1976-79
General Education Committee, 1981-82
Faculty Senate Executive Committee, 1980-81
Senator, University Faculty Senate, 1978-81
University President's Advisory Committee on Equal Rights, 1980-81
Minority Faculty Staff Association, Chairman, 1981-82
University-wide Committee on Academic Computing, 1984-86
Faculty of Social Sciences Sub-Committee for Committees, 1985-87
Faculty Senate Committee on Freedom and Responsibility, 1985-89
Faculty of Social Sciences Committee to Review College H and
Rachel Carson College, Spring 1986
Faculty Divisional Committee for Graduate Education 1987-1992
Senior Member The Undergraduate College, SUNY at Buffalo.
Executive Committee of the Faculty Senate, SUNY at Buffalo 1992-

FIELD AND PROFESSIONAL EXPERIENCE

- 1991 to Present Research and analysis of the Figurines from the 1989-90 excavations in the Temple of Quetzalcoatl, Teotihuacan, Mexico. National Geographic Grant P.I. George L. Cowgill, Arizona State University.)
- 1990 Research, by invitation at National Aeronautics and Space Administration Material Research Laboratory at Langley Airforce Base to explore various materials and equipment of use in Paleodermatoglyphic research. (Breakthroughs in both quality of recovery and measurement of prints occurred.) July
- 1990 Collection of dermatoglyphs from colonial Jamestown and Yorktown pottery, May 1990 to Feb. 1991
- 1988 Research Teotihuacan Archaeological Research Center, Teotihuacan, Mexico. A Study of the distribution of three figurines types in ancient Teotihuacan. Supported by an National Endowment for the Humanities Travel to Collections Grant, and a matching grant from the University at Buffalo, SUNY.
- 1986 Research trip to Southern Mexico and Guatemala to study Mayan collections of figurines from the site of LARGATERO that have extensive dermatoglyphs. Also interviewed Edwin Shook and Vivian Broman-Morales
- 1983-84 Summer Research Associate on a National Science Foundation Grant given to Brandeis University. Work involved the reanalysis of the figurines of Teotihuacan and the reorganization of the terracotta figurine material, as well as adapting a micro computer for data input and processing.
- 1974 Summer fieldwork in Indicators of Social Mobility in Ancient Teotihuacan. Research project funded by the State University of New York Research Foundation.
- 1972 Summer research on the iconographic relationships among the sculpture, mural paintings and figurines at Teotihuacan, Mexico.
- 1971 Summer fieldwork involving the analysis of the terracotta figurines of Teotihuacan.
- 1969-70 Research Assistant, Teotihuacan Mapping Project, Teotihuacan, Mexico. Responsible for the analysis of the figurine material. This work formed the basis for the dissertation.

MICHAEL PARRINGTON
Archaeological Consultant, SOPA

453 Hartford Road
Mount Laurel, NJ 08054
(609) 727-0737

EDUCATION

1973-1974	Open University	Humanities
1980-1982	University of Pennsylvania	Anthropology

TEACHING EXPERIENCE

1979	University of Pennsylvania, Philadelphia, PA, College of General Studies
1982	Rutgers University, New Brunswick, NJ, Department of Classics and Archaeology

PROFESSIONAL REGISTRATION

1978-present Society of Professional Archaeologists (SOPA)

EXPERIENCE PROFILE

Michael Parrington had eight years of archaeological experience in England with Southampton University, Oxford University, and the Oxfordshire Archaeological Unit. He has worked in the United States for sixteen years. He was Principal Archaeologist at the Museum Institute for Conservation Archaeology, University of Pennsylvania, where he directed historic archaeological projects in Philadelphia. As a Principal Archaeologist at John Milner Associates for six years, he directed two seasons of excavation on the First African Baptist Church Cemetery, a nineteenth-century burial ground located in Center City Philadelphia. He has a wide range of experience on urban, rural, industrial, military, and other sites in New York, New Jersey, Pennsylvania, Delaware, Maryland, and Virginia. He recently completed excavations at the site of an extensive African American burial ground in New York City. With twenty-four years of experience in the field, Mr. Parrington is competent in all aspects of historical archaeology, with a special emphasis on urban and industrial archaeology, and cemetery archaeology.

KEY PROJECTS

1991-93	Conducted data recovery of an eighteenth-century African American cemetery in Manhattan, NY. General Services Administration.
1991	Conducted cultural resource surveys in Ocean and Atlantic Counties, NJ, and on the Delaware and Raritan Canal in Lambertville and Trenton, NJ.
1991	Consultant to Phase II and data recovery excavation at Arch Street, Philadelphia.

- 1991-92 Conducted excavations in Princeton, NJ, and Ho Ho Kus, NJ.
- 1990 Conducted excavations at Monmouth Battlefield, Monmouth County, NJ. Monmouth County Heritage Committee.
- 1990 Conducted cultural resource surveys in Medford, NJ, East Orange, NJ, and Ocean County, NJ.
- 1990 Consultant on artifact cataloging project at Franklin Court, Philadelphia. National Park Service.
- 1988-89 Directed archaeological research on the Vine Expressway Corridor, Philadelphia. Pennsylvania Department of Transportation.
- 1988-89 Directed archaeological research on the Philadelphia Convention Center Site, Philadelphia. Philadelphia Industrial Development Corporation.
- 1988-89 Directed archaeological research at the Bourse Garage/Omni Hotel Site, Philadelphia. Bourse Garage Associates.
- 1988-89 Directed archaeological research at the site of Piers 28, 30, 34, 35, and 36, Philadelphia. Asbell and Associates.
- 1988 Directed archaeological research at the Byberry Industrial Development Site, Philadelphia. Philadelphia Authority for Industrial Development.
- 1987-90 Directed archaeological research on Section 500 of the Mid-County Expressway (Blue Route), Delaware County, PA. Pennsylvania Department of Transportation.
- 1987 Conducted archaeological monitoring at Brandywine Battlefield, Delaware County, PA. Brandywine Battlefield Park Association.
- 1986-90 Directed archaeological research on Sections 300 and 400 of the Mid-County Expressway (Blue Route), Delaware County, PA. Pennsylvania Department of Transportation.
- 1986 Co-directed archaeological research for the Woonsocket Industrial Highway, Rhode Island. Rhode Island Department of Transportation.
- 1985-86 Directed archaeological field work for the Downtown Norfolk Corridor Study, VA. DeLeuw Cather and Company of Virginia and Virginia Department of Highways and Transportation.
- 1985-86 Directed archaeological survey at the Asbury Heights Development Area, Wilmington, DE. Asbury Heights Development Corporation and the City of Wilmington.
- 1985 Directed archaeological field work and historical research at Harford Furnace, Harford County, MD. Maryland State Highway Administration.
- 1984 Directed archaeological field work and historical research at the Fischer Site, Anne Arundel County, MD. Maryland Department of Transportation, State Highway Administration.

- 1984 Carried out historical research on the outlet lock of the Bald Eagle Cross-Cut Canal, Lock Haven, PA. Rogers, Golden and Halpern, Philadelphia and the Baltimore District, Corps of Engineers.
- 1983-84 Directed archaeological field work and historical research on the First African Baptist Church Cemetery site, Philadelphia. Redevelopment Authority of the City of Philadelphia.
- 1983 Directed archaeological literature search on proposed Center City convention center site, Philadelphia. Eastern Real Estate Company.
- 1982 Directed archaeological literature search for Route 291, Chester, PA. Pennsylvania Department of Transportation.
- 1981-82 Directed archaeological field work on Route 130, Mercer County, NJ. New Jersey Department of Transportation.
- 1981 Carried out archaeological field work at Catoctin Furnace, MD. Maryland State Highway Administration.
- 1979 Directed archaeological field work on historic sites at Independence NHP, Philadelphia. National Park Service.
- 1979 Directed archaeological field work at Bartram's Garden, Philadelphia. John Bartram Association.
- 1978 Joint field director on geophysical survey project at Valley Forge NHP, PA.

PUBLICATIONS

- 1992 *The Buried Past: An Archaeological History of Philadelphia* (co-author with John L. Cotter and Daniel G. Roberts). University of Pennsylvania Press.
- 1990 *Philadelphia: Workshop of the World* (co-author). Oliver Evans Chapter, Society for Industrial Archaeology.
- 1990 Demographic, Cultural and Bioanthropological Aspects of a Nineteenth Century Free Black Population in Philadelphia, Pennsylvania (co-author). In Jane Bulkstra (ed.), *A Life in Science: Essays in Honor of J. Lawrence Angel*. American Anthropological Association.
- 1987 Life Stresses of the Free Black Community as Represented by the First African Baptist Church, 8th and Vine Streets, Philadelphia, 1823-1841 (co-author). *American Journal of Physical Anthropology* 74:213-229.
- 1987 Cemetery Archeology in the Urban Environment: A Case Study from Philadelphia. In Edward Staski (ed.), *Living in Cities: Current Research in Urban Archaeology*. Society for Historical Archaeology, Special Publication Series Number 5:56-64.

- 1987 Review: Gone to a Better Land: A Biohistory of a Rural Black Cemetery in the Post-Reconstruction South, by Jerome C. Rose. *Historical Archaeology* 21(1):118-119.
- 1986 The Archeology of a Black Philadelphia Cemetery: Acculturation in an Urban Setting (co-author). *Expedition* 28(1):55-62.
- 1986 Occupations and Health Amongst Early Nineteenth Century Black Philadelphians (co-author). *MASCA Journal* 4(1):37-41.
- 1984 Frederick Graff: Waterworks Engineer Par Excellence. *American Public Works Association Reporter* (September):4-5.
- 1984 The First African Baptist Church Cemetery: An Archaeological Glimpse of Philadelphia's Nineteenth Century Free Black Community (co-author). *Archaeology* 37(6):26-32.
- 1984 The Material World of the Revolutionary War Soldier at Valley Forge (co-author). In David G. Orr and Daniel G. Crozier (eds.), *The Scope of Historical Archaeology*. Temple University.
- 1983 The History and Archaeology of Philadelphia Roads, Streets and Utility Lines. *Pennsylvania Archaeologist* 53(3):19-31.
- 1983 Remote Sensing. *Annual Review of Anthropology* 12:105-124.
- 1981 Medical Archaeology in Philadelphia. *Expedition* 23(3):34-38.
- 1980 Revolutionary War Archaeology at Valley Forge, Pennsylvania. *North American Archaeologist* 1(2):161-176.
- 1979 Salvage Archaeology and Science at Independence National Historical Park, Philadelphia (co-author). *MASCA Journal* 1(3):78-79.
- 1979 Geophysical and Aerial Prospecting Techniques at Valley Forge National Historical Park, Pennsylvania. *Journal of Field Archaeology* 6(2):193-202.
- 1973-79 Author or co-author of 15 published reports in England

CULTURAL RESOURCE REPORTS AND PRESENTED PAPERS

Author or co-author of over 70 cultural resource reports and over 40 presented papers

PROFESSIONAL AFFILIATION

Society of Professional Archaeologists
Society for Historical Archaeology
Society for Industrial Archaeology
(co-founder of the Oliver Evans Chapter,
Philadelphia)

Society for Pennsylvania Archaeology
Archaeological Society of New Jersey
Society for Post-Medieval Archaeology
Council for Northeast Historical
Archaeology

EMPLOYMENT HISTORY

1969-71	Southampton University Southampton, England
1972	Institute of Archaeology Oxford University Oxford, England
1972-73	Abingdon Excavation Committee Abingdon, England
1973-77	Oxfordshire Archaeological Unit Oxford, England
1978	Museum Applied Science Center for Archaeology The University Museum, Univ. of Pennsylvania Philadelphia, PA
1979-80	Museum Institute for Conservation Archaeology The University Museum, Univ. of Pennsylvania Philadelphia, PA
1980-82	Archaeological Consultant Philadelphia, PA
1983-89	John Mliner Associates, Inc. West Chester and Philadelphia, PA
1990-93	Archaeological Consultant Mount Laurel, NJ

REBECCA YAMIN
Principal Archeologist/Project Manager
John Milner Associates, Inc.
1216 Arch Street, 5th Floor
Philadelphia, PA 19107
(215) 561-7637

EDUCATION

B.A.	University of Pennsylvania	Anthropology	1964
M.A.	New York University	Anthropology	1969
Ph.D.	New York University	Anthropology (Historical Archeology)	1988

PROFESSIONAL CERTIFICATION

1992	Society of Professional Archeologists (certified in Field Research and Historical Archaeology)
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HONORS/FELLOWSHIPS/GRANTS

1964	B.A. with Honors in Anthropology, University of Pennsylvania
1982	Grant-in-Aid for Research in New Jersey History, New Jersey Historical Commission
1985-1986	Financial Aid Awards, Graduate School of Arts and Sciences, New York University

COMPLIANCE AND REVIEW EXPERIENCE

1989-1992	Under a task order-type contract between Ebasco Environmental and the Federal Energy Regulatory Commission (FERC), assisted and supported FERC headquarters staff in satisfying agency obligations under Section 106 of the National Historic Preservation Act. Responsible for review of cultural resources reports submitted to FERC as part of applications for gas pipeline licenses; preparation of NHPA compliance documents; and coordination of NHPA compliance with State Historic Preservation Officers. Oversaw two major multi-applicant gas pipeline projects through compliance, including data recovery quality control.
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TEACHING EXPERIENCE

1970-1975	Rutgers University, Department of Anthropology
1976, 1977	Middlesex County College, Department of Social Sciences
1977	Trenton State College, Department of Sociology and Anthropology
1981	Rutgers University, Department of Anthropology
1986-1987	Fairleigh Dickinson University, Department of Social Sciences

1986-1987 Rutgers University, Department of Sociology
 1992 Rutgers University, Department of Anthropology

PROJECT EXPERIENCE

1976,1977 - Field school, New York University, Fort Ninigret, RI.

1976 Phase Ia and Phase Ib archeological survey, Edison Sewer Authority, Edison, NJ.

1977 Phase Ib archeological survey, Nassau County Expressway, NY.

1977 Phase Ib archeological survey, Route 25A, Northport, Long Island, NY.

1977 Phase Ib archeological survey, Sandy Hook Power Line, Sandy Hook, Fort Hancock, NJ.

1978 Phase Ia archeological and historical investigation, Oakwood Beach Water Pollution Control Project, Staten Island, NY. Wapora, Inc.

1978 Cultural resources survey, Manasquan River Basin Water Resource System Environmental Impact Analysis, Monmouth County, NJ. Rutgers Archaeological Survey Office.

1979 Monitoring of ongoing construction, Middlesex County Sewerage Authority Trunk Line Sewer, Piscataway, NJ. Charles J. Kupper, Inc. Rutgers Archaeological Survey Office.

1979 Archeological testing, Raritan Landing, Piscataway, NJ. Charles J. Kupper, Inc. Rutgers Archaeological Survey Office.

1979 Ground penetrating radar survey, Raritan Landing, Piscataway, NJ. Middlesex County Sewerage Authority. Rutgers Archaeological Survey Office.

1979 Phase I and Phase II cultural resources surveys for the proposed alignment of Route I-195, Section 6C7A, 7B from west of Preventorium Road to the Route 38/Route 34 Interchange, Howell Township, Monmouth County, NJ. New Jersey Department of Transportation. Rutgers Archaeological Survey Office.

1980 Phase I and Phase II cultural resources surveys for the proposed Raritan Confluence Reservoir, NJ. New Jersey Institute of Technology. Rutgers Archaeological Survey Office.

1980 Data recovery, Raritan Landing, Piscataway, NJ. Middlesex County Sewerage Authority. Rutgers Archaeological Survey Office.

1984 Co-directed Phase Ib cultural resources survey, Oakwood Beach Water Pollution Control Project, Staten Island, NY. Center for Building Conservation.

1986 Phase Ia cultural resources survey, Block 679, New York, NY. Parsons Brinckerhoff, Inc.

- 1986 Archeological evaluation of River Rock Island project, Pohatcong Township, Warren County, NJ. B. Ryland Wiggs, Bethlehem, PA.
- 1986 Co-directed Phase I cultural resources survey, Clay Pit Pond State Park Preserve, Staten Island, NY. New York State Office of Parks, Recreation and Historic Preservation.
- 1987 Co-directed archeological resource planning for Conference House Park, Staten Island, New York. Park includes the Wards Point Archaeological District (a multi-component prehistoric cemetery and habitation area) and a national landmark historic house. Department of Parks and Recreation, City of New York.
- 1985-1987 Directed data recovery analysis, Sullivan Street archeological project, Greenwich Village, NY. New York University Law School.
- 1987-1988 Directed archeological interpretation and education program for Morven landscape archeology project, Princeton, NJ. New Jersey State Museum.
- 1988 Cultural resource assessment for a proposed solid waste disposal facility, Hackensack Meadowlands, NJ. NY-HK Energy Investment Corporation. Ebasco Environmental.
- 1989 Coordinated and provided quality control for cultural resources survey of proposed expansion of a coal-fired power plant in Martin County, Florida. Florida Power and Light Company. Ebasco Environmental.
- 1989 Provided cultural resources input to a site selection analysis for a Florida Power and Light Company coal terminal. Ebasco Environmental.
- 1989 Conducted industrial and historical review for planning of site investigation of Jersey Central Power and Light site in Lambertville, NJ. Ebasco Environmental.
- 1989 Co-directed survey of potential historic period sites in three townships in Monmouth County, NJ. Monmouth County Park System. Ebasco Environmental.
- 1989-1991 Directed data recovery and analysis of nineteenth century farmstead site in Fair Lawn, Bergen County, NJ. New Jersey Department of Transportation. Ebasco Environmental.
- 1990 Prepared evaluations of National Register eligibility for submerged shipwrecks located within the impact area associated with the Asbury Park to Manasquan, NJ segment of a beachfront erosion control project and evaluations of National Register eligibility for two shipwrecks within the Highland Beach to Sea Bright section of the beachfront erosion control project. Army Corps of Engineers, New York District. Ebasco Environmental under subcontract to Alpine Ocean Seismic Survey, Inc.
- 1991 Map research associated with identifying dredging history around David's Island, New Rochelle, NY. Xanadu Properties Associates. Ebasco Environmental.

- 1991 Directed Phase Ib cultural resources investigation for West Trunk Sewer Line Interceptor, Bergen County, NJ. Borough of Paramus. Ebasco Environmental.
- 1991 Directed Phase Ia and Phase Ib cultural resources investigation for Lumberville Wing Dam rehabilitation project, Bulls Island, NJ. New Jersey Water Supply Authority. Ebasco Environmental.
- 1992 Phase I and Phase II cultural resources investigations for Crown/Vista Energy project, West Deptford Township, Gloucester County, NJ. Ebasco Environmental.
- 1992 Visual impact analysis, Cobb County East-West connector environmental assessment in the area of the Concord Covered Bridge, Cobb County Department of Transportation. Ebasco Environmental.
- 1992 Directed archeological borings program on proposed site of Brooklyn Bus Garage, City of New York. Ebasco Environmental.
- 1992 Cultural resources investigation, wetlands replacement project, Newbold Island, Burlington County, NJ. PSE&G. Ebasco Environmental.
- 1992 Directed archeological investigations at Walnford, an eighteenth-nineteenth century milling community in Monmouth County, NJ. Rutgers University field school in historical archeology.

PROJECT EXPERIENCE (John Milner Associates, Inc.)

- 1992 Co-principal investigator for Phase II and III investigations at Station Square in Cumberland, Maryland. Site includes backyards and features relating to workers' houses dating to the first half of the nineteenth century. State Highway Administration, Maryland.

MUSEUM DESIGN

- 1982-1983 Life at Raritan Landing. An exhibit of artifacts from the 1980 excavations at Raritan Landing. Program included hands-on teaching exercise, an audiovisual presentation, and a symposium series. The Cornelius Low House, Museum of the County of Middlesex, Piscataway, NJ.
- 1985 William Barclay Parsons. An exhibit of books and artifacts belonging to Parsons, who designed New York City's first subway system. The Museum of the City of New York. Parsons Brinckerhoff, Inc.
- 1985 Rapid Transit Technology: A Time Line. Museum of Science and Industry, Los Angeles, CA. Parsons Brinckerhoff, Inc.
- 1988-1990 Archaeology in the Garden. An interpretive exhibit of finds and techniques relating to the first season of landscape archeological work at Morven, Princeton, NJ. The New Jersey State Museum.

CULTURAL RESOURCES REPORTS

- 1978 Phase Ia Archaeological Investigations, Oakwood Beach Water Pollution Control Project, Staten Island, New York (co-author).
- 1978 Cultural Resources. In: Manasquan River Basin Water Resource System Environmental Impact Analysis.
- 1979 The Ground-Penetrating Radar Survey of Raritan Landing: Archaeological Findings, Documentary Evidence, and Data Recovery Options (editor).
- 1979 Cultural Resource Investigations: Route I-195, Section 6C7A, 7B from West of Preventorium Road to the Route 38/Route 34 Interchange, Howell Township, Monmouth County, New Jersey (author of stratigraphic analysis sections and editor of the report).
- 1982 Chapter IV, The Stratigraphic Analysis (co-author) and Chapter VI, Historical Background and Documentary Record. In: Raritan Landing: The Archaeology of a Buried Port.
- 1984 A Phase Ib Cultural Resources Survey, Oakwood Beach Water Pollution Control Project, Staten Island, New York (co-author).
- 1986 Phase I Cultural Resources Survey, Clay Pit Pond State Park Preserve, Staten Island, New York (co-author).
- 1989 Cultural Resources. In: Site Selection Analysis for Coal Terminal Associated with Florida Power and Light Company Expansion, Martin County, Florida.
- 1989 Historic Period Archeological Survey Initial Phase, Including Freehold, Howell, and Upper Freehold Townships, Monmouth County, New Jersey (co-author).
- 1990 The Archaeology and History of Six Nineteenth Century Lots: Sullivan Street, Greenwich Village, New York City (co-author and editor).
- 1991 The Henry A. Hopper House, An Archeological Study of Nineteenth Century Suburbanization in Bergen County, New Jersey.
- 1991 Archeology in Fair Lawn, The Henry A. Hopper House Project.
- 1991 Stage Ib Cultural Resource Investigation Borough of Paramus, West Trunk Sewer Line Interceptor, Bergen County, New Jersey.
- 1991 Stage Ib Cultural Resource Investigation, Lumberville Wing Dam Rehabilitation Project, Bulls Island, New Jersey (co-author).
- 1992 The Documentary Record. In: Phase I and Phase II Cultural Resources Investigations for Crown/Vista Energy Project.
- 1992 Historical Background and Visual Impact Analysis sections. In: Cobb County East-West Connector Environmental Assessment in the Area of the Concord Covered Bridge.

- 1992 Cultural Resources. In: Environmental Assessment for Wetlands Replacement Project, Newbold Island, Burlington County, NJ.

PUBLICATIONS

- 1988 - *The Raritan Landing Traders: Local Trade in Pre-Revolutionary New Jersey*. Doctoral dissertation, New York University. Available from University Microfilms, Ann Arbor.
- 1989 Squeezing Ceramics for More Than Their Worth: Boundary Maintenance at an Eighteenth Century Port in New Jersey. *Northeast Historical Archaeology*, 18:49-69.
- 1989 The Public and the Private Mr. Stockton-Morven's Commodore. *The New Jersey Folk Society Review*, 10(2-3), Fall-Winter.
- 1991 Letter from Princeton: A Journey Through Time. *Archaeology*, 44(2):46-49.
- forthcoming A "Museum in the Making" and Landscape Archaeology: The Morven Project. To be included in *Digging for the Truth*, John H. Jameson, editor.
- forthcoming Local Trade in Pre-Revolutionary New Jersey. To be included in a special edition of *Northeast Historical Archaeology* honoring Bert Salwen.
- forthcoming *Case Studies in Landscape Archaeology: Methods and Meanings* (co-editor). To be published by CRC Press, 1993.
- forthcoming Farmers and Gentlemen Farmers: The Nineteenth Century Suburban Landscape (with Sarah Bridges). To be included in *Case Studies in Landscape Archaeology: Methods and Meanings*.

PAPERS PRESENTED AT PROFESSIONAL MEETINGS

- 1988 Squeezing Ceramics for More Than Their Worth: Boundary Maintenance at an Eighteenth Century Port in New Jersey. The Council for Northeast Historical Archaeology, St. Mary's City, Maryland.
- 1989 Interpretation in the Ethnographic Present, Morven, Princeton, New Jersey. First International Archaeological Congress, Baltimore, Maryland.
- 1989 Trade in Pre-Revolutionary New Jersey, What It Was Instead of What It Wasn't. First International Archaeological Congress, Baltimore, Maryland.
- 1989 Symbols in the Garden - Interpretation at Morven (co-author). Council for Historical Archaeology, Morristown, New Jersey.
- 1989 Archaeology and Authenticity: What People See at Morven. American Society of Landscape Architects/New Jersey section, Atlantic City, New Jersey.

- 1990 Oral History as Context: The Legacy of Henry A. Hopper (co-author). Society for Historical Archaeology, Tucson, Arizona.
- 1990 Windshield Survey Reconsidered: The Monmouth County, New Jersey Historic Period Archaeological Survey. Council for Northeast Historical Archaeology, Kingston, Ontario.
- 1991 Hands-On and the Hidden Agenda - Problems with Sandbox Archaeology and Other Public Participation Programs. Society for Historical Archaeology, Richmond, Virginia.
- 1992 The River, the Dutch, the District, and the Corporate Giant: 300 Years of New Brunswick History. Society for Historical Archaeology, Kingston, Jamaica.
- 1992 New Jersey, The Invisible Middle Colony. Session presented at the annual meeting of the Society for Historical Archaeology, Kingston, Jamaica. To be published as a special issue of *New Jersey History*.

PROFESSIONAL AFFILIATIONS

Archaeological Society of New Jersey
 Council for Northeast Historical Archaeology
 Society for Historical Archeology
 Professional Archaeologists of New York City (Newsletter Editor)

PROFESSIONAL INTERESTS

Landscape archeology
 Urban archeology/industrialization
 Nineteenth century suburbanization
 Eighteenth century trade networks
 Ceramic analysis
 Boundary maintenance

EMPLOYMENT HISTORY

- 1970-1975 Instructor, Department of Sociology/Anthropology
 Rutgers University
 New Brunswick, New Jersey
- 1976 Field School Assistant to Bert Salwen
 New York University
 Fort Ninigret, Rhode Island
- 1978-1991 Supervisory Archeologist and Assistant to the Director
 Rutgers Archaeological Survey Office, Cook College
 Rutgers University
 New Brunswick, New Jersey

1982-1987 Technical Editor/Archivist Historian
Parsons Brinckerhoff, Inc.
New York, New York

1987-1988 Assistant Curator
New Jersey State Museum
Princeton, New Jersey

1988-1992 Associate Archeologist
Ebasco Environmental
Lyndhurst, New Jersey

1992 Principal Archeologist/Project Manager
John Milner Associates, Inc.
Philadelphia, Pennsylvania

Sherrill D. Wilson, Ph.D.
Urban Anthropologist
40-42 Richman Plaza #42G
Bronx, New York 10453
212-299-7011

EDUCATION

Spring 1991 Received Ph.d in Anthropology

NEW SCHOOL FOR SOCIAL RESEARCH
GRADUATE FACULTY
65 FIFTH AVENUE
NEW YORK, NEW YORK 10003

AREA OF CONCENTRATION: African-American Diaspora
TRACK: Urban Anthropology
DISSERTATION TITLE: Black Slave Owners of New York City:
A Social and Material History: 1661-1830

RESEARCH AND TEACHING INTERESTS:

Anthropology of Women: Issues of Class, Gender and Race
Medical Anthropology: Community Health Care: Policies and Practices
Historical Archaeology: Afro-American Archaeology and it's Significance in Ethnohistorical Theory
Material Culture Studies in America
Oral History Research As collaborative learning
Urban Anthropology: Complex Societies, Kin and Non-kin Networks, Community Studies, Ethnicity and Race Relations
Studies of Poverty among minority women and children

SPRING 1983

RECEIVED MASTERS OF ARTS DEGREE IN ANTHROPOLOGY from the
NEW SCHOOL FOR SOCIAL RESEARCH/GRADUATE FACULTY

SPRING 1979

RECEIVED BACHELOR OF ARTS DEGREE IN RELIGION [Major]
ENGLISH [Minor] FROM HUNTER COLLEGE
685 PARK AVENUE
NEW YORK, NEW YORK 10022

PUBLICATIONS

"LEARNING BY DOING: ORAL HISTORY AS AN INTRODUCTION TO SOCIAL SCIENTIFIC RESEARCH" THE COMMON GROUND, BLOOMFIELD COLLEGE, BLOOMFIELD, N.J.

IN-PROGRESS, BLACK HISTORY GUIDEBOOK OF IMMIGRATION IN ASSOCIATION WITH THE LOWER EAST SIDE HISTORIC COMMUNITY AT 97 ORCHARD STREET, NEW YORK, N.Y. 10002

CURRICULUM VITAE OF SHERRILL D. WILSON

Page 2

Employment:

January 1991-

December 1991

Position: Research Associate

FAMILIES AND WORK INSTITUTE

330 Seventh Avenue

New York, N.Y. 10001

Research Father involvement in nationwide study of early childhood education and head start institutions. Co-author how-to increase manual for head start and early childhood education centers.

Fall 1990

Position: Visiting Lecturer

CORNELL UNIVERSITY

School of Human Ecology

Field and International Studies Program

New York City Field School

46 John Street

New York, N.Y. 10038

Lecture class of interns from Ithaca campus in N.Y.C. for fall semester on 'Ecology of Urban Organizations'. Counseled and advised students in placement problems etc. Visited and interviewed job site supervisors. Conducted and planned tours of New York City neighborhoods for students. Utilized N.Y.C. as a classroom.

February-June 1990

Position: Historical Researcher

ROBERTO CLEMENTE STATE PARK

Bronx, New York 10453

Conducted historic research on the history of three West Bronx communities from the pre-historic period, through the period of Dutch/British colonization, to the present period, including the history of New York University's Bronx Campus. Provide workshops on same research for local school classes, and teachers.

CURRICULUM VITAE OF SHERRILL D. WILSON
PAGE 3

Spring 1990

Position: Lecturer

SAINT PETERS COLLEGE
Jersey City, New Jersey

Lectured in Urban Anthropology

Spring/Fall 1990

Position: Lecturer/Tour Guide

LEARNING ALLIANCE
NEW YORK, N.Y.

Taught Black History seminar and conducted Black History Tours.

FALL 1988/SPRING 1989

Position: Lecturer

BLOOMFIELD COLLEGE
BLOOMFIELD, N.J.

Taught two undergraduate level courses SOCIOLOGY 241: THE
AFRICAN DIASPORA AND SOCIOLOGY 333:

MINORITIES AND RACE RELATIONS (FALL 88)
COURSES: PSYCH/SOCIOLOGY 247: HUMAN GROWTH AND AGING
APG 111: INTRODUCTION TO CULTURAL ANTHROPOLOGY

SUMMER/FALL 1988

POSITION: Interviewer

COMMUNITY SERVICE SOCIETY
106 E. 22ND STREET
NEW YORK, N.Y.

Contracted to interview public assistance clients and working
class women in a study of URBAN POVERTY

SPRING/FALL 1988-SUMMER 1989

Position: Researcher

LOWER EAST SIDE HISTORIC CONSERVANCY
97 ORCHARD STREET
NEW YORK, N.Y. 10002

Researcher working on Ford Foundation grant to research and
develop the LOWER EAST SIDE BLACK HERITAGE TRAIL AND GUIDE

CURRICULUM VITAE OF SHERRILL D WILSON

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FALL 1987

Position: Lecturer
ROCKLAND COMMUNITY COLLEGE
SUFFERN, NEW YORK
Adjunct position teaching two classes in Cultural Anthropology

SPRING 1987/Fall 1988

Participated at EUGENE LANG COLLEGE as a graduate intern. Co-taught a course, "HISTORY: AS A WAY OF KNOWING" (Spring)
Taught a course of my own design entitled, "SEMINAR IN URBAN ANTHROPOLOGY: AN ETHNOHISTORICAL APPROACH TO AFRO-AMERICA". (Fall)

FALL 1986

POSITION: Lecturer

NEW YORK UNIVERSITY
SCHOOL OF CONTINUING EDUCATION
LIBERAL ARTS DIVISION
60 WEST 4TH STREET
NEW YORK, NEW YORK 10003

Taught undergraduate course "RACE AND ETHNIC RELATIONS"

Position: Teaching Assistant

GRADUATE FACULTY
NEW SCHOOL FOR SOCIAL RESEARCH
65 FIFTH AVENUE
NEW YORK, N.Y. 10003

Anthropology graduate level core course: "CULTURAL EVOLUTION"

Position: Lecturer

BLOOMFIELD COLLEGE
BLOOMFIELD, NEW JERSEY
Taught SOCIOLOGY 333, SPECIAL TOPICS IN SOCIOLOGY: "THE AFRO-AMERICAN EXPERIENCE"

SPRING 1986

Position: Lecturer

BLOOMFIELD COLLEGE
BLOOMFIELD, NEW JERSEY
Taught ANTHROPOLOGY 111: "INTRODUCTION TO CULTURAL ANTHROPOLOGY, UNDERGRADUATE LEVEL"

CURRICULUM VITAE OF SHERRILL D WILSON

PAGE 5

SPRING 1986

**POSITION: Teaching Assistant
GRADUATE FACULTY, NEW SCHOOL FOR SOCIAL RESEARCH**

**Anthropology graduate level course: PRIMITIVE SOCIAL
ORGANIZATION"**

FALL 1985

Position: Teaching Assistant

**GRADUATE FACULTY, NEW SCHOOL FOR SOCIAL RESEARCH
Anthropology Graduate Level Core Course: "INTRODUCTION TO
CULTURAL ANTHROPOLOGY"**

3/83-8/83

3/82-9/82

3/81-9/81

Position: Project Director

**COMMUNITY PLANNING BOARD #4
[SUMMER YOUTH EMPLOYMENT PROGRAM]
1850 SELWYN AVENUE, SUITE 9B
BRONX, NEW YORK 10457**

RESPONSIBILITIES: To act as a primary liaison between the Federal SYEP headquarters, operatives, contractor [Community School Board #4] and work sponsors. To recruit and negotiate contracts with local work sponsors. To train and evaluate some work sponsors in their abilities to provide employment, counseling, training and evaluation for two hundred plus summer youth employees. To supervise, train, and evaluate a staff of four to eight as site supervisors, monitors, and crew chiefs. To oversee and submit time and attendance records for payroll of all staff. To provide ongoing site monitoring for work sponsors' adherence to SYEP policies and procedures. To supervise the publication and distribution of an SYEP newsletter. To provide individual, group and family counseling to SYEP participants. To develop work programs and assignments as needed for youth employees.

CURRICULUM VITAE OF SHERRILL D WILSON

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3/77-6/83

Position: Free Lance Tutor

Responsibilities: To provide one-to-one tutoring for students age seven through college level, and some adult education level students. Intensive tutorial assistance provided to twenty plus adults returning to college and preparing for qualifying/evaluative exams and papers. Tutoring provided in remedial mathematics, reading comprehension, history, Spanish, English grammar and comprehension.

**SUMMERS
1979/1980**

Position: Senior Field Supervisor [Summer Youth Employment Program]

**School District #9
1367 Jerome Avenue
Bronx, New York 10457**

Responsibilities: To supervise youth at various sites, and to monitor sites for adherence to SYEP policies and procedure.

10/78 - 6/79

Position: College Assistant [English Tutor]

**BARUCH COLLEGE
17 Lexington Avenue
New York, New York 10010**

Responsibilities: To tutor in a group setting, five to nine students [incoming Freshmen] who have failed and must retake the CUNY minimum proficiency exam in English.

1/78 - 2/78

Position: Housing Interviewer

**Burr Manor Associates
1125 Manor Avenue
Bronx, New York 10452**

Responsibilities: To interview prospective tenants to determine eligibility for Section 8 housing.

Curriculum Vitae of Sherrill D. Wilson

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7/77 - 9/78

Position: Community Youth Program Coordinator Volunteer

St. Matthews, A.M.E. Church
1788 Sedgwick Avenue
Bronx, New York 10453

10/78 - 3/77

Position: Administrative Assistant/ Accounts Payable
Bookkeeper

Grenadier Realty Corporation
909 Third Avenue
Bronx, New York

Responsibilities: To maintain accounts for ten housing
companies.

Summers

1976/1978

Position: Executive Director
River Park Towers Youth Activities Program
18 Richman Plaza
Bronx, New York 10453

Responsibilities: To hire, train and orientate staff of thirty,
including allocated Neighborhood Youth Corporation, workers,
peers, parents and volunteers. Acted as Program Administrator,
coordinated trips, and events for program participants and
on-going workshops for counselors in training [Neighborhood
Corp. Workers]. Submitted time and attendance for all staff.

10/74 - 6/76

Position: Home Investigator/General Assistant to Housing Manager

U/A Management Corporation
32 Broadway
New York, New York

Responsibilities: Assisted in managing the day to day
activities of the management office of the River Park Towers
Housing Complex

CURRICULUM VITAE

Thelma Wills Foote

Department Address:
Department of History
Humanities Building, Rm. 300
University of California at Irvine
Irvine, CA 92717
714-856-6522

Home Address:
P.O. Box 182
Esopus, NY 12429
914-384-6498
or
308 W. 30th Street, 3E
New York, NY 10001
212-695-1805

Degrees:

Ph.D., American Civilization, Harvard University, 1991.
B.A., American Studies (American History and Literature),
University of Texas at Austin, 1979.

Publications:

books:

Black and White Manhattan: Race Relations and Collective Identity in Colonial Society (forthcoming, 1993).

articles:

"The Abolitionists of New York City," in Encyclopedia of New York City (forthcoming, Yale University Press, 1993).

"Crossroads or Settlement?: The Freedmen's Community in Historic Greenwich Village, 1644-1855," in Greenwich Village: Culture and Counterculture (forthcoming, Rutgers University Press, 1993).

"'Some Hard Usage': New York City's Slave Revolt of 1712," New York Folklore (Spring, 1993).

reviews:

"A Review of Shane White's Somewhat More Independent: The End of Slavery in New York City, 1770-1810," North Carolina Historical Review (November, 1991).

Appointments:

July, 1992-	Assistant Professor, University of California at Irvine.
July, 1991/June, 1992	Assistant Professor, New York University.
July, 1989/June, 1991	Lecturer in History, New York University.
July, 1985/June, 1989	Tutor in Social Studies, Harvard University.
July, 1982/June, 1985	Leave of Absence.

Fellowships & Grants:

Fall, 1992	Vladeck Fellowship for Labor History New York University (declined)
1985-1989	Harvard University Graduate School of Arts & Sciences Scholarship

Professional Committees and Editorial Boards:

1991-	Board of Directors for the Media Alternative Project. NYC.
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University Service:

Summer, 1992	Faculty Mentor Program for Undergraduates at New York University. MOST Program.
Fall, 1990/June, 1992	Undergraduate Curriculum Committee, New York University.
Summer, 1990	Faculty Mentor Program for Undergraduates at New York University, MOST Program.

Extracurricular Activities:

Tennis, squash, film, jazz, blues, antique and wine collecting.

Curriculum Vitae

JOSEPH P. REIDY

Professional Experience

Associate Professor of United States History, Howard University, 1987-present
Senior Postdoctoral Fellow, Smithsonian Institution Museum of American History, 1990-1991
Editor and Acting Co-director, Freedmen and Southern Society Project, University of Maryland, College Park, 1989-1990
Assistant Professor of United States History, Howard University, 1984-1987
Editor, Freedmen and Southern Society Project, University of Maryland, College Park, 1977-1984

Education

Ph.D. (U.S. History), Northern Illinois University, 1982
M.A. (U.S. History), Northern Illinois University, 1974
B.A. (Sociology), Villanova University, 1970

Dissertation Title and Director

Title: "Masters and Slaves, Planters and Freedmen: The Transition from Slavery to Freedom in Central Georgia, 1820-1830"
Director: Professor Otto Olsen

Publications

Books

From Slavery to Agrarian Capitalism in the Cotton Plantation South: Central Georgia, 1800-1880. Chapel Hill: University of North Carolina Press, 1992.

Slaves No More: Three Essays on Emancipation and the Civil War. With Ira Berlin, Barbara J. Fields, Steven F. Miller, and Leslie S. Rowland. Cambridge, Engl.: Cambridge University Press, 1992.

Free at Last: A Documentary History of Slavery, Freedom, and the Civil War. With Ira Berlin, Barbara J. Fields, Steven F. Miller, and Leslie S. Rowland. New York: The New Press, 1992.

Books (continued)

The Wartime Genesis of Free Labor: The Upper South. Series I, Volume II of Freedom: A Documentary History of Emancipation, 1861-1867. Co-edited with Ira Berlin, Steven F. Miller, and Leslie S. Rowland. Cambridge, Engl.: Cambridge University Press, 1993 (at press).

The Wartime Genesis of Free Labor: The Lower South. Series I, Volume III of Freedom: A Documentary History of Emancipation, 1861-1867. Co-edited with Ira Berlin, Thavolia Glymph, Steven F. Miller, Leslie S. Rowland, and Julie Saville. New York: Cambridge University Press, 1990.

The Destruction of Slavery. Series I, Volume I of Freedom: A Documentary History of Emancipation, 1861-1867. Co-edited with Ira Berlin, Barbara Jeanne Fields, Thavolia Glymph, and Leslie S. Rowland. New York: Cambridge University Press, 1985.

The Black Military Experience. Series II of Freedom: A Documentary History of Emancipation, 1861-1867. Co-edited with Ira Berlin and Leslie S. Rowland. New York: Cambridge University Press, 1982.

Articles and Chapters in Collections of Essays

"Obligation and Right: Patterns of Labor, Subsistence, and Exchange in the Cotton Belt of Georgia, 1790-1860." In Ira Berlin and Philip D. Morgan, eds. Cultivation and Culture: Labor and the Shaping of Slave Life in the Americas. Charlottesville: University Press of Virginia, 1993 (at press).

"Accumulation, Urban Segregation, and the Black Role in the U.S. Economy: A Stylized History." Co-authored with Rodney D. Green. Review of Radical Political Economics (at press).

"Chronological Distribution of Dental Enamel Hypoplasia in African American Slaves: A Test of the Weaning Hypothesis." Co-authored with Michael L. Blakey and Teresa E. Leslie. American Journal of Physical Anthropology (at press).

"Slavery, Emancipation, and the Capitalist Transformation of Southern Agriculture, 1850-1910." In Lou Ferleger, ed. Agriculture and National Development: Views on the Nineteenth Century. Ames, Ia.: Iowa State University Press, 1990.

Articles (continued)

- "'Coming from the Shadow of the Past': The Transition from Slavery to Freedom at Freedmen's Village [Virginia], 1863-1900." Virginia Magazine of History and Biography 95 (Oct. 1987): 403-28.
- "Broadening Both the Letter and the Spirit of the Law: Blacks' Assertion of the Rights of Citizenship during the Civil War and Reconstruction." Journal of the Afro-American Historical and Genealogical Society 8 (Winter 1987): 147-55.
- "The Terrain of Freedom: The Struggle over the Meaning of Free Labor in the U.S. South." With Ira Berlin, Steven Hahn, Steven F. Miller, and Leslie S. Rowland. History Workshop 22 (Autumn 1986): 108-30.
- "Review Essay: Reshaping Southern History: Studies in the Development of Agrarian Capitalism in the Nineteenth Century South." Slavery and Abolition 7 (May 1986): 68-76.
- "Writing Freedom's History: The Destruction of Slavery." With Ira Berlin, Barbara J. Fields, Thavolia Glymph, Steven F. Miller, Leslie S. Rowland, and Julie Saville. Prologue 17 (Winter 1985): 211-27.
- "Writing Freedom's History." With Ira Berlin, Barbara J. Fields, and Leslie S. Rowland. Prologue 14 (Fall 1982): 129-39.
- "Aaron A. Bradley: Voice of Black Labor in the Georgia Lowcountry." in Howard N. Rabinowitz, ed. Southern Black Leaders of the Reconstruction Era. Urbana, Ill.: University of Illinois Press, 1982.
- "'To Come Forward and Aid in Putting Down This Unholy Rebellion': The Officers of Louisiana's Free Black Native Guard during the Civil War Era." With Manoj K. Joshi. Southern Studies 21 (Fall 1982): 326-42.
- "'Negro Election Day' and the New England Black Community, 1750-1860." Marxist Perspectives 1 (1978): 102-17.

Chapters in textbooks and encyclopedia entries

"African Americans as Laborers and Entrepreneurs, 1880s-1970s." Chapter co-authored with Linda M. Heywood, in African-American Civilization, Michael L. Conniff, Shiame Okunor, and Thomas J. Davis, eds. New York: St. Martin's Press, 1993 (at press).

Entries for "Contraband," "Labor," and "Skilled Labor," to appear in The Encyclopedia of the Confederacy, Richard N. Current et al., eds. New York: Simon & Schuster, 1993 (at press).

Book Reviews (since 1987)

Jakeman, Robert J. The Divided Skies: Establishing Segregated Flight Training at Tuskegee Alabama, 1934-1942. Tuscaloosa, Ala.: The University of Alabama Press, 1992; and Stanley Sandler. Segregated Skies: All-Black Combat Squadrons of WW II. Washington: Smithsonian Institution Press, 1992. In Air Power History (at press).

Arnold, Thomas St. John. Buffalo Soldiers: The 92nd Division and Reinforcements in World War II, 1942-1945. Manhattan, Kans.: Sunflower University Press, 1990. In Journal of Military History (July 1992): 532-33.

Cooper, William J., Jr., and Tom D. Terrill. The American South: A History. New York: Alfred A. Knopf, 1990. In Virginia Magazine of History and Biography 100 (Jan. 1992): 120-21.

McLeod, Jonathan W. Workers and Workplace Dynamics in Reconstruction-Era Atlanta. Los Angeles: Center for Afro-American Studies, Institute of Industrial Relations, UCLA, 1989. In Journal of Economic History 51 (June 1991): 318-19.

McFeely, William S. Frederick Douglass. New York: W. W. Norton Co., 1991. In New York Newsday, 27 Jan. 1991.

Immanuel Wallerstein. The Modern World-System III: The Second Era of Great Expansion of the Capitalist World-Economy, 1730-1840s. New York, 1989. In Agricultural History 64 (Spring 1990): 348-49.

Thomas Sowell. Preferential Policies: An International Perspective. New York, 1990. In Newsday, 3 July 1990.

Book Reviews (continued)

- Forrest G. Wood. The Arrogance of Faith: Christianity and Race in America from the Colonial Era to the Twentieth Century. New York, 1990. In New York Newsday, 27 May 1990.
- Robert William Fogel. Without Consent or Contract: The Rise and Fall of American Slavery. New York, 1989. In New York Newsday, 5 November 1989.
- David Warren Bowen. Andrew Johnson and the Negro. Knoxville, Tenn., 1989. In Alabama Review 43 (July 1990): 237-39.
- Donald E. Sutherland. The Confederate Carpetbaggers. Baton Rouge and London, 1988. In Civil War History 36 (1990): 83-85.
- Peter Wallenstein. From Slave South to New South: Public Policy in Nineteenth Century Georgia. Chapel Hill and London, 1987. In Slavery and Abolition 10 (May 1989): 96-98.
- John d'Entremont. Moncure Conway: The American Years, 1832-1865. New York and Oxford, 1987. In Civil War History 35 (1989): 74-75.
- Samuel L. Horst. Education for Manhood: The Education of Blacks in Virginia During the Civil War. Lanham, Md., New York, and London, 1987. In Virginia Magazine of History and Biography 47 (1989): 109-10.
- Peter Kolchin. Unfree Labor: American Slavery and Russian Serfdom. Cambridge, Mass., 1987. In Journal of American History 75 (June 1988): 255-56.
- Gerald David Jaynes. Branches Without Roots: Genesis of the Black Working Class in the American South, 1862-1882. New York, 1986. In The Journal of Interdisciplinary History (1988): 348-50.

Film Review

- The Civil War. A nine-part film series by Ken Burns, produced by Florentine Films and WETA-TV, Washington, D.C., 1990; and The Civil War: An Illustrated History. By Geoffrey C. Ward, with Ric Burns and Ken Burns. New York: Alfred A. Knopf, 1990. In The Public Historian 13 (Fall 1991): 88-90.

Unpublished Papers

- "Black Proletariat: The Rural Southern Origins of the African American Working Class." 14th Annual North American Labor History Conference, Oct. 1992.
- "Machinery of Control: The Mechanization of Field Labor on Louisiana Sugar Plantations, 1885-1920." Colloquium, National Museum of American History, Apr. 1991.
- "Bittersweet: The Transformation of Field Labor in the Louisiana Sugar Country, 1862-1914." The Washington Seminar in U.S. History, Jan. 1990.
- "Rights in the Land: Law Custom and Subsistence in Central Georgia, 1850-1880." Convention of the American Studies Association, Oct. 1988.
- "The Dynamics of Power and Authority in Antebellum Central Georgia." Focused Graduate Seminar in Southern History, University of California at Irvine, June 1988.
- "The Currency of Freedom: Wages and Ballots in Reconstruction Georgia." Convention of the Southern Historical Association, Nov. 1987.
- "Records about Slavery from the Antebellum South." Mid-Atlantic Regional Archivists' Conference, Oct. 1986.
- "The Emancipation of Abraham Lincoln; or How American Slaves Freed the Great Emancipator." Conference on Abraham Lincoln and the Emancipation Proclamation, New York State Museum and Library, Feb. 1985.
- "The Practice of Free Labor in the South during the Civil War and Reconstruction." Convention of the Organization of American Historians, Apr. 1984.
- "The Development of Central Factories and the Rise of Agricultural Tenancy in the Louisiana Sugar Economy, 1880-1910." Convention of the Social Science History Association, Nov. 1982.
- "Sugar and Freedom: Emancipation in Louisiana's Sugar Parishes, 1861-1867." Convention of the American Historical Association, Dec. 1980.

Unpublished Papers (continued)

"The Unfinished Revolution: Black Laborers and White Planters in the Georgia Black Belt, 1865-1910." Convention of the Organization of American Historians, Apr. 1980.

Current Research

"Life and Labor on Louisiana Sugar Parishes from the Civil War through World War I." This project, which will result in a book, focuses on the development of economic, political, and social institutions following the destruction of slavery during the Civil War. It has been supported by research grants from the Department of History (1988) and the office of the Vice-President for Academic Affairs (1989-90) and by a senior postdoctoral fellowship at the Smithsonian Institution (1990-91).

"African American Sailors in the Civil War Navy." This project will employ graduate students of the Department of History to identify the names of African American men who served in the Civil War Navy. It is supported by a grant from the Department of the Navy, which is being cooperatively administered by me (as principal investigator) and the National Park Service.

Awards, Grants, and Fellowships

Principal investigator, "African American Sailors in the Civil War Navy"; cooperative agreement with the National Park Service administering a \$90,000 award from the Department of the Navy

Faculty Research Grant, Office of the Vice-President for Academic Affairs, Howard University, 1992-1993

Senior Postdoctoral Fellowship, Smithsonian Institution Museum of American History, 1990-1991

Faculty Research Grant, Department of History, Howard University, Summer 1990, Fall 1988, Summer 1985

Faculty Research Grant, Office of the Vice-President for Academic Affairs, Howard University, 1988-1989

Awards (continued)

Thomas Jefferson Prize, Society for History in the Federal Government, 1991 (for Wartime Genesis of Free Labor: The Lower South)

Thomas Jefferson Prize, Society for History in the Federal Government, 1987 (for The Destruction of Slavery)

Founders Award, Confederate Memorial Literary Society, 1985 (for The Destruction of Slavery)

J. Franklin Jameson Prize for Outstanding Editorial Achievement, American Historical Association, 1985 (for The Black Military Experience)

Fellowship, NEH Summer Institute on the "New History," City University of New York, summer 1976

Graduate School Dissertation Fellowship, Northern Illinois University, 1976-1977

Graduate School Teaching Assistantship, Northern Illinois University, 1972-1976

Teaching Experience

Theses and Dissertations Supervised

LaVonne Roberts. "The Freedwomen of East Texas during Reconstruction, 1860-1880." Ph.D. (in progress).

Karen B. Bell. "The Freedpeople's Quest for Land during Reconstruction in the Ogeechee District of Georgia, 1860-1880." M.A. (in progress).

Roger Davidson. "The 1st United States Colored Infantry." M.A. (in progress).

Barbara Josiah. "Providing for the Future: The World of the Black Depositors of the Washington, D.C., Branch of the Freedman's Savings Bank, 1865-1874." M.A., 1992.

Gordon E. Gill. "The Freedmen's Quest for Economic and Social Autonomy in the Sugar Parishes of Southern Louisiana, 1862-1868." M.A., 1991.

Theses and Dissertations Supervised (continued)

Norman C. McLeod, Jr. "The Free Working People of Richmond, Virginia, 1800-1860." Ph.D., 1991.

Emily-Louise Davis. "Salem, North Carolina: A Study of a Moravian Community in the South, 1766-1816." Ph.D., 1988.

Adele L. Alexander. "Ambiguous Lives: Free Women of Color in Antebellum Middle Georgia." M.A., 1987.

Graduate Courses Taught

Research Seminar on 19th-Century U.S. History
Readings Seminar on Reconstruction
Problems in U.S. History since the Civil War
Independent Study Courses on 19th-Century U.S. History
Civil War and Reconstruction (cross-listed as undergraduate)
U.S. South (two-semester sequence; cross-listed)
Black Laborers in the Atlantic World, 1880-1965 (with Prof. Linda Heywood, an Africanist; cross-listed)

Undergraduate Courses Taught

U.S. Survey (two-semester sequence)
Civil War and Reconstruction
U.S. South (two-semester sequence)
Black Laborers in the Atlantic World, 1880-1965 (with Prof. Linda Heywood)
U.S. Military

Guest Lectureship

"African American History from Reconstruction to the 20th Century," a four-week course sponsored by the African-American Studies Center of the Smithsonian Institution, Aug.-Sept. 1992

Departmental, College, and University Committee Service

Ad hoc committee on the Meaning of Freedom, 1992
President's Task Force on the University Without Walls, 1990
Review Panel, University Sponsored Research Program in the Humanities, Social Sciences, and Education, 1989, 1990
College of Arts & Sciences Alumni Awards Committee, 1991-92

Committee Service (continued)

College of Arts & Sciences Nominations Committee, 1989-90
College of Arts & Sciences Faculty Welfare Committee, 1991-92
Director of the Graduate Program, Department of History, 1992-present
Department of History Executive Committee, 1985-90, 1991-present
Department of History Appointments, Promotions, and Tenure Committee, 1988-present
Department of History Lectures & Colloquia Committee, 1985-88

Memberships in Professional Organizations

American Historical Association
Organization of American Historians
Southern Historical Association

Professional Service

Proposal reviewer, National Endowment for the Humanities, Apr. 1992.
Proposal reviewer, National Historical Publications and Records Commission, Apr. 1992.
Session commentator, "Historical Editing Projects on African Americans," Association for the Study of Afro-American Life and History Convention, Nov. 1991.
Session commentator, "Comparative Race and Labor in the Americas," Southern Historical Association Convention, Oct. 1990
Session commentator, "The 'New' Labor History Examines Changes in the Workplace," Conference on New Directions in Virginia History, Oct. 1990
Session commentator, "Freemen and the Land: Ownership, Tenure and Survival," Organization of American Historians Convention, Apr. 1990
Session commentator, "Emancipation, Labor and the Land after the Civil War," Social Science History Association Convention, Nov. 1989

Professional Service (continued)

Speaker, DeWitt Wallace/Reader's Digest Institute on American History, July 1989

Professional Seminars Attended

Behind the Veil: Documenting African American Life in the Jim-Crow Era, North Carolina Central University, March 1991
Creative Use of Microcomputers in the History Classroom, Gallaudet University. June 1987
West Point Seminar in Military History, U.S. Military Academy, June 1985

Consultantship

Consultant, 9th Grade U.S. History Curriculum, Montgomery County, Md., Public Schools, 1989-1990

Date of Birth: 10 June 1948 **Place of Birth:** Bayonne, N.J.

Addresses:	Department of History Howard University Washington DC 20059	3621 Autumn Glen Circle Burtonsville MD 20866
Phone Nos.:	(202) 806-7038	(301) 890-6307

RESUME

Emory Joel Tolbert
9325 East Light Drive
Silver Spring, MD 20903

Telephone: (301) 445-4138(home)
(202) 806-6815 (work)

Marital Status: Married (Frances L. Jones Tolbert)

EMPLOYMENT HISTORY:

1991 - present	Chairman, Department of History, Howard University
1989 - 1991	Chairman, Department of Afro-Ethnic Studies, California State University, Fullerton
1987 - 1991	Professor, Department of Afro-Ethnic Studies and Department of History, California State University, Fullerton.
1984 - 1987	Associate Professor, Department of Afro-Ethnic Studies, California State University, Fullerton
1983 - 1984	Lecturer, Department of Afro-American Studies, San Diego State University
1981 - 1983	Senior Editor, The Marcus Garvey Papers Project, University of California, Los Angeles
1973 - 1981	Assistant Professor, Department of History, University of California, San Diego
1971 - 1973	Research Fellowship, Center for Afro-American Studies, University of California, Los Angeles
1970 - 1973	Research Assistant to Professor Stanley Coben, Department of History, University of California, Los Angeles
1972 (Summer)	Assistant Professor, University of California, Los Angeles, Extension School
1972 (Summer)	Visiting Lecturer, Ethnic Studies Department and Department of History, University of Southern California, Los Angeles

1970 - 1972 Lecturer, Department of History, California State College,
San Bernardino

1968 - 1970 Teaching Assistant and Instructor (Part-time), Loma Linda
University, Riverside, California

EDUCATIONAL TRAINING:

1970 - 1975 University of California, Los Angeles
Major: United States History
Minors: African History, American Literature,
Afro-American History
Awarded Ph.D. degree June 1975

1964 - 1968 Atlantic Union College, South Lancaster, MA
Major: History
Minors: Political Science, Religion,
Secondary Education
Awarded B.A. degree, cum laude, June 1968

CREDENTIALS:

California Community College Teaching Credential (History)

TEACHING:

1968 - 1970 Loma Linda University
American History and Constitution
Afro-American History (History 159)

1970 - 1972 California State College, San Bernardino
Black History I, II and III
Seminar in Black History

1973 - 1981 University of California, San Diego
Afro-American History
Race and Ethnicity in the United States
Seminar: Harlem Renaissance
American Intellectual History
Colloquium in American Social and Ethnic
History (M.A. Level)
Directed Readings
The United States in the Twentieth Century
Apprentice Teaching (for Ph.D. students)
Readings in American History
(for Ph.D. students)

1984 - 1991 California State University, Fullerton
The American Character
Intracultural Socialization
Afro-American History
American History (Minorities)
Oral History of Ethnic America
Black America Since 1890
Historiography
Seminar in American History
Historical Writing
Western Civilization
Introduction to Ethnic Studies

SUMMARY OF TEACHING EXPERIENCE:

Developed and taught courses at Loma Linda University and at California State College, San Bernardino in Afro-American History; developed and taught courses for Masters Degree in Social and Ethnic History at the University of California, San Diego; supervised teaching assistants and coordinated team-taught course in Race and Ethnicity at the University of California, San Diego (this course was taught by four professors and usually had an enrollment of 175 students); taught Ph.D.-level readings courses in 19th century United States History at the University of California, San Diego; developed and taught courses in United States and Ethnic History at California State University, Fullerton.

SELECTED PROFESSIONAL PAPERS AND SPECIAL LECTURES:

"Garveyism in California," International Conference on Marcus Garvey, University of the West Indies, Kingston, Jamaica, 1973.
"The Black Twenties," Annual Conference of the Organization of American Historians, Denver, Colorado, 1974.
"The Political Renaissance in Harlem," Miami University of Ohio, 1976.
"Recent Research on Black Nationalism in America," College of the Holy Cross, Worcester, Massachusetts, 1978.
"Critique of Stephen Fortune's 'Black and Jewish History'," Annual Convention of the Association for the Study of Afro-American Life and History, New York City, 1979.

"Black Los Angeles," Second Annual Conference on Issues in Ethnicity and Mental Health, San Diego, California, 1979.

"The Atlanta Renaissance and the Harlem Renaissance," Third Annual Conference on Issues in Ethnicity and Mental Health, San Diego, California, 1980.

"The Marcus Garvey Papers," National Black Studies Conference, Berkeley, California, April 1983.

"Federal Surveillance of Black Radicals in the 1920's," University of Santa Clara, April 1983.

"Recent Research on Black Los Angeles," Afro-American Museum Lecture Series, Los Angeles, California, October 1983.

"The Garvey Movement," Center for Afro-American Studies Series, University of California, Los Angeles, 1982.

"Federal Surveillance of Marcus Garvey and the UNIA," Paper read for Colloquium series sponsored by the Center for Government Studies, California State University, Fullerton, April 1985.

"Los Angeles at Twelfth and Central," lecture delivered for the Power of Place, and organization that restores ethnic landmarks in Los Angeles, February 1985.

"Sociological Trends in American Culture," American Studies Association Annual Conference, Chairman of session and commentator, San Diego, October 1985.

"The State Department and National Security: Investigations of Black Radicalism in World Wars I and II," Annual Conference of The Society for Historians of American Foreign Relations, Chairman of session and commentator, American University, Washington, DC, June 1988.

"Blacks in Orange County," San Juan Capistrano Public Library Lecture Series, sponsored by the National Endowment for the Humanities, 1989.

"Garveyism in Urban and Regional Settings," International Garvey Conference, Glassboro State University, Glassboro, New Jersey, sponsored by the Marcus Garvey Foundation, November 1990.

"Black Los Angeles Since the Watts Rebellion," University of California, Irvine, February 1991.

PUBLICATIONS:

"Outpost Garveyism and the U.N.I.A. Rank and File," Journal of Black Studies, March 1975.

The UNIA and Black Los Angeles: Ideology and Community in the American Garvey Movement (Center for Afro-American Studies, University of California, Los Angeles, 1980).

Senior Editor, The Marcus Garvey and Universal Negro Improvement Association Papers, Volume I (Berkeley and London, University of California Press, 1983).

Senior Editor, The Marcus Garvey and Universal Negro Improvement Association Papers, Volume II (Berkeley and London, University of California Press, 1983).

Senior Editor, Marcus Garvey Papers, Volume III (Berkeley and London, University of California Press, 1984).

Senior Editor, Marcus Garvey Papers, Volume IV (Berkeley and London, University of California Press, 1984).

"Garveyism in California," in Garvey, Africa, Europe and the Americas, edited by Rupert Lewis and Maureen Warner-Lewis, Institute of Social and Economic Research, University of the West Indies, Kingston, Jamaica, 1986.

Co-editor, Race and Culture in America (Edina, Minn.: Burgess Press, 1986).

"Federal Surveillance of Marcus Garvey and the UNIA," Journal of Ethnic Studies, Winter 1987.

Editor, A Treasure Chest of Afro-American Culture (Santa Ana; Orange County Board of Education, 1988).

Co-editor, Race and Culture in America, Third Edition (Edina, Minn.: Burgess Press, 1989).

Authored with Lawrence de Graaf, "The Unseen Minority: Blacks in Orange County," Journal of Orange County Studies, 1990.

"African Americans: The Unwilling Immigrants," for Americans All: A National Multicultural Education Program, 1990.

WORKS IN PROGRESS:

The Montfort Point Marines: An Oral History

The Works of Hubert H. Harrison (edited with introduction)

Garvey in America: The Development of a Mass Movement (working title for full-length study of Garvey Movement)

Black Los Angeles (working title for a history of blacks in the city)

TELEVISION AND RADIO APPEARANCES:

Televised book reviews for the "Almeta Speaks" television program, 1980, KPBS (San Diego). Books reviewed:

Race First by Tony Martin

Stride Toward Freedom

Why We Can't Wait

Where Do We Go From Here

Strength To Love

The Trumpet of Conscience by Martin Luther King

The Slave Community by John Blassingame

Booker T. Washington (Vol. I) by Louis Harlan

Broadcast on Marcus Garvey, 1981, KJLH Radio (Los Angeles)

Marcus Garvey Day Broadcast, August 1983, KPFK (Los Angeles):

Emory Tolbert interviews Samuel Marlowe (1970)

Emory Tolbert interviews James McGann (1970)

Emory Tolbert interviews Mrs. Marcus Garvey
(Amy Jacques) (1973)

Black History Segments, KACE (Los Angeles), February 1983

Broadcast analysis on the "Life of Malcolm X," KPFK Radio (Los Angeles)
May 1985

Consultant to KCET for documentary on blacks in Los Angeles, February 1989

Televised course (American History with emphasis on ethnic minorities),
Media Center, California State University, Fullerton, 1990

Televised course (Blacks Since 1890), Media Center, California State
University, Fullerton, 1990

HONORS AND AWARDS:

Who's Who Among Students in American Colleges and Universities, 1968
National Endowment for the Humanities Fellowship, Summer 1969
Outstanding Teacher Award, Third College, University of
California, San Diego, 1981
Education Policy Fellowship, 1989-1990

CURRICULUM VITAE

NAME: Keita, Shomarka Omar Sundiata Yahya

DATE OF BIRTH: 25 May 1954

PERMANENT ADDRESS: 1925 2nd Street, N.W.
Washington, D.C. 20001

TELEPHONE: (202) 265-9788 (home)

NATIONALITY: American

MARITAL STATUS: Divorced

SOCIAL SECURITY NO.: 266-15-1913

EDUCATION AND TRAINING:

1972-75 Premedical Studies
Williams College
Williamstown, Massachusetts
(1972-74) and the American University
Cairo, Egypt (1974-75)

1979 Medicinis Doctoris (M.D.)
College of Medicine
Howard University
Washington, D.C.

1979-80 Internship
Categorical Surgery
U.S. Public Health Service Hospital
Baltimore, Maryland

1984 Master of Arts (M.A.)
State University of New York
Binghamton, New York

1984 Master of Science (M.Sc.), by research,
University of Oxford
Oxford, England

1984-85 Internship
Surgery, Huron Road Hospital
Cleveland, Ohio

CURRICULUM VITAE
DR. S.O.Y. KEITA
PAGE 2

INTERNSHIP:

1979-80 Categorical Surgery
 U.S. Public Health Service Hospital
 Baltimore, Maryland

1984-85 Categorical Surgery
 Huron Road Hospital
 Cleveland, Ohio

RESIDENCY:

1985-87 General Surgery
 Huron Road Hospital
 Cleveland, Ohio

1987-89 General Surgery
 Howard University Hospital
 Washington, D.C.

CERTIFICATION:

Diplomate of the National Board
of Medical Examiners
Maryland Medical License (current)
New York State Medical License
Ohio State Medical Licensure
D.C. Medical License (current)
Eligible, American Board of Surgery

APPOINTMENTS:

1980-81 General Medical Officer Constant Care
 Community Health Care Center (on active
 duty in the U.S. Public Health Service),
 Baltimore, Md. (Served as Team Leader,
 Adult Medicine, Metro Division)

1981-82 Staff Physician, Student Health Service,
 State University of New York
 Binghamton, New York

1982-84 Staff Physician, U.S. Public Health
 Service, Indian Hospital
 Eagle Butte, South Dakota (Summers)

1989-90 Wound Care Fellow, Research Associate
 Plastic Surgery Division
 Howard University

CURRICULUM VITA
DR. S.O.Y. KEITA
PAGE 3

1990-91	Medical Officer Department of Surgery Howard University Hospital
1990-91	Instructor Department of Surgery College of Medicine Howard University Hospital
1990-92	Adjunct Research Associate Department of Anatomy College of Medicine Howard University
1991-	Assistant Professor Department of Sociology and Anthropology Howard University
1991-92	Affiliate Assistant Professor Division of Plastic Surgery College of Medicine Howard University
1992-93	Adjunct Assistant Professor Department of Anthropology University of Maryland

GOVERNMENT SERVICE:

1981	Veteran, United States Public Health Service. Honorable Discharge, 1981
------	--

HONORS:

1972	Valedictorian, High School Williams Scholar
1973-75	Dean's List
1974	Ford Foundation Year Abroad Scholarship to study in Egypt
1979	Upjohn Award for Research College of Medicine Howard University

CURRICULUM VITAE
DR. S.O.Y. KEITA
PAGE 4

1981 Graduate Assistantship, Anthropology
Department, State University of
New York,
Binghamton, New York (Declined)

GRANTS:

1982-83 Overseas Research Student Award,
Committee of Vice-Chancellors and
United Kingdom, Tenable, Department
of Biological Anthropology, Oxford
University, Oxford, England

1983 Boise Fund Research Grant

1992 Fellow of the American Anthropological
Association

RESEARCH EXPERIENCE:

1974 Work in Surfactants for Tertiary Oil
Recovery, Dow Chemical Company

1976 Electron-Microscopic Study of Chick
Wingbud Mesoderm. Assistant to Dr. Gail
Crosby, Department of Anatomy, Howard
University

1977-78 Anatomical Studies of Cenozoic Mammals,
Assistant to Dr. S.T. Hussain,
Department of Anatomy, Howard University
(Summers)

1982-83 Comparative Morphometric Studies of
Human Crania Using Multivariate
Statistical Techniques. Department of
Biological Anthropology, University of
Oxford, England, and ongoing.

1989-90 Research on Chronic Wound Care

ASSOCIATIONS: Past or Present (not all active)

Student National Medical Association
American Medical Association
American Anthropological Association
American Association of Physical Anthropologists

PROFESSIONAL ACTIVITIES:

Served as referee for the American Journal of Physical
Anthropology

PUBLICATIONS OR MANUSCRIPTS

- Keita, SOY (1976) An Electron Microscopic Study of Chick Wing-bud Mesoderm, Unpublished manuscript.
- Keita, SOY, Schultz R, and Bakheit M-O (1981) "Saving Nubia's Culture". West Africa Magazine 3325:273-275. (February 9.)
- Keita, SOY (1981) Royal Incest and Diffusion in Africa (a critical commentary). American Ethnologist 8(2):392-93.
- Keita, SOY (1983) A Craniometric Study of Some Ancient Northern African Populations, Unpublished M.Sc. Thesis. The Bodleian Library, University of Oxford.
- Keita, SOY (1988) An analysis of crania from Tell Duweir using multiple discriminant functions. American Journal of Physical Anthropology 75:375-390.
- Keita, SOY (1990) Studies of ancient crania from northern Africa. American Journal of Physical Anthropology 83:35-48.
- Pensitton RL and Keita SOY (1991) Introduction. In Cardiovascular Diseases in Blacks. Philadelphia: Davis.
- Keita, SOY (1990) Book Review of Drake, St. Clair (1987) Black Folk Here and There. Transforming Anthropology (In Press).
- DeWitty RL and Keita SOY (1990) Adult Neuroblastoma: A Case Report and Review of the Literature (In preparation).
- Keita, SOY (1992) Further studies of crania from ancient northern Africa: An analysis of crania from First Dynasty Egyptian tombs, using multiple discriminant functions. American Journal Physical Anthropology 87:245-254.
- Keita, SOY (1992) Biological and cultural change in ancient southern Egypt. Maryland Occasional Papers in Anthropological Sciences (In Press).
- Keita, SOY (1993) A brief review of studies and comments on ancient Egyptian biological relationships. History in Africa. (In Press).
- Keita, SOY (1993) The subspecies concept in zoology and anthropology. Jour. of Black Studies 23(3):416-445.
- Keita, SOY (1993) Black Athena: "Race", Bernal and Snowden. Arethusa (In Press)

PRESENTATIONS

Keita, SOY (1990) Traditional "Racial" Classifications: Inadequate for Biomedical Analysis. Poster and Abstract. International Society of Hypertension in Blacks. Fifth International Interdisciplinary Conference on Hypertension in Blacks. May 3-7, 1990.

Keita, SOY (1990) The Diabetic Foot. Presentation, Plastic Surgery Section, National Medical Association Meeting.

Keita, SOY (1991) Early Nile Valley Peoples and Culture. Presentation, The Washington, D.C. School Curriculum Committee. April.

Keita, SOY (1991) The Biological Affinities of the Ancient Inhabitants of the Northern Nile Valley. Presentation, The Third Cheikh Anta Diop Conference, Temple University. October 13.

Keita, SOY (1991) Changing Views on the Origins of the Culture and Peoples of the Northern Nile Valley. Presentation, The National Council of Social Studies Teachers, Washington, D.C.

Keita, SOY (1992) A Review of Studies on the Biological Affinities of the Egyptians. Paleoanthropology Seminar. The Smithsonian Museum of Natural History. Washington, D.C. February 5.

Keita, SOY (1992) A History of Ideas on the Biological Origins of the Ancient Egyptians. Panel on Ancient Greece and the Mediterranean. Prince George's Community College - October 29.

Keita, SOY (1992) Black Athena: "Race", Bernal and Snowden. George Washington University Seminar on Ancient Mediterranean Cultures. December 9.

Keita, SOY (1993) The Biocultural Origins of Ancient Egypt. Lecture to the docents of the Museum of African Art. January 13.

Biographical Information

name, first name

orge, Matthew

CO-PI

research interest

Role in proposed project

Genetic Variation and Gene Expression

Education

(Begin with baccalaureate and include postdoctoral)

Institution and location

Degree

Year

Field

Marshall College, Marshall, TX
 Emory Univ., Atlanta, GA
 Univ. Calif., Berkeley, CA
 San Diego Zoo, CA.

B.S. 1971
 M.S. 1974
 Ph.D. 1982
 Post-Doc 81-83

Biol/Chem.
 Micro/Biochem
 Genet/Biochem
 Molecular Evolution

Research and Professional Experience

Starting with present position, list training and experience relevant to area of project, including teaching and clinical responsibilities.

List all recent peer-reviewed publications and selected earlier key papers. Indicate if this is a partial listing and give the total number of publications, excluding abstracts, non-peer-reviewed articles, and book chapters. This section should not exceed one additional page.

1981-1983 Post-doctoral Student in the laboratory of Dr. Oliver Ryder. San Diego Zoo, San Diego, CA.

1983-1984 Staff Fellow in the Laboratory of Dr. S. O'Brien, National Cancer Institute, Frederick, MD.

1984-1992 Assistant professor of Biochemistry, Howard University College of Medicine, Washington, D.C.

1992-Present Associate Professor of Biochemistry, Howard University College of Medicine, Washington, D.C.

HONORS/ FELLOWSHIPS/ GRANTS:

1992-1993 Panelist for the Small Business Innovation Research Program (National Science Foundation).

1991-Present Editorial Board Member of the new journal, Molecular Phylogenetics and Evolution.

1990 and 1992 Faculty Sponsor of Summer Medical Student Research, First Prize Winner (Howard University).

1990 Faculty Mentor of Graduate Student who received Howard University's **FIRST** "Ph.D. Dissertation of the Year" Award.

1990 Workshop Participant in "Careers in Biological Sciences" Advancement for Women and Minorities, American Society for Cell Biology.

GRS/ FELLOWSHIPS/ GRANTS

8

Minority Fellow Travel Grant (American Society for Cell Biology).

5-86

Howard University Faculty Research Support Grant.

SELECTED PUBLICATIONS

Brown, W.M., M. George and A.C. Wilson 1979. Rapid evolution of animal mitochondrial DNA. Proc. Natl. Acad. Sci. USA 76:1967-1971.

Wilson, A.C., R.L. Cann, S.M. Carr, M. George, Jr., U.B. Gyllensten, K. Helm-Bychowski, R.G. Higuchi, S. R. Palumbi, E.M. Prager, R.D. Sage and M. Stoneking 1989. Mitochondrial DNA in relation to evolutionary genetics. Biol. J. Linnean Soc. 26: 375-400.

George, M. and O.A. Ryder 1986. Mitochondrial DNA evolution in the genus Equus. Mol. Biol. Evol. 3:525-546.

Higuchi, R.G., L.A. Wrischnik, E. Oakes, M. George, Jr., B. Tong, and A.C. Wilson 1987. Mitochondrial DNA of the Extinct Quagga: Relatedness and extent of post-mortem change. J. Mol. Evol. 25:283-287.

5. George, Jr. M., L.G. Chemnick, and O.A. Ryder 1992. Mitochondrial DNA analysis of rhinoceros subspecies. In Press in: "Rhinoceros Biology and Conservation".

17. DeSalle, R., A.K. Williams and M. George, Jr. 1992. Isolation and characterization of animal mitochondrial DNA. Methods in Enzymology "Molecular Evolution: Producing the Biochemical Data". In Press.

18. Gabriel, G.C., C. Gabriel, M. George and A.A. Day 1992. Isolation and characterization of the bovine decorin promoter. (Submitted to the J. Cell Biology).

19. Gabriel, G.C., George, M., Oliga, J.J. and Day, A.A. 1992. Cis elements of the Decorin Promoter: AP-1, SP-1 and HLH sites are Functional in Binding Nuclear Proteins. (Submitted to J. Cell Biology).

TEACHING & CLINICAL RESPONSIBILITIES

My fall semester teaching duties include the molecular genetics section of Biochemistry to 1st year medical students which is coupled with small group study sessions (3 h. / wk., 12 times / semester). I also teach 6-9 h. in the Graduate Biochemistry course (laboratory techniques). Spring semester, I teach the Nucleic Acids/Protein Interactions course to advanced graduate students. I am also a participant in the Howard University Cancer Center/ National Cancer Institute Summer Research Training program for medical and graduate students.

Other Support

Each professional named in Budget, list in two separate groups (I) all CURRENTLY ACTIVE SUPPORT and (II) PENDING SUPPORT. Take into account governmental, institutional, for-profit, and not-for-profit sources. Include other grants from the American Cancer Society. Give source of support, identifying number, project title, name of principal investigator, percent effort of professional named, dates of entire project period, and direct costs for entire period and for the current year. In an Appendix include a copy of title page, abstract, specific aims, and budget for all grants in effect (overlapping or not) of the principal investigator of this application. For pending applications, indicate whether proposals are to be considered on an "either/or" basis with this proposal.

CURRENT SUPPORT

MATTHEW GEORGE, JR., Ph. D.

SOURCE: NIGMS/MBRS ID NUMBER: 5S06 GM08016-22

TITLE: Genetic Variability as Revealed by Mitochondrial DNA Analysis (Sub-project)

PI: Matthew George, Jr., Ph. D.

% EFFORT: 40

DATES OF PROJECT PERIOD: 8/1/90 - 7/31/94

DIRECT COSTS: Entire period: \$ 242,981 Current Year: \$ 58,345

SOURCE: NIH:RCMI and Human Genome Project ID NUMBER: 3G12RR03048-0751

TITLE: Genomic Research in African-American Pedigrees

PI: Georgia Dunston, Ph. D.

% EFFORT: 5

DATES OF PROJECT PERIOD: 10/91 - 9/93

DIRECT COSTS: Entire period: \$ 238,701 Current Year: \$ 109,637

SOURCE: Howard Univ. Graduate School of Arts & Sciences ID NUMBER:

TITLE: Nucleic Acids Computer Analyses Service Collaborative Core Unit.

PI: Agnes A. Day, Ph. D.

% EFFORT: 5

DATES OF PROJECT PERIOD: 10/92 - 9/93

DIRECT COSTS: Entire Period: \$20,000 Current Year: \$ 20,000

SANDRA HILL

VITA

3478 Firethorn Drive, Tuscaloosa, AL 35405
phone: (205) 553-2698

Department of Anthropology, Machmer Hall
University of Massachusetts, Amherst, MA 01003
phone: (413) 545-2221

Born: Tuscaloosa, AL
Social Security Number: 422-78-2438

N:

Degrees:

Ph.D. candidate, A.B.D.
University of Massachusetts at Amherst

M.A., University of Tennessee, Knoxville
Department of Anthropology, with specialization
in Biological Anthropology, 1979

A.B., University of Alabama, Tuscaloosa
English and Pre-med major, 1972

Diplomas and/or Specialized Coursework:

Surgical Technician, Druid City Hospital
Tuscaloosa, AL, 1976; diploma

Coursework towards M.P.H. (Master's
in Public Health), University of
Massachusetts, Amherst.

Scientific Illustration, University of
Massachusetts, Amherst; departments of
Art, Biology, and Zoology.

Forensic Anthropology and Identification,
University of Tennessee, Knoxville.

ATIONS:

pters, Reports, Articles, Abstracts:

n.d.)

"Human Skeletal Populations: bones of contention
in biomedical and biocultural research." In
edited volume to be published by the World
Archaeological Congress, Archaeological Ethics
And The Treatment Of The Dead. (with B.J. Baker)

- d.) "A Demographic and Epidemiological Profile of Protohistoric Aborigines in West-Central Alabama: probable correlations to early European contact." In Disease And Demographic Collapse In The Spanish Borderlands. B. Baker and L.K. Kealhofer editors. (currently in editorial revision).
- press "The Gulf Formational Stage on the Mississippi Gulf Coast: evidence from the Greenwood Island Site (22Ja516)." In The Archaic-Woodland Transition In The Mid-South, J.W. O'Hear, editor. Cobb Institute of Archaeology. (with G.R. Lehmann and C.Geiger).
- 90b "Porotic Hyperostosis in Past and Present Perspective". In A Life In Science: Papers In Honor Of J.Lawrence Angel. Jane Buikstra, editor. Center for American Archeology. Scientific Papers 6. (with George J. Armelagos).
- 90a "An Evaluation of the Biocultural Consequences of the Mississippian Transformation". In Towns and Temples Along The Mississippi: Late Prehistoric And Historic Indians In The Memphis Area. David Dye and Cheryl Cox, editors. University of Alabama Press. (with G.J.Armelagos).
- 988 "Worlds in Collision: a biocultural examination of the Woodland/Mississippian transition in central Alabama". In Emergent Mississippian Cultures. Richard Marshall, editor. Cobb Institute of Archaeology, Mississippi State University.
- 987 "The Evolution of Mycobacterial Disease in Human Populations: a reevaluation. Current Anthropology, 28(1):45-62. (with G.A.Clark, M.A.Kelley, and J.M.Granger).
- 984 "Site Data. The Liddell Site (1WX1)", p.55-56. "Site Data. The Goat Pasture Site (1WX12)", p. 69-72. "Site Data. Big Prairie Creek Site (1HA 19)", p.104-110. "Site Data. The Baker Site (1TU 49)", p.132-140. "Site Data. The Moody Slough Site (1TU4)", p.172-193. "Site Data. The Lubdub Creek Site (1PI33, 1PI83, 1PI85)", p.194-200. In The Protohistoric Period In Central Alabama. By C.Curren, with contributions by K.Little, M.C. Hill, G.A.Clark, D.Lentz, R.Hanley. Alabama Tombigbee Regional Commission, Camden, Alabama.
- 1982 "Bioarchaeological Comparisons of the Late Miller III and Summerville I Phases in the Gainesville Lake Area." In Archaeology Of The Gainesville

Lake Area Of The Tennessee-Tombigbee Waterway.
N.J.Jenkins, editor. Office of Archaeological
Research. University of Alabama, and University
of Alabama Press: Tuscaloosa. (with G.S.Cole and
H.B.Ensor). Pages 187-238.

- 1981 c "Analysis, Synthesis, and Interpretation of the
Skeletal Material Excavated for the Gainesville
Section of the Tennessee-Tombigbee Waterway." In
Biocultural Studies In The Gainesville Lake Area.
Vol. IV of Archaeological Investigations in the
Gainesville Lake Area of the Tennessee-Tombigbee
Waterway. G.M.Caddell, A.Woodrick, M.C.Hill,
editors. Office of Archaeological Research,
University of Alabama, and University of Alabama
Press: Tuscaloosa. Pages 211-334.
- 1981 b "A Skeletal Analysis of Burials from 9Cla62."
In Cemachechobee, Archaeology of a Mississippian
Ceremonial Center on the Chattahoochee River.
F.T.Schnell, V.S.Knight, Jr. and G.S.Schnell,
editors. University of Florida Press:
Gainesville. Pages 256-262.
- 1981 a "Skeletal Analysis of Burials From 1TU4 and
1HA19". In Archaeological Investigations (1933-
1980) Of The Protohistoric Period of Central
Alabama. Report presented to the University of
Alabama Museum of Natural History and the Alabama
Historical Commission. C.B.Curren and K.J.Little
editors. (with G.A.Clark). Pages 135-184, 200-
233, 281-296.
- 1975 "A Study of the Skeletal Remains." In
Archaeological Investigations In The Gainesville
Lock And Dam Reservoir. N.J.Jenkins, editor.
Report on file at the Office Of Archaeological
Research, University of Alabama, Tuscaloosa.
(with C.S.Smith). Pages 249-270.
- pers Presented:
- 1992 "Twice-told Tales: the mortuary sample from the
Jefferson Street Bridge project, Nashville, TN".
Paper presented in session entitled "Mortuary
Studies", M.L. Powell, chairperson: at the 49th
annual meeting of the Southeastern Archaeology
Conference, Little Rock, Arkansas, Oct. 1992.
Abstracted in Southeastern Archaeological
Conference, Bulletin 35: p.10, 1992.
- 1991 b "Theory In Adaptive Physiology: applicability
to prehistoric human systems". Paper presented

in invited session organized and chaired by E. Peacock, "Late Prehistoric Adaptations In The Black Belt, Mississippi and Alabama", 48th annual meeting of the Southeastern Archaeology Conference, Jackson, MS. November 1991.

- 991 a "The Gulf Formational Stage on the Mississippi Gulf Coast: evidence from the Greenwood Island site (22Ja316)." Paper presented at the annual Mid-South Archaeological Conference, theme: The Archaic-Woodland Transition in the Mid-South. Organized by J.W.O'Hear, Cobb Institute of Archaeology, Mississippi State Univ., Starkville, MS. (with G.R.Lehmann and C.L.Geiger). June 1991.
- 990 "A Demographic and Epidemiological Profile of Protohistoric Aborigines in west-central Alabama: probable correlations to early European contact." Paper presented in invited session organized and chaired by B.J. Baker and L. Kealhofer, "Disease and Demographic Collapse In The Spanish Borderlands", annual meeting of the American Association of Physical Anthropologists.
- 989 "Human Skeletal Populations: bones of contention in biomedical and biocultural research." In invited session, "On Common Ground: Skeletal Biologists and Community Interests", organized and chaired by Michael Blakey, for the World Archaeological Congress, First Inter-Congress "Archaeological Ethics And The Treatment Of The Dead." University of South Dakota. (with B.J. Baker).
- 1988 "Those Skeletons In The Closet: skeletons as a vital biomedical and biocultural resource." In "Skeletal Remains and Mortuary Practices" chaired by C.T.Faulkner. Fiftieth Anniversary Meeting of the Southeastern Archaeological Conference, New Orleans, LA. (with B.Baker).
- 1987 c "Porotic Hyperostosis in Past and Present Perspective." In invited session: "J.Lawrence Angel: Contributions to Anthropology", organized and chaired by J. Buikstra, sponsored by the Biological and Archaeological sections of the American Anthropological Association. 86th annual meeting of the American Anthropological Association, Chicago, IL. Abstracted in Abstracts of the 86th Annual Meeting, p. 76. (with G.J.Armelagos).
- 1987 b "Skeletons In The Closet: the importance of skeletal collections in biocultural and

biomedical research." In "The Reburial Issue In The Northeast", invited session organized and chaired by B.Baker. 27th annual meeting of the Northeast Anthropological Association, Amherst, MA. (with A.M.Mires and B.J.Baker).

- 987 a "A Two-Way Mirror: the use of skeletal populations in research on the long-term consequences of iron deficiency anemia." In "Osteology As Anthropology", invited session organized and chaired by B.Baker. 27th annual meeting of the Northeast Anthropological Association, Amherst, MA.
- 986 d "A Study In Adaptation: the dynamic interplay of culture, biology and environment for a Late Woodland population in Alabama." In "Late Woodland Regional Variation In The Southeast", invited session organized and chaired by C.R.Cobb and M.S.Nassaney. 48th annual meeting of the Southeastern Archaeological Conference, Nashville
- 986 c "Skeletal Analysis Of The Moundville Population". Prepared remarks for an invited roundtable presentation and discussion of past, present, and future research at Moundville. Annual meeting of the Society for American Archaeology, New Orleans
- 986 b "Postcranial Periostitis: a problematic in the differential diagnosis of porotic hyperostosis and infection." In "Infection: Some Critical Issues and Answers In Paleopathology", session organized and chaired by M.C.Hill. Annual meeting of the American Association of Physical Anthropology, Albuquerque, NM. Abstracted in American Journal of Physical Anthropology 69(2): 214.
- 986 a "Problems in the Differential Diagnosis of Postcranial Periostitis." In "Differential Diagnosis of Infectious Disease", invited session organized by C.Merbs and M.C.Hill; chaired by M.C.Hill. Annual meeting of the Paleopathology Association, Albuquerque, NM. Abstracted in the Paleopathology Newsletter.
- 1985 e "A Biocultural Assessment of Protohistoric Populations in Alabama." In "Columbian Disease Imports In The New World: paradox in paleopathology.", invited session organized and chaired by D.Cook. 84th annual meeting of the American Anthropological Association, Washington, D.C. Abstracted in Abstracts of the 84th Annual Meeting, p.84.

- 985 d "An Evaluation of the Biocultural Consequences of the Mississippian Transformation." In invited conference. "Towns and Temples Along the Mississippi: Late Prehistoric and Historic Indians in the Memphis Area", organized and chaired by D.Dye, sponsored by Memphis State University. (with G.J.Armelagos)
- 985 c "Worlds in Collision: a biocultural examination of the Woodland/Mississippian transition in central Alabama." In "Emergent Mississippian Cultures", organized and chaired by R.Marshall. 3th annual meeting of the Mid-South Archaeological Conference. Starkville, MS.
- 1985 a "An Historical Overview of Porotic Hyperostosis: some critical issues." (with A.Grauer), and
b "Porotic Hyperostosis: a question of correlation versus causality." In "Porotic Hyperostosis: a Complex Problem in Prehistory", organized by M.C.Hill, and chaired by M.C.Hill and A.Grauer. 34th annual meeting of the American Association of Physical Anthropology, Knoxville, TN. Abstracted in American Journal of Physical Anthropology 66(2):182.
- 1983 b "The Woodland/Mississippian Transition in Alabama: a study in adaptation." In "Human Osteology" chaired by J.Buikstra. 52nd annual meeting of the American Association of Physical Anthropology, Indianapolis, IN. Abstracted in American Journal of Physical Anthropology 60(2): 205.
- 1983 a "Porotic Hyperostosis: a new hammer?" Annual meeting of the Alabama Academy of Science. Tuscaloosa, Al.
- 1982 "Size, Shape and Stress Indicators in the Human Tibiae from the Dickson Mound Population (A.D. 950-1300)." In "Physical Anthropology of Health and Disease", chaired by M.E.Morbeck. 81st annual meeting of the American Anthropological Association, Washington, D.C. Abstracted in Abstracts of the 81st Annual Meeting, p.160. (with G.A.Clark and D.Bey).
- 1981 "The Mississippian Decline: a biological analysis." In "Human Osteology" chaired by S. Pfeiffer. 50th annual meeting of the American Association of Physical Anthropology, Detroit, MI. Abstracted in American Journal of Physical Anthropology 54(2): 263.

- 1980 "The Alabama River Phase: a biological synthesis and interpretation." In "Stress Indicators in Bone: a population approach", organized and chaired by G.A.Clark. 20th annual meeting of the Northeast Anthropological Association, Amherst, MA
- 1979 "Bio-archaeological Comparisons of the Miller III and Moundville Phases." In "The Lubbub Creek Excavations" chaired by J.Benz. 36th annual Southeastern Archaeological Conference, Atlanta, GA. (with H.B. Ensor).

Completed Manuscripts:

- "The Alabama River Phase, a biological synthesis and interpretation." M.A. thesis, University of Tennessee, Knoxville, 1979. Analysis of skeletal material from Alabama River Phase sites (protohistoric period) in central Alabama in an attempt to determine possible effects of European contact. 110 pages.
- "The Cutler Site". Analysis of skeletal material representing the Late Paleo/Early Archaic period from the Cutler Site in Florida for B. Carr, University of Florida. (with G.J. Armelagos and A.L. Magennis). Manuscript on file in department of Anthropology, University of Florida, Gainesville. 1989.
- "Porotic Hyperostosis: An Overview Of Correlation And Cause". A statement of field in partial fulfillment of the requirements for the degree of Doctor of Philosophy, University of Massachusetts, Amherst. On file in department of Anthropology. 40 pages. 1989.
- "Is Bioarchaeology Dead? Future Trends In Anthropology: A Commentary". A statement of field in partial fulfillment of the requirements for the degree of Doctor of Philosophy, University of Massachusetts, Amherst. On file in department of Anthropology. 11 pages. 1989.

Manuscripts In Preparation:

- Analysis of Mississippian and Protohistoric burials from Alabama for C.B. Curren, University of West Florida and Alabama-Tombigbee Regional Commission.
- Analysis of the skeletal sample exhumed as a consequence of the demolition and subsequent expansion of the Jefferson Street Bridge, Nashville, TN. Under contract to PanAmerican Consultants, Inc.
- Report on the Fall 1992 excavations at the King site, University of Georgia field school, Dr. David Hally, director. Under contract to the National Geographic Foundation. [Analysis of human burials]

IONAL LABORATORY AND RESEARCH EXPERIENCE:

ological Anthropology:

Nineteen years cumulative experience in analysis of human skeletal material for various reports and papers for institutions including the University of Alabama, University of Tennessee, National Park Service, U.S. Army Corps of Engineers, Wake Forest University, University of Massachusetts, Alabama Historical Commission, Alabama Museum of Natural History, University of West Florida, Pensacola Junior College, University of Florida, and PanAmerican Consultants, Inc., University of Georgia/National Geographic Foundation. Detailed list available on request.

Specialized analysis of deceased individuals presented as forensic cases, in order to determine aspects of identity, possible medical history, and cause of death. University of Tennessee, Wake Forest University, and University of Massachusetts/Massachusetts State Medical Examiners' Office.

Assisted in making anthropometric measurements for research in longitudinal growth studies of school children, conducted by the Home Economics department of the University of Tennessee (with C.S.Smith, spring quarter 1973).

chaeology:

Seven years cumulative experience in field and laboratory techniques including washing, sorting, cataloguing, and excavating artifacts, drafting maps and features, at the University of Alabama and University of Tennessee; field survey in Mississippi (1989); field school for University of Georgia, fall 1992. Historic and Prehistoric sites. Detailed list available on request.

ltural/Biological Anthropology:

Interdisciplinary ethnographic research in the Amazon River Basin conducted by the University of Alabama under the direction of Dr. C. Earle Smith in an attempt to analyze the effect of acculturation on the Tecuna Indian population of Puerto Narino, Colombia, South America. Three months: 1972.

ING EXPERIENCE:

92 Field assistant of archaeology field school and instructor field methods in skeletal biology at the King Site, University Georgia. Dr. David Hally, professor and project director. Funding provided by the National Geographic Foundation. Fall arter. 1992.

87 Teaching Assistant to Dr. G.J.Armelagos, in Human Skeletal ology. Spring Semester. 1987. University of Massachusetts at herst.

- 85 Teaching Assistant to Dr. A.S.Keene, in Culture Through
lm. Spring Semester, 1985. University of Massachusetts at
herst.
- 84 Instructor for Introduction to Physical Anthropology.
ring Semester, 1984. University of Massachusetts at Amherst.
- 84 Teaching Assistant to Dr. G.J.Armelagos, in Human Skeletal
ology. Spring Semester, 1984. University of Massachusetts at
herst.
- 83 Instructor for General Anthropology. Fall Semester, 1983.
iversity of Massachusetts at Amherst.
- 81 Teaching Assistant to Dr. S.H.Forman, in Introduction to
ltural Anthropology. Spring Semester, 1981. University of
ssachusetts at Amherst.
- 80 Teaching Assistant to Dr. J.W.Cole, in General Anthropology,
ll Semester, 1980. University of Massachusetts at Amherst.
- 80 Instructor for Introduction to Archaeology. Summer 1980.
partment of Continuing Education. University of Massachusetts
Amherst.
- 77-1978 Coordinator of Education. Museum of Man, Wake Forest
iversity, Winston-Slaem, NC. Aside from handling museum
siness, I was in charge of giving lectures on various topics in
thropology to visiting groups, and I directed students' work in
e design and construction of display cases. I also arranged
est lectures and supervised the student assistants in the
chaeology, physical anthropology, and cultural anthropology
boratories.
- 76-1977 Instructor in Physical Anthropology. Wake Forest
iversity. Winston-Slaem, NC. I taught eight courses: 4 general
thropology and 4 advanced anthropology (Forensic Identification,
oanthropology, Human Osteology and Seminar in Physical
thropology.
- Lectures:
- 88 "Moundville: a Mississippian Chiefdom". Lecture presented
the Introduction to Archaeology class. Dr.H.McWobst, professor.
iversity of Massachusetts at Amherst.
- 87 Various topics in skeletal growth, development, and
entification, and skeletal pathology. Human Skeletal Biology.
G.J.Armelagos, professor. University of Massachusetts at
herst.
- 85 "English Smocking and French Handsewing: a cultural history"
cture presented to the Old Deerfield Chapter of the Embroiderers
ild of America. Greenfield, MA.

83 "Archaeological Field Methods for the Human Skeleton", "Porotic Hyperostosis", "Metabolic Disease", "Anthropometry", and "Skeletal Data Analysis". Lectures presented to the Advanced Skeletal Biology Seminar. Dr. G.J. Armelagos, professor. University of Massachusetts at Amherst.

81 "Radiography". Lecture presented to the Human Osteology Seminar. D.L. Martin and Dr. G.J. Armelagos, instructors. University of Massachusetts at Amherst.

81 "Diet and Disease in Prehistory". Lecture presented to the Introduction to Cultural Anthropology class. Dr. S.H. Forman, professor. University of Massachusetts at Amherst.

80 "Human Variation". Two lectures presented to the General Anthropology class. Dr. J.W. Cole, professor. University of Massachusetts at Amherst.

80 "Bone Biology and Human Growth and Development." Lecture presented to the Human Osteology class. Dr. G.J. Armelagos, professor. University of Massachusetts at Amherst.

80 "Anthropometry". Lecture presented to the Methods in Biological Anthropology class. Dr. A. Swedlund, professor. University of Massachusetts at Amherst.

78 "Paleopathology". Two lectures presented to the University of Alabama School of Nursing, Tuscaloosa, AL.

77 "The Role of Anthropology In Forensics". Museum of Man evening lecture series. Wake Forest University, Winston-Salem, NC.

SIA ORGANIZED AND CHAIRED:

91 Member of steering committee for the Paleopathology Association meeting, Milwaukee, WI.

91 Co-organizer and Chair of symposium, "Our Changing Environment As Seen In The Paleopathology Record", for the Paleopathology Association meeting, Milwaukee, WI. [organized with assistance from Dr. J.B. Gregg, Dr. J.E. Molto, and Eve McKhurn].

86 "Infection: Critical Issues and Answers In Paleopathology". American Association of Physical Anthropology, Albuquerque, NM. [organizer and chair]

86 "Differential Diagnosis of Infectious Disease". Paleopathology Association, Albuquerque, NM. [organizer and chair]

83 "Porotic Hyperostosis: A Complex Problem In Prehistory". American Association of Physical Anthropology, Knoxville, TN. [organizer and co-chair with A. Grauer]

TION/EXPLORATION:

1 Member of interdisciplinary group which was the first (ucasian) group to explore and run the entire length of the a River, from Yellowknife, NWT, Canada to the Arctic Ocean; ordered the location of aboriginal habitation sites (but did not duct any research on these sites); whitewater and flat water oeing; three months. Each member presented his/her own earch on the Arctic environment. My research focused on human limatization/adaptation to the Arctic environment. Group ected by Dr. James R. Abel, UNASS/Amherst.

2 Member of interdisciplinary group which conducted research . lived with the Tucuna Indian tribe of Puerto Narino, Colombia, . for three months. (See notation above on additional lab and earch experience.) Group directed by Dr. C. Earle Smith, versity of Alabama, Tuscaloosa.

ANT JOB EXPERIENCE:

85-1989 Administrative Intern To The Dean: assistant to oc. Dean Elizabeth Brewer (College of Arts & Sciences and ordinator of International Area Studies Programs) and Jeffrey A. Cole (Director, International Area Studies programs). [Job description given upon request.]

PROFESSIONAL EXPERIENCE:

ensic analysis of cases presented to the University of nessee, Knoxville, Wake Forest University, and University, Massachusetts (Office of the State Medical Examiner, MA).

Scientific Illustration. [Portfolio available on request.]

cent for the Museum of Man, Wake Forest University, Winston-lem, NC.

cent for the Museum at Mound State Monument, Moundville, AL.

ogical Technician, Druid City Hospital, Tuscaloosa, AL.

RSHIP IN ACADEMIC AND PROFESSIONAL ORGANIZATIONS:

theastern Archaeological Conference, American Association of ysical Anthropologists, Society for American Archaeology, erican Anthropological Association, American Association for the vancement of Science, Alabama Academy of Science, New York ademy of Sciences, Paleopathology Association.

ARY MEMBERSHIPS:

ibda Alpha (Anthropology Honorary)
ma Xi (scientific honorary) [associate member]

AL RESEARCH INTERESTS:

ocultural Adaptation and Evolution; Human Growth and
velopment; Skeletal Biology; Paleopathology; Paleoepidemiology;
nsic Anthropology and Identification; General Systems Theory;
e Evolution of the State; Southeastern U.S. Prehistory;
ritional Issues in Public Health.

-CURRICULAR ACTIVITIES:

airperson, Anthropology Graduate Student Caucus, AY 1984-1985.
iversity of Massachusetts at Amherst.

ember, University of Massachusetts Campus Center/Student Union
ard of Governors, representing the graduate senate, AY 1984-
36.

aduate member of the Woodbury Scholarship Committee, Department
Anthropology, UMASS/Amherst; AY 1985-1986.

aduate member of the Ad-hoc Grievance Committee, Department of
thropology, UMASS/Amherst; AY 1986-1987.

itor/Co-ordinator of "Land Of The Lost": Department of
thropology, UMASS/Amherst. Graduate orientation materials for
coming graduate students, provided by the Anthropology Graduate
ucus, AY's 85,86,87,88,89.

iversity of Massachusetts/Amherst Women's Fencing Team;
mber and instructor.

M.C. Nee

ADDENDUM:

Teaching:

Spring, 1993 - Instructor in Physical Anthropology,
University of Alabama, Four courses,

Summer, 1993 - Instructor in Field Methods in Physical Anthropology,
University of Georgia, Assistant Field Director
to Dr. David Hally on the King Site.

Guest Lecturer:

January 1993 - Huntsville, AL, Public Library, Biological Stress
During The Protohistoric Period In Alabama.

Papers Presented:

April 1993 - Paleopathology Association, Annual Meeting, Toronto,
"Cranial Trauma: a possible example of prehistoric
execution", Analysis of skeletal series from the
Jefferson Street Bridge Project, Nashville, TN.,
Panamerican Consultants, Inc.

CURRICULUM VITAE

Fatimah Linda Collier Jackson

PERSONAL DATA

Born 6 September 1950
Denver, CO (USA)
Married with children
SSN: 521-70-1150

EDUCATION

Undergraduate: Cornell University
B.A. (*cum laude* in Anthropology and with Distinction in
all Subjects), 1972
Major: Anthropology
Minor: Biology

Graduate: Cornell University
M.A., 1978
Major: Biological Anthropology

Cornell University
Ph.D., 1981
Major: Biological Anthropology
Minors: Population Genetics, Parasitology

Additional Training: Centers for Disease Control
Certificates, 1977
Blood parasitology, Hemoglobinopathy Detection

Helena Laboratories
Certificates, 1981, 1984
Advanced Clinical Electrophoresis and Chromatography

Computer Learning Center
Diploma, 1984
Computer Programming

ACADEMIC ACTIVITIES

APPOINTMENT

100% Instruction

EXPERIENCE IN HIGHER EDUCATION

1979	Teaching Assistant, Cornell University
1980-1981	Instructor, Cornell University
1981-1986	Assistant Professor, University of California, Berkeley
1986-1991	Associate Professor, University of Florida
1991- present	Associate Professor, University of Maryland

RESEARCH, TEACHING, SERVICE

PUBLICATIONS

1. FULL PAPERS IN REFEREED JOURNALS

- Jackson, L.C., Bloch, E.F., Jackson, R.T., Chandler, J.P., Kim, Y.L., and Malveaux, F. 1985. Influence of dietary cyanide on immunoglobulin and thiocyanate levels in the serum of Liberian adults. *Journal of the National Medical Association* 77(10):777-782.
- Jackson, L.C. 1985. Malaria in Liberian children and mothers: biocultural perceptions of illness versus clinical evidence of disease. *Social Science and Medicine* 20(12):1281-1287.
- Jackson, L.C., Chandler, J.P., and Jackson, R.T. 1986. Inhibition and adaptation of red cell glucose-6-phosphate dehydrogenase in vivo to chronic sublethal dietary cyanide in an animal model. *Human Biology* 85(1):67-77.
- Jackson, L.C. 1986. Sociocultural and ethnohistorical influences on genetic diversity in Liberia. *American Anthropologist* 88(4):171-179.
- Jackson, R.T. and Jackson, L.C. 1987. Biological and behavioral contributors to anemia during pregnancy in Liberia, West Africa. *Human Biology* 59(4):585-597.
- Jackson, L.C., Oseguera, M., Medrano, S., Kim, Y.L. 1988. Carbamylation of hemoglobin in vivo with chronic sublethal dietary cyanide: implications for hemoglobin S. *Biochemical Medicine and Metabolic Biology* 39:64-68.
- Jackson, L.C. 1988. Behavioral effects of chronic sublethal dietary cyanide in an animal model: implications for humans consuming cassava. *Human Biology* 60(4):142-151.

- Jackson, L.C. 1988. Possible adaptation to serum thiocyanate overload associated with chronic sublethal dietary cyanide ingestion. *Human Biology* 60(4):152-155.
- Jackson, F.L.C. 1989 HLA diversity within the context of general human heterogeneity: anthropological perspectives. *Transplantation Proceedings* 21(6):3869-3871.
- Jackson, F.L.C. 1990. Two evolutionary models for the interactions of dietary cyanogens, hemoglobin S, and falciparum malaria. *American Journal of Human Biology* 2:521-532.
- Jackson, F.L.C., Bekheit, S.S., El Etr, S.M., Quach, N.K. 1990. Larvicidal effects of grain sorghum (*Sorghum bicolor*) seedling extracts on 2nd and 3rd instar *Culex pipiens* larvae. *Journal of the American Mosquito Control Association* 6(3):500-504.
- Jackson, F.L.C. 1991. An evolutionary perspective on salt, hypertension, and human genetic variability. *Hypertension* 17(1):I-129-I-132.
- Jackson, R.T. and Jackson, F.L.C. 1991. Reassessing "hereditary" intra-ethnic differences in anemia status. *Ethnicity and Disease* 1(1):26-41.
- Jackson, F.L.C. 1991. Influence of chronic sublethal cyanide on body weight in neonatal swine: implications for humans consuming cassava (*Manihot esculenta*). *American Journal of Human Biology* 3:339-345.
- Jackson, F.L.C. 1991. Secondary compounds in plants (allelochemicals) as promoters of human biological variation. *Annual Review of Anthropology* 20:505-546.
- Jackson, F.L.C. 1992 Race and ethnicity as biological constructs. *Ethnicity and Disease* 2(2):120-125.
- Jackson, F.L.C., Jackson, R.T., DeLumen, B.O., Sio, S.F., Dinkins, L., Muhammad, A.F.H. 1992. Cassava (*Manihot esculenta*) in Liberia: History, geography, traditional processing, and cyanogenic glycoside levels. *Ecology of Food and Nutrition* 28:227-242.
- Jackson, F.L.C. 1993 Biocultural factors influencing animal vaccine implementation. *Maryland Occasional Papers in Anthropological Sciences* 1(1): in press.
- Jackson, F.L.C. 1993. The bioanthropological context of disease. *Journal of Kidney Biology* 21(4):in press.

- Jackson, F.L.C. 1993. Evolutionary and political economic perspectives on biological diversity in African Americans. *Journal of Black Studies*. in press.
- Jackson, R.T., Jackson, F.L.C., and Yu, S. 1993 The relationship between third trimester maternal weight gain, hematologic status, and infant birth weight in samples of Liberian mothers. *Ecology of Food and Nutrition*. in press.
- Jackson, F.L.C. 1993 Ecogenetic diversity in Africa: a review of the biological histories of African people. *American Journal of Human Biology*. in press.

2. CHAPTERS IN BOOKS

- Jackson, F.L.C. and Jackson, R.T. 1990. The role of cassava in African famine prevention. IN *African Famine*, Volume II. R. Huss-Ashmore and S. Katz, eds. Gordon and Breach Sciences: New York.
- Jackson, F.L.C. 1993 Metabolic and evolutionary consequences of chronic exposure to dietary cyanogenic glycosides and other allelochemicals from tropical foods. IN *Food and Nutrition in the Tropical Forest: Biocultural Interactions and Applications to Development*. C.M. Hladik, H. Pagezy, O.F. Linares, A. Hladik, and M. Hadley, eds., Man and the Biosphere Series, Volume 15, UNESCO: Paris.

3. BOOK REVIEWS

- Jackson, F.L.C. 1985. *Modern Man and His Biological Evolution*. Jan Jelinek, ed. Anthropological Institutes of the Charles University: Prague. 1982, 419 pp. *American Anthropologist* 87(2):438-440.
- Jackson, F.L.C. 1991 *The Sickled Cell: From Myths to Molecules*, by Stuart Edlestein. Harvard University Press: Cambridge. 1986, 197 pp. *Medical Anthropology Quarterly*.
- Jackson, F.L.C. 1991. *With Bitter Herbs They Shall Eat It*, by Timothy Johns, Arizona University Press.: Tucson, AZ, 1990, 291 pp. *American Anthropologist*.
- Jackson, F.L.C. 1993 *Genetic Variation and Disorders in Peoples of African Origin*, by James E. Bowman and Robert F. Murray, , 472 pp. The Johns Hopkins University Press: Baltimore, MD, 1990. *American Journal of Physical Anthropology*.

4. REPORTS

International Nutritional Anemia Consultative Group (INACG) 1989. *Guidelines for the Control of Maternal Nutritional Anemia*. USAID and The Nutrition Foundation: Washington, D.C., 6 pp.

International Society for Hypertension in Blacks (ISHIB) 1992 *Symposium Workbook on The Biological Histories of African Peoples*. ISHIB and The University of Maryland, 75 pp.

5. LETTERS TO THE EDITOR AND NEWSPAPER ARTICLES

Jackson, L.C. 1985. "Sickle Cell: Another Approach" in *The Black Professional*. May issue, pp. 1, 9-10.

Jackson, L.C. 1987. Animal source for human G6PD isozymes GdA and GdB. *Biochemical Medicine and Metabolic Biology* 38:125.

6. PEER REVIEWED ABSTRACTS

Jackson, L.C. 1981. The relationship of certain genetic traits to malaria in Liberian children and mothers. *American Journal of Physical Anthropology* 54(2): 236.

Jackson, L.C. 1981. The interaction of dietary cassava (*Manihot esculenta*, Crantz), hemoglobin S, and falciparum malaria. *American Anthropological Association Abstracts*, p. 94.

Jackson, L.C. and Jackson, R.T., 1984. Health implications of chronic dietary cyanide. *American Journal of Physical Anthropology* 63(2):174.

Jackson, L.C. -and Kim, Y.L. 1984. Patterns of cyanide detoxication in chronic cassava eaters. *American Anthropological Association Abstracts*, p. 56.

Rudney, J.D., Jackson, L.C., Smith, Q.T. 1985. Salivary defense systems in adult Liberians differing in dietary cyanide intake. *American Journal of Physical Anthropology* 66(2):223.

Jackson, L.C. 1986. Hyperglycemia and chronic exposure to sublethal dietary cyanide: does regular cassava eating predispose to diabetes? *American Journal of Physical Anthropology* 69(2):218.

- Jackson, L.C. 1987. Potential genetic influence of chronic sublethal dietary cyanide on hemoglobin S distribution and fitness. *American Journal of Physical Anthropology* 72(2):215.
- Jackson, L.C. 1988. Evolutionary considerations of endemic versus epidemic acquired immune deficiency syndrome in Central Africa. *American Journal of Physical Anthropology* 75(2):226.
- Jackson, F.L.C. 1988. Dietary cassava (*Manihot esculenta*) as a stimulus for diversity in disease susceptibility. *American Anthropological Association Abstracts*.
- Jackson, F.L.C. 1989. Biopsychosocial influences on onchocerciasis and vitamin A intake. *World Health Organization Workshop Papers on Onchocerciasis and Vitamin A*, C.P. Nair and S.B. Day, eds.
- Jackson, F.L.C. 1989. Reassessing the nutritional value of cassava. *American Anthropological Association Abstracts*.
- Jackson, F.L.C. 1990. Dietary constituents and human variability. *American Journal of Human Biology*
- Jackson, F.L.C. 1990. Population biology of hypertension. *Abstracts of the International Interdisciplinary Society of Hypertension in Blacks*.
- Jackson, F.L.C., Hassoun, R.J., Abdel-fattah, A., ElShandawili, A.A. 1990. Factors affecting psychosocial stress in modern Cairo, Egypt. *Annals of Human Biology*.
- Jackson, F.L.C. 1992. The case for human-plant coevolution. *American Journal of Human Biology*.
- Jackson, F.L.C. 1993. A critical assessment of bias and neglect in human biology research. *Society for Applied Anthropology Abstracts*
- Jackson, F.L.C. 1993. The central role of women in cassava detoxification and detoxication. *International Congress on Anthropological and Ethnological Sciences Abstracts (in press)*
- Jackson, F.L.C. 1993. Towards an African-centered biological anthropology. *International Congress on Anthropological and Ethnological Sciences Abstracts (in press)*

7. PAPERS CURRENTLY UNDER PEER REVIEW

Jackson, F.L.C. and Jackson, R.T. Attitudes and practices affecting the prevention and treatment of maternal nutritional anemia. Under Review By: *Medical Anthropology Quarterly*.

Jackson, F.L.C. The evidence for human-plant coevolution: four cases studies. Under Review By: *Human Biology*.

Jackson, F.L.C. When Science is Used Against Afrocentrism, A time for Reflection, Review, and Response. Under Review By: *Ma'at*.

Jackson, F.L.C., Bekheit, S.S., Moustafa, A.A., Quach, N.K., and Thomas J.A. Pupacidal effects of Dhuraid™ on *Culex*, *Anopheles*, and *Aedes* mosquitoes. Under Review By: *Journal of American Mosquito Control Association*.

OTHER CREATIVE AND SCHOLARLY ACTIVITIES

1. EXTERNAL GRANTS AND CONTRACTS

<u>year awarded</u>	<u>source</u>	<u>amount</u>
1970	Class of 1950 Scholar	\$6,000
1977	Huber Foundation Grants and Fellowships	\$15,000
1978	National Fellowships Fund (Ford Foundation)	\$10,000
1978	Sigma Xi Grant-in-Aid	\$1,600
1979	Rockefeller Foundation Fellowship	\$1,500
1981	University Research Expeditions Program	\$7,300
1982	Higgins Estate Grant for Medical Research	\$5,000
1983	National Institutes of Health Biomedical Research Grant	\$11,800
1987	National Science Foundation, MRI Grant	\$12,000
1987	United States Agency for International Development (co-investigator, Dr. Michael Burrige, PI)	\$4,000,000
1988	Fulbright Foundation	\$17,500
1992	International Society for Hypertension in Blacks	\$14,500

2. INTERNAL GRANTS, AWARDS, AND CONTRACTS

1976	Cornell Graduate Scholar Cornell University	\$15,000
1982	Regents Equipment and Instruction Improvement Grant University of California	\$11,000
1982	Regents Junior Faculty Fellowship University of California	\$2,900
1984	Career Development Grant University of California	\$12,700
1989	Research Support Grant University of Florida	\$2,670
1990	Research Support Grant University of Florida	\$2,500
1992	Travel Grant, International Affairs University of Maryland	\$2,300
1992	Instructional Improvement Grant University of Maryland	\$26,000
1993	Curriculum Transformation Project University of Maryland	\$4,500

3. NATIONAL AND INTERNATIONAL CONSULTANCIES

1985	4C'S – Adolescent Pregnancy Intervention Program, Oakland, CA
1987-1990	USAID—Improved Animal Vaccines Through Biotechnology (936-4178), Phase II Anaplasmosis and Babesiosis (Anthropological Component)
1991, 1992	CIES-Fulbright Foundation, Middle East Division (Life Sciences)

- 1991 NSF-Undergraduate Curriculum and Course Development in the Sciences
- 1992 NSF-NEH-FIPSE - Undergraduate Curriculum and Course Development, Integrating the Sciences and the Humanities Initiative
- 1992 NIH - Kidney Disease and Hypertension in Blacks

SPECIAL RECOGNITIONS AND ACHIEVEMENTS

1. HONORS AND AWARDS

- 1968-1970 Presidents Honor Roll and Dean's List, University of Colorado, Boulder, CO
- 1970 Class of 1950 Scholar, Cornell University
- 1972 *Cum laude* in Anthropology and with Distinction in All Subjects
Cornell University
- 1972 Mortar Board
- 1980 Meritorious Research Award for 1980, Excellence in Graduate Student Research, Sigma Delta Epsilon, Graduate Women in Science, Cornell University
- 1981 Member, International Society for Tropical Root Crops, Geneva, SWITZERLAND
- 1982 Member, New York Academy of Sciences
- 1982 Member, Graduate Group in Genetics, University of California
- 1983 Fellow, Human Biology Council
- 1984 Diploma with Honors and Distinction, Computer Programming, Computer Learning Center, San Francisco, CA
- 1984 Certificate of Achievement in Advanced Chromatography and Electrophoresis, Helena Laboratories, San Francisco, CA
- 1985 Esquire Register (nominee)

- 1985 Sigma Xi, University of California, Berkeley
- 1985 Principal's Award, Oakland Public Schools
- 1986 Outstanding Contribution to Upward Bound Program
University of Florida
- 1986 Outstanding Young American Woman
- 1987 Visiting Professor, University of Khartoum, Khartoum, SUDAN
- 1988 Executive Committee (Nominee), Human Biology Council
- 1988 Directorship, International Health, Meharry Medical Center, Nashville,
TN (Declined)
- 1989-91 Member-at-Large, Executive Committee, Biological Anthropology
Section American Anthropological Association
- 1988-89 Fulbright Senior Research Fellow, EGYPT
- 1987-89 Nominations and Elections Committee, Human Biology Council
- 1990 Invited Speaker, Human Biology Council Plenary Session, Miami, FL
- 1990 Outstanding Teacher (nominee), College of Liberal Arts and Sciences,
University of Florida
- 1990 Ebony Appreciation Award, City of Gainesville
- 1990 Blue Key Honor Society (honorary member)
- 1991-1993 Council of Elders, McKnight Foundation, Florida Endowment Fund for
Higher Education
- 1992 Certificate of Appreciation, Summer Undergraduate Research Program,
University of Maryland

2. INVITED SEMINARS AND PRESENTED PAPERS

- 1978 Human Parasitology Seminar Series, Department of Pathology, College
of Veterinary Medicine, Cornell University, Ithaca, NY (USA)
Presentation: "Diagnostic aspects of malaria"

- 1979 Physicians Meeting, Firestone Medical Association, Harbel, LIBERIA
Presentation: "The prevalence and clinical significance of variant hemoglobins observed among children at the Firestone Plantation Company"
- 1982 Joint African Studies Association Annual Meetings, University of California, Berkeley and Stanford University, Stanford, CA
Presentations: "Perspectives on current public health issues in Africa" AND "Causes of Perinatal Infant and Child Mortality in Liberian Children"
- 1982 Faculty Seminar, Department of Nutritional Sciences, University of California, Berkeley, CA
Presentation: "Dietary cassava, malaria, and hemoglobin S in Liberia"
- 1982 Liberian Medical and Dental Association Annual Meetings, J.F. Kennedy Memorial Hospital, Monrovia, LIBERIA
Presentation: "Cassava, sickle cell disease, and malaria: a working hypothesis"
- 1983 Institute for the Study of Social Change, University of California, Berkeley, CA
Presentation: "Possible dietary prophylaxis in sickle cell disease: insights from research in the Republic of Liberia"
- 1983 Faculty Seminar, Department of Anthropology, University of California, Berkeley, CA
Presentation: "Ethnodietary influences on disease in West Africa"
- 1983 Hematology Seminar Series, Department of Pediatrics, University of California, San Francisco, CA
Presentation: "Dietary prophylaxis in sickle cell disease and falciparum malaria"
- 1983 West Coast Network for Nutrition and Anthropology Annual Meetings, University of California, Davis, CA
Presentation: "Health implications of dietary cyanogens"
- 1983 Bay Area Human Nutrition Center Seminar Series, San Francisco General Hospital, San Francisco, CA
Presentation: "Cassava consumption and human disease in West Africa"
- 1984 Sickle Cell Anemia Research and Education, Inc. (SCARE), Oakland, CA
Presentation: "Directions of sickle cell research: from the laboratory

to the field" (On Video)

- 1984 Human Biology Series, Cornell University, Ithaca, NY (USA)
Presentation: "Evolutionary and Health Significance of Chronic Dietary Cyanide Ingestion"
- 1987 International Meetings of the Association of Muslim Scientists and Engineers, Technology and International Development, Plainfield, IN (USA)
Presentation: "Potential use of organic cyanogens in the control of schistosomiasis transmission in irrigated areas"
- 1987 Anthropology Colloquium, Department of Anthropology, University of Florida, Gainesville, FL (USA)
Presentation: "Cultural influences on population genetics in West Africa."
- 1987 Biology for Non-Majors class, Department of Zoology, University of Florida, Gainesville, FL (USA)
Presentation: "An evolutionary perspective on acquired immune deficiency syndrome."
- 1987 Faculty Seminar Series, Department of Horticulture, Faculty of Agriculture, University of Khartoum, Shambat, SUDAN.
Presentation: "Use of horticultural and agronomic crops in human disease control."
- 1987 Faculty Seminar Series, Department of Biochemistry, Faculty of Medicine, University of Khartoum, Shambat, SUDAN
Presentation: "Genetic and environmental influences on phenotypic expression."
- 1987 University Center of Dschang, Technical Agricultural Institute, Dschang, CAMEROON.
Presentation: "The role of agricultural products in the control of human disease."
- 1988 Workshop on Maternal Nutritional Anemia, International Nutritional Anemia Consultative Group (INACG), World Health Organization, Geneva, SWITZERLAND
Presentation: "Attitudes and practices influencing the prevention and treatment of maternal nutritional anemia: the case of Liberia"
- 1988 Sickle Cell Workshop, Texas Southern University, Houston, TX (USA)
Presentation: "New perspectives on sickle cell anemia" (On Video)

- 1988 Student Forum, Fall Educational Symposium of the Florida Division
of the American Society for Medical Technology, Clinical Laboratories,
Shands Teaching Hospital, Gainesville, FL (USA)
Presentation: "Laboratory testing in anthropological research"

- 1988 Symposium on Nutrition in Aging Blacks, University of Kansas
Medical Center, Kansas City, KS (USA)
Presentation: "Physical variation in Blacks: Gestation to Geriatrics"

- 1988 Lecture Series in Medical Anthropology, Department of Anthropology,
Case Western Reserve University, Cleveland, OH
Presentation: "The Anthropology of Infectious Disease"

- 1988 Lecture Series in Applied Anthropology, Department of Anthropology,
University of Maryland, College Park, MD
Presentation: "Biocultural Perspectives on Malaria in West Africa"

- 1989 Second International Symposium on Renal Disease and Tissue
Transplantation in Blacks, Howard University Medical Center,
Washington, D.C. (USA) Presentation: "Genetic Diversity and
Anthropology"

- 1989 Conference on Salt and Blood Pressure, National Institutes of Health:
NHLBD, Bethesda, MD
Presentation: "Evolutionary Perspectives on Salt and Blood Pressure"

- 1989 Invited Symposium on Nutritional Anthropology, American
Anthropological Association, Annual Meetings, Washington, D.C.
Presentation: "Reassessing Cassava's Role in Tropical Nutrition"

- 1989 Faculty Lecture Series, Microbiology Department, Howard University
College of Medicine, Washington, D.C.
Presentation: "Dietary Influences on Genetics and Disease"

- 1989 Special Seminar, Department of Anthropology, University of
Maryland, College Park, MD
Presentation: "Cultural Practices and Disease Epidemiology"

- 1989 Discovery Lecture Series, Honors Program, University of Florida
Presentation: "Discovering Cultural Influences on Human Biological
Diversity"

- 1990 EEB Speakers Series, Department of Zoology, University of Maryland,
College Park, MD (USA)
Presentation: "Dietary Cyanogenic Glycosides as Promoters of Metabolic

Change in Humans"

- 1990 Society for the Study of Human Biology, Issues in Urban Health Symposium, University of Durham, Durham, ENGLAND
Presentation: "Factors affecting Psychosocial Stress in Modern Cairo"
- 1990 Applied Anthropology Seminar Series, Centers for Disease Control, Atlanta, GA (USA)
Presentation: "Use of toxins from local food crops in disease management"
- 1990 CuSAG International Workshop on the Cultural Ecology of Food, University of Maryland, College Park, MD (USA)
Presentation: "Cultural ecology of dietary toxins"
- 1990 Speaker Series, Charles Drew College of Medicine, Los Angeles, CA (USA)
Presentation: "Dietary toxins, metabolic biology, and human variation"
- 1990 Faculty Speaker Series, Department of Zoology, University of Florida, Gainesville, FL (USA)
Presentation: "Dietary toxins as a stimulus for human evolution"
- 1990 Symposium on Nutrition and Human Biology, Human Biology Council Annual Meetings, Miami, FL (USA)
Presentation: "Dietary constituents and human variability"
- 1990 Distinguished Scholar Speaker Series, Franklin and Marshall College, Lancaster, PA (USA)
Presentation: "Anthropology and human biological variation"
- 1990 Sixth International Meetings of the International Society for Hypertension in Blacks, San Diego, CA (USA)
Presentation: "The Population Biology of Hypertension in Blacks"
- 1990 University of Florida Student Service's Committee, Dean's Council, Gainesville, FL (USA)
Presentation: "Human origins, 'racial' variation, and the historical context of affirmative action"
- 1991 International Meetings on Race, Ethnicity, and Disease, Salvador, Bahia, BRAZIL
Presentation: "Race and Ethnicity as Biological Constructs"

- 1991 Seventh International Meetings of the International Society for Hypertension in Blacks, Salvador, Bahia, BRAZIL
Presentation: "Introductory Remarks on Plenary Speaker"

- 1991 Vector Biology and Control Project, United States Agency for International Development, Arlington, VA
Presentation: "Potential role for sorghum extracts in the control of disease vectors"

- 1991 Workshop on Aging in Blacks, Florida A and M University, Tallahassee, FL (USA)
Presentation: "Anthropological perspectives on aging in African-Americans"

- 1991 Luncheon Speaker, Seventh Annual McKnight Fellows Meeting, Florida Endowment Fund for Higher Education, Tampa, FL (USA)
Presentation: "New paradigms on the origins of humanity"

- 1991 UNESCO Conference on the Tropical Rainforest, Paris, FRANCE
Presentation: "Metabolic Effects and Evolutionary Implications of Regular Dietary Cassava (*Manihot esculenta*) Ingestion"

- 1992 Wenner-Gren Conference on Political Economy and Biological Anthropology, Cabo San Lucas, MEXICO
Presentation: "Political Economic and Evolutionary Perspectives on Biological Diversity in African Americans"

- 1992 International Society for Hypertension in Blacks, Atlanta, GA (USA)
Special Symposium on The Biological Histories of African Peoples
Presentations: "Introductory Comments on Symposium"
"Ecogenetic Perspectives on Biological Diversity in Contemporary African Peoples"

- 1992 Symposium on Kidney Disease in Blacks, Washington, DC (USA)
Presentation: "Bioanthropological Perspectives on Disease"

- 1992 Institute for Chemical Education, Catholic University, Washington, DC (USA)
Presentation: "Multicultural Approaches for Teaching Chemistry: Examples from Plant Allelochemical Studies"

- 1993 International Congress of Ethnological and Anthropological Sciences, Special Symposia on Women in Development and on African Anthropology, Mexico City, MEXICO
Presentations: "The Primary Role of Women in Cassava (*Manihot esculenta*) Detoxification and Detoxication" AND

"Towards the Development of an African-Centered Biological Anthropology"

- 1993 Third Samuel L. Kountz International Symposium on Renal Disease and Transplantation in Blacks, Plenary Session on Immunogenetic and Human Genome Diversity in Biomedical Science, Arlington, VA (USA) Presentation: "A Bioanthropological Paradigm for Understanding Genomic Diversity in African Populations"
- 1993 International Symposium on Nutritional Anthropology and Development, Yaounde, CAMEROON
Presentation: "Bioanthropological Approaches to Utilizing Cassava's Cyanogenic Glycoside Loads"

3. EDITORSHIPS

- 1985-1989 Editorial Board, *Human Biology*
- 1987-present Editorial Board, *American Journal of Human Biology*
- 1989-present Associate Editor, *Ethnicity and Disease*
- 1992-present Editor, *Maryland Occasional Papers in Anthropological Sciences*
- 1991-present Editor, *Cross-Currents*

4. AREAS OF PERSONAL RESEARCH

- Major :* 1. Human metabolic and genomic effects of exposure to plant allelochemicals (particularly cyanogenic glycosides)
 2. Biological diversity in contemporary and ancient African peoples
 3. Bioanthropological perspectives on human disease
- Minor:* 4. Vector control potential of biodegradable plant-based compounds

5. LANGUAGE COMPETENCE

FOREIGN

Fluency: English and Kiswahili (Swahili)

Rudimentary: French and Arabic

COMPUTER

Macintosh, COBOL, ALC(BAL), RPGII, MS-DOS

familiar with BASIC, PASCAL, C, and FORTRAN

6. FIELD EXPERIENCE

Tanzania (1972-1975, 1987)
Liberia (1978-1979, 1982)
Sudan (1987-1988)
Cameroon (1987-1988)
Morocco (1987-1988)
Egypt (1987, 1988-1989, 1991, 1992)
Brazil (1991)
England (1990)
France (1991)
Rwanda (1992)

INSTRUCTION

1. COURSES TAUGHT AT THE UNIVERSITY OF MARYLAND

Human Evolution (ZOOL 328E and ANTH 389F)
Introduction to Biological Anthropology and Archaeology
(ANTH 101 and ANTH 101H)
Evolution of Human Variation (ANTH 389V)
Advanced Topics in Biological Anthropology (ANTH 389I)
Anthropological Publishing (ANTH 289J)

2. COURSES TAUGHT AT OTHER UNIVERSITIES

Human Adaptation
Applied Biological Anthropology
Environmental Effects on Human Health and Disease
The Anthropology of Infectious Diseases
Laboratory Methods in Biomedical Anthropology
Use of the Pig in Bioanthropological Research
Research Topics in Bioanthropology
Human Biology and Behavior
Field Methods in Bioanthropology

3. ADVISING AND SUPERVISION OF GRADUATE STUDENT RESEARCH

A. PAST GRADUATE STUDENTS (List available on request)

B. CURRENT GRADUATE STUDENTS

<u>Name</u>	<u>Degree Sought</u>	<u>Research Project</u>
Patti DeAngelis (University of Maryland)	Ph.D.	Ethnobotany of Central America
Rosina Hassoun (University of Florida)	Ph.D.	Hypertension in Arab Americans
Mamdour Nassar (Cairo University)	Ph.D.	Vector Control Potential of <i>Calitropis</i> Extracts

B. CURRENT POSTDOCTORAL ASSOCIATE

Dr. Lawrence A. Williams, 1992-present (University of West Indies)	Field Applications of Natural Products in Vector Control
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SERVICE

1. MEMBERSHIPS AND OFFICERSHIPS IN PROFESSIONAL ORGANIZATIONS

American Anthropological Association
 American Association of Physical Anthropologists
 American Chemical Society (invited)
 American Mosquito Control Association
 Human Biology Council (Fellow)
 International Society of Root and Tuber Crops
 International Society for Hypertension in Blacks
 New York Academy of Sciences
 Sigma Xi National Scientific Honorary Society

2. INTERNATIONAL COMMITTEES

1989-1991	Member, Advisory Committee, International Nutritional Anemia Consultative Group
1993	Member, Scientific Committee, Nutritional Anthropology and Development in Tropical Biomes, CRNS

1993 Member, Cellular and Molecular Nutrition Study Group

3. COMMITTEES, REVIEWING ACTIVITIES, AND OTHER SERVICES

A. PROFESSIONAL

1978-1979 Coordinator, Seminar Series, Liberian Institute for Biomedical Research, Harbel, LIBERIA

1983- present Peer Reviewer for *American Journal of Physical Anthropology*, *Human Organization*, *Medical Anthropology Quarterly*, *Social Science and Medicine*, *Ethnicity and Disease*, *American Journal of Human Biology*, and *Human Biology*

1984 Organizer and Chair, Symposium on Health, Joint African Studies Association Meetings, University of California and Stanford University, Stanford, CA

1984-1986 Member, Proposal Review Committee, Wenner-Gren Foundation

1986 Member, Ad Hoc Review Committee, National Institutes of Health

1987 Member, Proposal Review Committee, Social Science Research Council

1987 Member, Workshop in Africanist Scholarship, Rockefeller Foundation

1988 Participant in local panel at the World Food Day Telecast, Reitz Hall, University of Florida, Gainesville, FL

1989-1991 Member, Advisory Committee, International Nutritional Anemia Consultative Group

1989-1991 Member-at-Large, Executive Committee for Biological Anthropology American Anthropological Association

1990 Member, Board of Directors, David Memorial Medical Research Foundation

1990, 1991 Member, Proposal Review Committee, Interdisciplinary Undergraduate Curriculum Program, National Science Foundation

1991- Member, Council of Elders, Florida Endowment Fund for Higher Education

- 1991- Member, Advisory Board, Council for International Exchange of Scholars, North Africa and Middle East Division
- 1991, 1992 Member, Proposal Review Committee, Council for International Exchange of Scholars, North Africa and Middle East Division
- 1991 Member, Advisory Panel, Educational Development in Geriatrics and Gerontology at HBCU's, Florida A and M University, Tallahassee, FL
- 1991 Member, Review Committee, National Research Council, Office of International Affairs, Board on Science and Technology for International Development
- 1991 Member, Advisory Board, Annual Editions: Physical Anthropology, Dushkin Publishing Group, Inc.
- 1992 Member, Proposal Review Committee, Integrating Science and the Humanities Initiative, National Science Foundation, Nation Endowment for the Humanities, and FIPSE
- 1992 Member, Ad Hoc Committee, National Institutes of Health, NIDDK and NHLBD
- 1992 Organizer and Chair, Working Group in African Biological Histories, ISHIB, University of Maryland, University of Dar es Salaam, and Howard University

B. UNIVERSITY

- 1986 Faculty Interviewer, Regents and Chancellors Scholarship Program, University of California, Berkeley
- 1986-1988 Member, Zora Neal Hurston Fellowship Committee, University of Florida
- 1987 Member, Cameroon Working Group, Center for African Studies, University of Florida
- 1987-1988 Member, Research Committee, Women in Agricultural Development, University of Florida
- 1987-1988 Member, Search Committee for Director of African Studies, University of Florida

- 8 Co-Chair, Search Committee for Assistant Professor of Anthropology,
University of Florida
- 8 Member, Search Committee for Chairperson of Anthropology,
University of Florida
- 38 Contributor to the University of Florida Campaign (Comments and
research featured in fundraising campaign materials)
- 89 Member, Graduate Student Award and Minority Student Affairs,
University of Florida
- 89-1990 Member, Search Committee for Provost/Vice-President for Academic
Affairs, University of Florida
- 91-1992 Member, Provost's Long-Range Planning Committee (CLASS),
University of Maryland

C. COLLEGE

- 987 Member, College of Liberal Arts and Sciences Travel Committee,
University of Florida
- 987 Participant, Seventh Annual High School Scholars Program for Black
Students, University of Florida
- 1991-1993 Member, College Curriculum Committee (PCC), Behavioral and Social
Sciences, University of Maryland
- 1992-1993 Member, APAC, Behavioral and Social Sciences, University of
Maryland
- 1993 Member, Internal Review Committee of Department of Anthropology,
University of Maryland
- 1993 Member, Internal Search Committee for Chair, Department of
Anthropology, University of Maryland

D. DEPARTMENT

- 1980-1981 Member, Laboratory Committee, Department of Anthropology, Cornell
University

- 1981-1986 Member, Laboratory Committee, Department of Anthropology,
University of California, Berkeley
- 1981-1983 Graduate Advisor, Medical Anthropology Program, Department of
Anthropology, University of California, Berkeley
- 1981-1985 Member, Graduate Admissions Committee, Department of
Anthropology, University of California, Berkeley
- 1986-1987 Member, Integrated Basic Knowledge Examination Committee,
Department of Anthropology, University of Florida
- 1989-1990 Member, Graduate Alumni Fund, Department of Anthropology,
University of Florida
- 1989-1990 Member, Personnel Committee, Department of Anthropology,
University of Florida
- 1990-1991 Acting Graduate Director, Master in Applied Anthropology Program,
Department of Anthropology, University of Maryland
- 1991, 1992 Co-Organizer, Faculty Review Retreat in Historic Annapolis,
Department of Anthropology, University of Maryland
- 1991-1993 Chair, Research and Publications Committee, Department of
Anthropology, University of Maryland
- 1992 Member, Departmental Review Committee for Tenure and Promotion
for Dr. Chao, Department of Zoology, University of Maryland
- 1992 Member, Departmental Review Committee for Promotion for
Dr. Higgins, Department of Zoology, University of Maryland
- 1992 Mentor, Summer Undergraduate Research Program, University of
Maryland

CURRICULUM VITAE

Mark E. Mack

205 SE 16th Ave. Apt. 32C
Gainesville, FL 32601
(904) 374-9825

SS# 287-66-4652
D.O.B. 09/29/61

Education

Present: Doctoral Degree Candidate, Biological Anthropology,
University of Florida, Gainesville. Expected graduation
date: December, 1993.
1990: M.A. Biological Anthropology awarded cum laude,
University of Massachusetts, Amherst.
1986: B.A. Anthropology awarded cum laude, Howard University,
Washington, D.C.

Language Ability

Fluency: English Proficiency: Italian and Spanish

Awards and Honors

1984-1986: Howard University Tuition Scholarship
1986: Phi Alpha Theta Historical Honor Society, Howard
University Chapter
1989: University of Massachusetts European Program Grant
1986-1992: Minority Graduate Fellowship, Smithsonian
Institution

Research Interests

Skeletal biology; human adaptation to coastal
environments; dental anthropology, paleopathological
analysis; Near Eastern biological anthropology; the
effects of social processes on biological health status;
biocultural adaptation of members of the African
Diaspora; biological history of New World slavery and
racism; human variation and the concept of biological
race.

Professional Experience and Research

Nov. 1984- Aug. 1986: Intern, Department of Physical Anthropology,

Smithsonian Institution, National Museum of Natural History, Washington, D.C. Skeletal analysis of childhood health indicators in the Terry Skeletal Collection.
Advisor- Dr. Donald J. Ortner.

- Jan. 1985- Aug. 1986: Research Associate, Maggie L. Walker Biography Project, Department of Sociology and Anthropology, Howard University.
Project Head- Dr. Gertrude Marlowe.
- June- Aug. 1987: Participation at Fort Mose Archaeological Site Excavations, St. Augustine, Florida.
Project Head- Dr. Kathleen Deagan, Florida State Museum of Natural History.
- May- Aug. 1988: Assessment of the health status of Jamaican sugar workers. Research conducted at the New Yarmouth and Money Musk Sugar Estates.
- Feb.- May 1989: Dental analysis of a Bronze Age Omani skeletal population. Research conducted at the University of Rome, "La Sapienza" Department of Human Biology.
- Sept. 1991- May 1992: Principal Investigator, skeletal analysis of a Lucayan Taino skeletal population, excavated at Sanctuary Blue Hole, South Andros, Bahamas. Research conducted at the University of Florida, Gainesville, Department of Anthropology.
- Sept. 1991- Feb. 1992: Zooarchaeological analysis of faunal remains excavated from the Paleoindian Lake Jessup Site, Florida.
Project Head- Dr. Randy Bellomo.
- Current Research: Data analysis and writing for Ph.D. dissertation "Biocultural Adaptation of Bronze Age and Islamic Period Bahraini Populations".
Doctoral Dissertation Advisor- Dr. George J. Armelagos.

Teaching Experience

- Aug.- Dec. 1990: Teaching Assistant, Biological Anthropology Honors Course; University of Florida.
Professor- Dr. Randy Bellomo.
- Sept. 1991: Guest Lecture, Cultural Anthropology; University of Florida.
Professor- Dr. Allyn Stearman.
- Jan.-May 1993: Teaching Assistant, Biological Anthropology (teaching three laboratory courses), University of Florida.
Professor- Dr. Leslie S. Lieberman.

Publications

- Clark, George A., and Mark Mack. Reliability Assessment of Transverse Lines. Human Biology. Vol.60, #2:283-292, (1988).
- Mack, Mark E., and Alfredo Coppa. Frequency and Chronological Distribution of Enamel Hypoplasia from the Ra's al-Hamra-5 (RH5) Skeletal Collection (Oman). In: Recent

Contributions to the Study of Enamel Developmental Defects; (eds.) Alan H. Goodman and Luigi L. Capasso. Journal of Paleopathology 1992, Monographic Publications, 2:131-140, (1993).

Papers Presented

- April 1986: "Importance of Afro-American Newspapers in Historical Research". First Annual Graduate Symposium, Howard University.
- April 1986: "Afro-American Biohistory". First Annual Graduate Symposium, Howard University.
- April 1987: "Occupational Integration of Africans in Ancient Greece and Rome". 26th Annual Northeast Association of Anthropology Meetings, University of Massachusetts, Amherst.
- April 1988: "The Significance of Dental Defect Width in Relation to Growth and Developmental Indicators in the Skeleton". 57th Annual Meeting of the American Association of Physical Anthropologists, Kansas City, Missouri.

Curriculum-Vitae

Augustin F.C. Holl

born on the 22nd March 1954 at Edeu (Cameroon)

Present Citizenship: French

Citizenship of origin: Cameroonian

Marital status: married, one child

Address: 24 Boulevard Poissonnière 75009 Paris France.

Tel: (1) 45 23 45 58

Office: Department of Ethnology and Prehistory

University of Paris X-Nanterre:

Tel: (1) 40 97 75 24/ Fax (1) 40 97 71 17.

Present academic position: Associate professor, director of the department of Ethnology and Prehistory.

Master Thesis in History

Chefs et Notables dans la Politique Sociale et Economique Française dans la Région du Nyong et Sanaga de 1920 à 1940. University of Yaoundé, Cameroon

Doctorate thesis: *Essai sur l'économie Néolithique du Dhar Tichitt, Mauritanie* presented at the University of Paris I: Panthéon-Sorbonne, 1983.

Research Grants:

National Geographic Society (Northern Cameroon and the Negev, Israel)

National Endowment for Humanities (The Negev, Israel)

French Ministry for Foreign Affairs: 1982-1986 (Northern Cameroon)

French Ministry of Cooperation: 1981, 1986-1992 (Mission Préhistorique du Dhar Tichitt, Mauritanie and Northern Cameroon)

Fieldwork

Research in the Dhar Tichitt, SW Sahara in Mauritania (1981)

Current research on the Chalcolithic Societies of the Negev, Israel, from 1984.

Current research on Late Holocene settlements in the Chad Basin, Northern Cameroon.

Director of the *Mission Franco-Cameroonaise d'Archéologie du Nord-Cameroun*

Current research on the Ethnoarchaeology of Pastoral Settlements in the Hououlouf region, Northern Cameroon.

Research Interests

Anthropological Archaeology, Site formation studies, Spatial Analysis, Theory and models of social evolution, The development of chiefdoms and states, History of Archaeology, Ethnoarchaeology, Archaeology of Mortuary behaviors, Historical archaeology, Early History of West Africa.

Publications

Holl has published two books, edited one book (with T.E Levy), about 40 articles in books and scholarly journals such as *Journal of Anthropological Archaeology*, *The Review of African Archaeology*, *L'Anthropologie*, *le Journal de la Société des Africanistes*, *West African Journal of Archaeology*, *National Geographic: Research and Explorations*, *The Bulletin of the American School for Oriental Research*, etc.

Sample of publications related to the research proposal

- 1)- 1986 L'archéologie Historique à l'épreuve des Plantations, *L'Ethnographie* 82 (98-99): 301-302.
- 2)- 1989 Individus et Statuts: variabilité mortuaire dans la plaine tchadienne préhistorique. In *Collectif Singularités: Voies d'Emergence Individuelles*, Plon, Paris, pp: 351-367.
- 3)- 1990 Variabilité mortuaire et transformations culturelles dans la plaine péritchadienne; In D. Barreteaux and H. Tournoux (eds.) *Relations Interehniques et Culture Matérielle dans la Bassin du Lac Tchad* Editions de l'ORSTOM, Paris, pp: 13-31.
- 4)- 1990 West African Archaeology, Colonialism and Nationalism, in P. T. Robertshaw (ed.) *A History of African Archaeology*, J. Currey Ltd, London, New York, pp: 296-308.
- 5) 1992 Le Regard du Regard du Regard de l'Autre: Le Nouveau-Monde dans les Manuels d'Afrique; In J. Perez-Siller (ed.) *La "Découverte" de l'Amérique ? Les Regards sur l'Autre à travers les Manuels Scolaires du Monde*: L'Harmattan/ Georg-Eckert Institut, Paris, pp: 181-205.

In press

- 6)- The Cemetery of Houlof, Northern Cameroon: Fragments of a Past Social System in AD 1500-1600, *The African Archaeological Review* (1994).

7)- Inhumés des Morts, S'approprier l'espace: les Cimetières comme enjeu, in D. Barreteaux *et al* (eds.) *La Mort dans le Bassin du lac Tchad: Approches Comparatives*, Editions de l'ORSTOM (1994).

8)- African History: Past, Present and Future ? The Unending Quest for Alternatives, in P. Schmidt and T. Patterson (eds.) *Making Alternative Histories* . Santa Fé. School of American Research Press (1994).

LINDA STONE, SOPA
249 East 48 Street #2B
New York, New York 10017
(212) 980-9325

EDUCATION

Master of Arts in Anthropology
Hunter College, the City University of New York
New York, New York, May 1988
Thesis - A Model of Prehistoric Site Use Applied
to the Southeastern Massachusetts Coastal Zone

Certificate in Computer Programming
New York University - New York, New York
Language Specialty - COBOL
December 1984

Bachelor of Arts
Hampshire College - Amherst, Massachusetts
Concentration - Quantitative Biology
January 1981

EXPERIENCE

1991 -
Present

Freelance Archaeological Consultant

1991 -
Present

Beyer Blinder Belle Architects
New York, New York
Position: Staff Archaeologist
Responsibilities: Assessment of project
archaeological needs; project direction.

1988 - 1991

Greenhouse Consultants Inc.
New York, New York
Position: Director of Field Operations
Responsibilities: Project management, principal
investigation, documentary research, field
supervision/direction.

1988

Morven Archaeological Project
New Jersey State Museum; Princeton, New Jersey
Position: Archaeology Staff
Responsibilities: Designed and maintained
computerized catalog; supervised field school
students; excavation; mapping; drawing profiles
and sections; general lab processing,
identification and tabulation of artifacts.

1987 - 1988

Riverdale Park Archaeological Project
Wave Hill; Bronx, New York
Position: Assistant Field Director
Responsibilities: Instructed and supervised
public workshop excavation; stratigraphic
analysis; general lab processing, identification
and tabulation of artifacts for computer
analysis.

- 1988 Bronx Historical Society; Bronx, New York
Site: Revolutionary War
Position: Field Assistant
Responsibilities: Optical transit survey,
mapping and resistivity testing.
- 1988 Hunter College, New York, New York
Position: Adjunct Lecturer
Responsibilities: Designed and implemented
method for grading papers.
- 1987 American Museum of Natural History, New York,
New York.
Position: Intern
Responsibilities: Computerized, categorized and
indexed field notes for publication; collections
management.
- 1982 - 1966 MCI Telecommunications, Boston and New York.
Position: Traffic Analyst/Staff Administrator
Responsibilities: Analyst in charge of current
patterns and administration of numerous projects
with regard to troubleshooting and cost
management.
- 1979 - 1982 Held various laboratory positions in the field
of biochemistry.
- 1977 Hampshire College; Amherst, Massachusetts
Position: Teaching Assistant
Responsibilities: Instructed class in optical
transit survey techniques.

GRANTS

- 1987 American Museum of Natural History - Graduate
Research Program.
- 1979 National Science Foundation - Undergraduate
Research Participation Program.

SELECTED CONTRACT ARCHAEOLOGY PROJECTS AND REPORTS

STAGE I

High Breeze Farm	1992	Vernon, New Jersey	Principal Investigator	Author
475 Community Drive	1991	Hampstead, New York	Principal Investigator	Author
Melrose Commons	1991	Bronx	Documentary Researcher	Co-Author
Red Hook Water Pollution Control Plant	1991	Brooklyn	Principal Investigator	Co-Author
Sleight Farm	1991	LaGrange, New York	Principal Investigator	Co-Author
Block 169	1990	Brooklyn	Documentary Researcher	Co-Author
Dublin House	1990	New York	Principal Investigator	Co-Author
Leewood-Bridgeview	1990	Staten Island	Principal Investigator	Co-Author
Lorimer/Middleton Streets Rezoning	1990	Brooklyn	Principal Investigator	Co-Author
NORTRAN Tennessee Gas Pipeline	1990	New Haven, Connecticut	Field Supervisor	Co-Author
PDC South Jamaica Site 12	1990	Queens	Principal Investigator	Prime Author
Salt Point Shopping Center	1990	Pleasant Valley, N.Y.	Field Supervisor	Co-Author
Bergen Manor Nursing Home	1989	North Haledon, N.J.	Principal Investigator	Co-Author
Forest/Richmond Shopping Plaza	1989	Staten Island	Field Supervisor	Co-Author
Lake Mesahag Woods	1989	Buchanan, New York	Field Supervisor	Co-Author
Maguire Estates Development	1989	Staten Island	Field Supervisor	Co-Author
The Waterfront	1989	Cold Spring, New York	Principal Investigator	Co-Author
Castle Hill	1988	Bronx	Field Supervisor	Co-Author

STAGE II

Hillside Estates	1991	Hastings-On-Hudson, N.Y.	Principal Investigator	Co-Author
VISTA	1991	Saratoga Springs, N.Y.	Principal Investigator	Co-Author
Richmond Terrace	1990	Staten Island	Principal Investigator	Co-Author
Botanical Garden at Snug Harbor	1989	Staten Island	Field Supervisor	Co-Author

STAGE III

Polo Field	1991	Beacon & Fishkill, N.Y.	Principal Investigator	Co-Author
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GARY S. McGOWAN
Principal Conservator
John Milner Associates, Inc.
309 North Matlack Street
West Chester, PA 19380
(215) 436-9000

EDUCATION

BFA	Philadelphia College of Art	1985
M.Museum Studies	Fashion Inst. of Technology/ State University of New York	Conservation 1988

PROFESSIONAL CERTIFICATIONS/SEMINARS

1982 Johnson Atelier, Princeton, New Jersey - bronze casting certificate
1992 George Miller Seminar - ceramic history and technology
1992 New York Microscopical Society - pigment analysis

PROFESSIONAL ACTIVITIES

1991-present Steering Committee Member of New York Conservation Society
1991-present Thesis Committee Member, F.I.T., New York

PROJECT EXPERIENCE

1987 Assisted in conservation and restoration of twentieth century sculpture at Pepsico Sculpture Park.

1988 Conserved objects from the Rogers Collection at the Decorative Arts Department of The Museum of the City of New York, NY.

1988 Conserved and restored eighteenth century objects from the collections of The Museum of the City of New York, NY.

1988 Prepared archeological material for the museum's "Beneath the City Streets" Exhibition. Stabilized, maintained and conserved the South Street Seaport Museum's archeological collection. Also performed objects analysis/identification, New York, NY.

1988 Conserved and prepared archeological objects in the collection of Barclay's Bank Permanent Exhibition at 75 Wall Street, New York, NY.

1988 Assisted in the mounting and display of the objects in "Beneath the City Streets and Barclay's Bank Permanent Exhibition, New York, NY.

1989-1990 Treated and maintained archeological materials of the Cultural Resource Group at Louis Berger, International for both historic and prehistoric sites. Performed object analysis of archeological material, NJ.

- 1990 Conservation and restoration for the exhibit, "In 1990" for Fraunce's Tavern Museum, NY.
- 1990 Performed objects conservation and restoration on Greek and Roman Statuary. Assisted in the installation and mount making for the exhibit, "IDOLS, The Beginning of Abstract Form;" Ariadne Galleries, NY.
- 1990 Participated in excavation and carried out conservation treatments in eighteenth and nineteenth century historical materials from New York City; Cooper Union, NY.
- 1990 Assisted in the installation and fabrication of mounts for the "Gardens and Ghettos: The Art of Jewish Life in Italy;"
- 1990 Developed and implemented the plan for the creation of a conservation lab at The South Street Seaport Museum, designed the conservation educational component of the laboratory for the exhibit for The South Street Seaport Museum, New York, NY.
- 1990-1992 Treated and stabilized both historic and prehistoric archeological materials for The South Street Seaport Museum, New York, NY.
- 1990-1992 Managed the Urban Archaeology Center Laboratory for The South Street Seaport Museum, New York, NY.
- 1990-1992 Actively participated as part of a "living exhibit" where the general public and scheduled school groups are able to view conservation and ask questions of the conservation laboratory personnel for The South Street Seaport Museum, New York, NY.
- 1991 Carried out conservation assessment for the stabilization of the Metrotech Project; Greenhouse Associates, NY.
- 1992 Performed conservation prep for the archeological collection and the historic collection of the 25th Anniversary Show, "From Sailing Ships to Sealing Wax" for The South Street Seaport Museum, New York, NY.
- 1992 Created exhibition mounts for the 25th Anniversary Show, "From Sailing Ships to Sealing Wax" for The South Street Seaport Museum, New York, NY.
- 1992 Conserved artifacts from the Faneuil Hall, Boston for Louis Berger Associates, NJ.
- 1992 Stabilized and repacked archeological collection for both historic and prehistoric sites; Staten Island Historical Society, Richmondtown Restoration, NY.
- 1992 Initial stabilization of cultural material associated with the "Five Points and Afro-American burial" project, New York; Historic Conservation and Interpretation, New Jersey.

- 1992 Created exhibit mounts for traveling show of archeological objects for the New York State Park's Bureau of Historic Sites, NY.

PROJECT EXPERIENCE (John Milner Associates, Inc.)

- 1992- Developed and implemented conservation treatment for artifacts from the 10th Street First African Baptist Church Cemetery, Philadelphia, PA.

PROFESSIONAL PAPERS AND PRESENTATIONS

- 1989 Window Glass Technology, Analytical Findings (co-author). Mid-Atlantic Archeological Conference, Ocean City, MD.
- 1989 To Conserve or Not to Conserve. Council for Northeast Historical Archaeology, Morristown, NJ.
- 1990 History of Window Glass Technology (co-author). Society for Industrial Archaeology, Keene, NH.

PROFESSIONAL AFFILIATIONS

- 1987-present Member of the American Institute of Conservation
- 1988-present Member of Council for Northeast Historic Archaeology
- 1992-present Member of Professional Archaeologists of New York City

EMPLOYMENT HISTORY

- 1984-1986 Gallery Owner
50 West Gallery, NY
- 1985 Sculpture Technician
Parson's School of Design, NY
- 1987 Field Conservation/Archeology
Shiqmim Site
Northern Negev, Israel
- 1988 Archeological Conservator
South Street Seaport Museum, NY
- 1988 Objects Conservator Intern
Museum of the City of New York, NY
- 1989-1990 Archeological Conservator
Louis Berger International
East Orange, NJ

1990-1992	Instructor New Jersey Center for the Visual Arts Sculpture in all media and levels Summit, NJ
1990-present	Adjunct Faculty Fashion Institute of Technology, Graduate Division Analysis and Technology Conservation Laboratory New York, NY
1990-1992	Senior Conservator and Laboratory Director South Street Seaport Museum, NY
1992	President and Archeological Conservator Cultural Preservation and Restoration, Inc., New Jersey
1992-present	Principal Conservator John Milner Associates, Inc. West Chester, PA