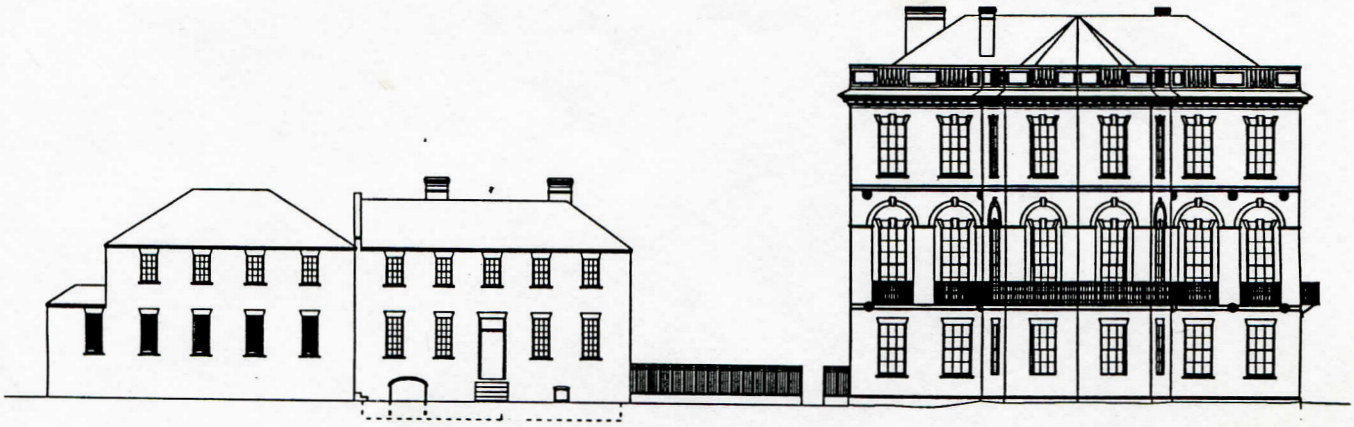
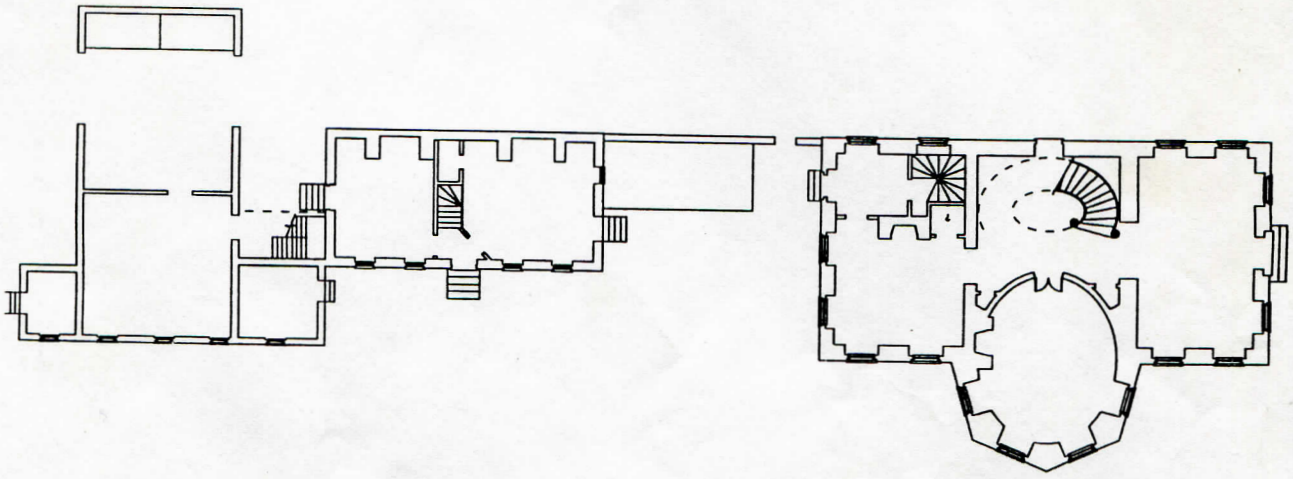


Big House/Back Lot:

An Archaeological Study of the Nathaniel Russell House



The Charleston Museum
Archaeological Contributions 25

Big House/Back Lot:
An Archaeological Study of the Nathaniel Russell House (38Ch100)

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The Charleston Museum Archaeological Contributions 25

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The 1995 field school students were an exceptional group, and their dedication, hard work and enthusiasm, even in the rain, resulted in a larger–than–expected sample with a minimum of errors. The archaeological field school was co–directed by the author, Ronald Anthony of The Charleston Museum and Barbara Borg of the College of Charleston. Students working at the site included Claire Anders, Beverly Baker, Carrie Bridges, Marjorie Frazier, Bonnie Frick, Shana Inman, John Lehman, Jennifer O'Neal, Catherine Orvin, Penn Rice, Natasha Ries, Stephen Roberts, Joe Stanley, and Scott Wolf. Several other students volunteered their time: Cheryl St.John, Brian Kidd, Frank Edwards, Charry Moseley, Nat Clarkson, Alex Dinerstein, and Steve Davis. Justin Clark drew excellent maps of the architectural features. Other volunteers joined us during the driveway and summer excavations, including Larry Cadigan, Holly Farally–Plourde, Myrna Rowland, Wood Cleveland, and Henry Cleveland. A number of students enrolled in College of Charleston internships also helped in the field and in the lab: Rhonda Varallo, Brett Nachman, Denise Newland, Claire Anders, Penn Rice, Carrie Bridges, Bonnie Frick, Joe Stanley, Natasha Ries, Jennifer O'Neal and Scott Wolf. But the greatest asset to successful field seasons came from the field assistants for the three projects. Martha Middleton, Virginia Pierce, Randall Turner, and Emily Oulla went 'above and beyond' in their dedication, professionalism, and good humor. It was indeed a pleasure to work with them.

The staff of The Charleston Museum enthusiastically endorsed our involvement in the project. Special thanks to John Brumgardt, Director and Brien Varnado, Assistant Director. Faye Brownlee, Business Management Officer, kept us straight.

As an avid gardener, I derived much pleasure and knowledge from my interaction with the gardeners – Bob Cox, Ann Small, and the entire group of "Wednesday" master gardeners. Bob Cox, Minh Nguyen, Dat Than, and Vinh Nguyen helped 'erase our presence' in the garden after our work was finished. Adelaide Waller and Peggy Heinsohn were instrumental in the interpretation of the clay bed as a rose garden.

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CHAPTER I

Introduction

The Nathaniel Russell House, completed in 1808, is owned by Historic Charleston Foundation and operated as a historic house museum; as such it is an important educational resource for the organization. A National Historic Landmark and a nationally recognized icon of neoclassical taste in America, the Russell house was last restored in 1955. Historic Charleston Foundation has embarked on a state–of–the–art restoration project. The first step, preparation of a historic structures report, was funded by an Architectural Conservation Grant from the J.P. Getty Foundation in 1994. The project included ongoing documentary research by the Foundation's curatorial division, archaeological testing, and a detailed analysis of the structure and its decorative elements. The project also served as a training program for students of architecture, archaeology, museum work, and preservation craftsmanship.

An additional aspect of the 1994 Getty grant project was the formation of a restoration team, composed of consulting architects, historians, and decorative arts specialists, and Historic Charleston Foundation staff. An impressive slate of scholars participated in this project, including architectural historians Willie Graham and Orlando Ridout, restoration architect Glenn Keyes, materials conservator Andrew Ladygo, historic interiors consultant Margaret Pritchard, landscape historian Barbara Sarudy, furniture conservator Christine Thomson, architectural coatings researchers Frank Welsh and Susan Buck, and archaeologist Martha Zierden. Historic Charleston Foundation project experts included J. Thomas Savage, Curator and Director of the Museum Division, Robert Leath, Assistant Curator and Project Supervisor, Jonathan Poston, Director of the Programs Division, and Carter L. Hudgins, Executive Director. Based on the promising results of this grant project, the Board of Trustees agreed to fund additional research, including completion of the Architectural and Historical analysis by Willie Graham and Orlando Ridout, and a second season of archaeological testing by Martha Zierden of The Charleston Museum.

The Charleston Museum was invited to conduct the archaeological work in 1994. The Charleston Museum has sponsored an ongoing research program in urban archaeology for nearly twenty years. As part of that program, the Museum has performed numerous archaeological studies for Historic Charleston Foundation, and has enjoyed a mutually beneficial relationship with the agency. The Museum was therefore very pleased to be part of this prestigous project. Based on the monies allotted for the initial archaeological phase, the Museum proposed a testing project involving three weeks of fieldwork and entailing the excavation of ten dispersed 5 foot squares (Zierden 1994). These units would target specific features for investigation, but they would principally provide an overall, preliminary assessment of the nature, depth, condition, clarity, and temporal affiliation of the archaeological resources at the Russell house. In addition, the excavations were planned to coincide with the annual field school in historical archaeology, a

senior–level, 8–hour credit course taught jointly by the Anthropology department at the College of Charleston and Charleston Museum archaeologists. The archaeological project would therefore contribute to the training goal of the overall grant project.

Two additional archaeological projects were conducted in 1995, and are the subject of this report. In February, four units were excavated in the driveway in advance of grading and other emergency building repairs. In June, ten additional test units were excavated by field assistants, College of Charleston students, and volunteers. Location of units in each project was based on previous archaeological, documentary, and photographic research by archaeologists and other scholars, and each was deliberately located to answer specific questions. The cumulative result of the three projects has been excavation of 2.1% of the total site area.

Scope of the Present Project

The 1994 archaeological project was designed to provide a preliminary assessment of the depth, range, clarity, content, and temporal affiliation of the site's archaeological component. It was also designed to assist in architectural analysis of the property, and as a guide for future, more comprehensive excavation projects. The results of the excavations were carefully analyzed by the restoration team, and considered in their overall analysis. The opportunity to work with these scholars on an ongoing basis has greatly strengthened archaeological research at the site. The overall plan for the 1995 project, as well as the specific locations for excavation units, was the result of numerous on–site consultations with Willie Graham, Orlando Ridout, and Glenn Keyes, Barbara Sarudy, Tom Savage and Robert Leath.

With less than 1% of the site excavated, the 1994 project was considered simply an initial step in the larger exploration of the Russell site. Still, the project provided a great deal of information for restoration and reinterpretation. Guided by the research questions explored in the initial study, and the restoration issues confronting Historic Charleston Foundation, excavations in 1995 centered on three general areas:

1. Additional dispersed testing: Every effort was made during the 94 project to give even coverage to the site while exploring a range of specific issues, and a review of the site map will indicate that this effort was fairly successful. Yet, there were large areas of the site that remained unexplored. While excavations should further explore features already noted, it was important that additional units be placed in random, intuitive fashion to explore other areas of the site.

2. The garden: Exploration and delineation of Russell's garden is a major endeavor of the restoration team, and limited excavations focused on the front of the property. Limited testing of the proposed garden area in '95 was designed to simply determine the presence of the garden archaeologically, and to note the depth, clarity, and integrity of garden stratigraphy and the nature of garden features. Pollen analysis by Karl Reinhard was expected to provide information;

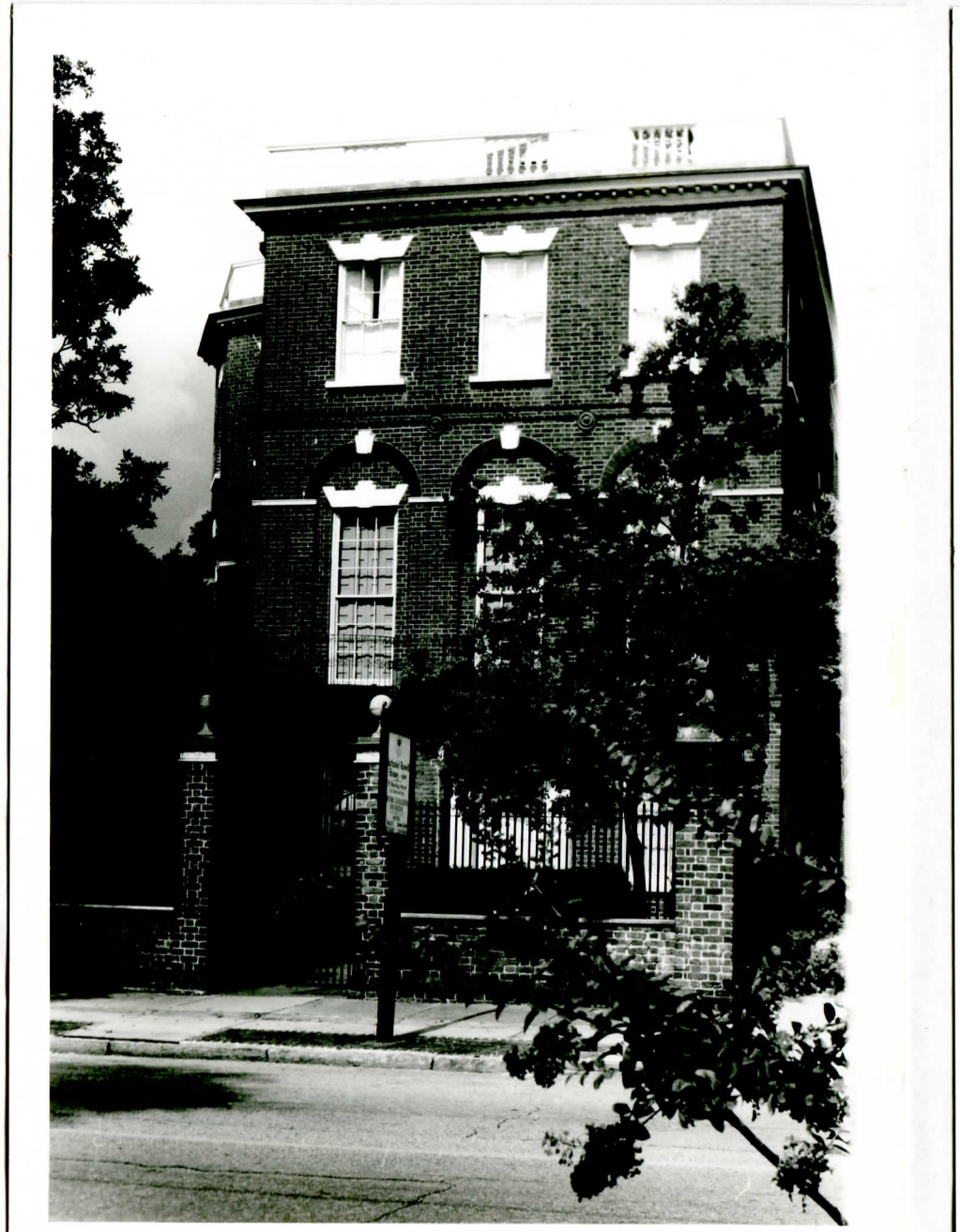


Figure 1: Views of the Nathaniel Russell House
a) Front of the main house
b) the driveway

c) the garden, facing east toward Meeting Street
d) the kitchen building from the south property wall

additional analyses, such as macrobotanicals and phytoliths, are planned. This limited testing should provide a foundation for planning extensive garden studies. Historic Charleston Foundation may consider employing the services of a garden archaeology specialist, working with the author, to explore the garden in the future.

3. The Work Yard: Archaeology in Charleston has been most successful in delineating the role of the work yard in the daily life of city residents, its layout, function, and range of activities. Further, these explorations have been integrated into public interpretation at a number of sites in Charleston. Further exploration of this portion of the yard, including architectural features, trash deposits, internal boundaries, and activity areas will provide new information for public interpretation; further, archaeology is often the best source for this seemingly mundane information. Associated with this topic is archaeological exploration of enslaved residents of the Russell property, and their impact on the archaeological record.

In addition to these general topics, the 1995 excavations explored a number of site features encountered in 1994, through the excavation of adjacent units. In particular, the unit immediately south of N134.8E328 should reveal the interface of the south and east property walls, and the corner of the 18th century structure. Additional units along the front wall should further delimit the dimensions of the 18th century building. A unit immediately north of N200.5E121 is necessary to better understand the nature and date of the small room to the rear of the stable. If this is a privy pit, as proposed by some researchers, then it may contain a large and significant artifact assemblage, as well. Finally, the garden enclosing wall or fence suggested by feature 12 warrants further exploration. Plats of Charleston gardens indicate that while their placement varied, their segregation from the work yard by some sort of fencing was common. Delineation of this feature is key to exploring both the garden and the work yard.

The equivalent of ten 5−foot units were planned for the summer of 1995. Proposed locations were as follows:

1. Immediately south of N134.8E328 to intersect the front and side walls of the 18th century structure, to explore the interface of the front and side garden walls of the 19th century, and to retrieve the bovine horn core left in situ in feature 26/zone 6.
2. Immediately north of N200.5E121 to further explore the small room on the rear of the stable. The previous unit encountered the exterior corner of the structure; the proposed unit should reveal the interior of the room and test the idea that this may have served as a privy.
3. A 5 foot square or trench north of N111E190 to locate further evidence of an internal garden wall in this area, based on the discovery of feature 12.
4. A unit immediately south of the stable building, designed to explore possible use of this area as part of the work yard. This is based on the working hypothesis that an internal garden wall may have intersected the house at the kitchen door, explaining the relatively clean nature of N197.9E200 and N197.9E210.
5. A trench designed to intersect the front lawn and the garden area to discern differential use of these areas and any possible border between the two.
6. A unit between N135E265 and the main house to explore garden features and the

possibility of a transition area between the front and middle thirds of the lot.

7. A unit in the rear (southwest) corner of the property to explore the south wall and the use of this portion of the site for work yard or traffic flow.

8. A unit along the middle of the front wall to explore the stratigraphy of the front wall outside of the 18th century structure, and possibly to intersect the northern wall of the tenements.

9. A unit at the northeast corner of the property to explore the small structures shown in this location on the 1788 map.

10. A unit under the kitchen to retrieve an additional sample of the refuse evidently discarded under this structure.

11. A unit at the intersection of the kitchen and infill on the south side to explore the construction sequence of these buildings. Excavation in the driveway in this vicinity encountered disturbed deposits.

This plan was designed as a general guide, and was considered flexible. All of the ideas leading to these proposed locations were preliminary in nature and the subject of ongoing debate and discussion. Discoveries in the first units could lead to a change in plans. Likewise, new discoveries in documentary and architectural research were expected to alter this agenda. Despite ongoing discoveries and changes in interpretation, all but three of the proposed areas were explored.

The 1994 project demonstrated that the Nathaniel Russell site contains an archaeological record of remarkable depth, clarity, continuity, and complexity. Futher exploration of the topics considered here all required additional excavation to answer the questions proposed, and to raise new ones.

Previous Research

The 1994 project represented the first controlled archaeological excavations at the Russell house, and the first attempt to conduct excavations under a multi-level research design. It was not, however, the first effort to recover archaeological remains in a meaningful context. Previous efforts by Russell house staff, particularly Thomas Savage, to salvage archaeological remains from ground-disturbing house renovations resulted in two valuable collections. These were reanalyzed prior to the 1994 excavations, and are discussed in some capacity in this document.

In January 1982, Thomas Savage, Jeff Parker, Bill Hunt, and Linda Sloan spent a weekend sampling soil from trenches excavated to lay the new Favretti-designed garden. The team screened soil from a trench parallel to the south wall as well as random samples of dirt from other trenches. In order to inspect site stratigraphy, the team excavated a 2 by 2 foot unit, located 39 feet east of the central circle of the garden. This unit was excavated in three natural zones to a depth of 28 inches. The first 9 inches was described as topsoil; this was followed by zone 2, a dark grey loam 9 inches in depth. Zone 3 was a mottled grey and orange sand. Artifacts from these three zones were bagged separately. In his one-page report, Mr. Parker provided a soil profile and noted that the soil in the bottom of the unit was not sterile.

In 1990, installation of a new HVAC system following Hurricane Hugo entailed extensive trenching for ductwork and conduit lines (Andrus 1991). Fred Andrus, a graduate student at the University of Georgia, monitored the excavation of these trenches by workers from James Meadors Construction. He located each trench on blueprint maps, and recorded features and stratigraphy on maps. He also screened as much soil as possible from each of the trench sections through 1/4 inch mesh.

In addition to this salvage work, Andrus excavated a 5 by 5 foot test square in the crawl space beneath the kitchen. Trenching in this area revealed a very dense concentration of artifacts and other debris. In addition to artifacts and great quantities of animal bone, the zones contained quantities of coal. These materials, including the faunal remains, were included in the 94 analysis, and his discoveries provided the impetus for excavation of an adjacent unit this year. All of the material recovered in 1982 and 1990 were analyzed during the '94 project. These data provided guidance for present unit placement and general ideas about site stratigraphy.

Throughout the course of the present report, the '94 results are compared to the '95 results, and then the two are considered together. In addition, artifacts from the 1990 project are considered in discussions of material culture, as well.

Research Approaches

Research at the Nathaniel Russell House derives meaning from comparison with numerous previously studied sites in Charleston, and elsewhere. Since 1980, archaeological research in Charleston has been guided by a series of long–term research goals. The proposed research topics address a number of issues, both descriptive and processual. Several of these were proposed from archival studies (Rosengarten et al. 1987; Zierden and Calhoun 1984), while others were developed by scholars working in Charleston and other cities (for example, Cressey et al. 1982; Honerkamp and Council 1984; Lewis 1984; Reitz 1986). Data from subsequently excavated sites have been utilized to examine these issues, whenever appropriate. Research topic selection for individual projects is based on the scale of the project, as well as temporal and functional affiliation of the site. The unified research approach gives weight to small projects, as each project has a place in the growing comparative data base.

The principal focus of archaeological research in Charleston for the past five years has been the evolution of the urban landscape. This broadly based study encompasses previously discrete research topics, including diet and subsistence strategies, terrain alteration and site formation processes, health and sanitation, and mental constructs. Archaeological stratigraphy (soil depositional sequences) has been the key data source for this discussion; architectural, photographic, cartographic, documentary, botanical, zoological and ecological data all contribute to this study. More recently, the artifact assemblages themselves have been used for an overarching study of artifact patterning, consumerism, refinement, social stratification, and ideology. The Russell House data contributes significantly to these studies.

Archaeological research was one of many tools used to derive data on the Nathaniel Russell house and grounds, its many residents, and their place in Charleston and the greater Atlantic world. While the goal of this site–specific research is to present a holistic picture of life at 51 Meeting Street, for the sake of organization the discussion will be divided into discrete, if somewhat overlapping, topics of discussion. First are the physical remains. These site–specific interpretations follow from the broader topics considered for Charleston as a whole. In keeping with Historic Charleston Foundation's defined mission for the Nathaniel Russell House, detailed interpretations focus on the Russell family's occupation of the house, 1808–1857. The archaeological excavations recovered data from all periods of site use, however; these are generally discussed throughout this document.

Architectural Evolution: A number of architectual issues were proposed for the property; dates of construction, alteration, and demolition for various buildings, fences, etc. Archaeology was one source of information on these issues. Each architectural feature and related data will be discussed separately.

The Garden and Work Yard: A related topic is the grounds. This includes the formal garden and the workyard; pertinent questions include location, layout, and interface of the two. Related questions include traffic flow patterns, locations of specific activity areas, and changes in function and location through time.

From the physical terrain, we'll move to the site occupants, and work to interpret the site residents, extrapolating from them to Charlestonians of similar class, ethnicity, and gender. One criticism of archaeological research in general (Wood 1996) and Charleston research in particular (Yentsch 1991) is that there is far too little discussion of the people behind the artifacts. In discussing a conference presentation by the author, Ann Yentsch of Armstrong State College noted that "social relationships do not exist in the archaeology of Charleston because the people in the documents are not wed to the deeds in the archaeological record." She chides the author for using supposedly objective language, which results in the lack of a "big picture" and serves to further distance the deeds from the doers. "When archaeology bridges time in Charleston, it does so to take away the personalized past – gracious and hospitable – that Charleston residents impart to their neighborhoods. The city's past is active, dynamic, ever–changing, and timeless." Yentsch chides us to "take archaeology in Charleston back to the people, black and white, and give them a context." Since these comments were made, Ann Yentsch has published a study of the Calvert urban townhouse complex in Annapolis, Md. that does just that. Her study, *A Chesapeake Family and Their Slaves: A study in Historical Archaeology*, will serve as a guide and a comparative data base for such an analysis of the Russell house data.

The Russell Family and their Possessions: We'll begin with the Russells and their possessions. Aside from the large and diverse artifact assemblages discussed in Chapter IV, the site yielded several distinct artifacts and artifact types used and discarded by the Russell family. These materials have direct impact on public interpretation of the house and its furnishings. Moreover, these artifacts, as well as the house and garden itself, became "tools used to negotiate and represent personal identity of individuals and groups." Ann Smart Martin has suggested that "wealth and

Figure 2

SITES EXCAVATED IN CHARLESTON

Gentry sites:

1. Aiken–Rhett house
2. William Gibbes house
3. John Rutledge house
4. Miles Brewton house
5. Joseph Manigault house
6. Heyward–Washington house

Middle class sites:

7. 66 Society Street
8. 40 Society Street
9. 70 Nassau Street
10. 72 Anson Street

* Nathaniel Russell house

power exhibit themselves in panoplies of objects...equally obvious but less fully explored are uses of artifacts to demonstrate cultural capital in the form of privileged knowledge of repertories of gesture, posture and dress; the ritualized etiquettes of dining, tea drinking, and polite conversation." Central to this discussion is Martin's notion that "perceptions of artifacts as commodities and as symbols converge in the study of consumerism and the so-called consumer revolution, evidenced by the tide of household objects, fashionable attire and personal goods in the British colonies through the 18th century." (Martin 1996:7)

Physical Evidence of Enslaved Residents: From the grandeur of the Russell family and their material wealth we move to the muted presence of the African American bondsmen also in residence on the property. Easily lost in the interpretation of the Russell house is the fact that for more than three quarters century, enslaved African Americans comprised the majority of residents at the property. In *A Chesapeake Family and their Slaves*, Ann Yentsch (1994) gives voice to these urban residents, teasing their presence from ethnographic, historic, and demographic data. From here, she discusses architecture and social spaces of "the workaday world" and the few artifacts that can clearly be attributed to African American residents.

One of the frustrations at sites such as the Calvert's in Annapolis and the Russell's in Charleston is that the rubbish of master and slave are mixed in most primary deposits, and certainly in all of the secondary contexts. Further, master and slaves used many of the same materials, but ascribed to them different meaning, difficult to decipher from archaeological data alone. Master and slave ate many of the same foods, but perhaps prepared them in a different way. To the extent possible, the limited archaeological data will be used to give voice to the African American residents.

Gender and Material Culture: Finally, the Russell household was one principally of women. Through legacy, family history, and artifacts, Mrs. Russell, her daughters and grandchildren held principal sway over this Charleston household. Some areas of commonality are shared by these women and their female slaves; in other areas their lives remained worlds apart, despite shared domestic space. Female dominance accelerated after the Civil War, first with Mrs. Allston's establishment of a girl's school, and then through occupation of the property by the Sisters of Charity and their female students. There are many reasons that men dominate discussions of the historical past, not the least of which is that men held nearly all of the legal rights in the new country, particularly property rights. Recently, archaeologists such as Ann Yentsch, Suzanne Spencer-Wood, Joan Gero, Alison Wylie and others have suggested that we look at artifacts within the context of women's experience and begin to make women of all cultures more visible in archaeological interpretation (Conkey and Gero 1991; Little 1994; Spencer-Wood 1989; Wylie 1989, 1991). Ann Yentsch has done so very successfully in her study of slave women at the Calvert house; she acknowledges that she was far less successful with the Calvert women themselves (Yentsch 1994). The Russell site stands in contrast to the Calvert site in this regard; following the examples of the scholars listed above, and others, female residents of the Russell house will be examined through the artifacts they discarded.

Broader, long–term questions to be addressed in the present study include site formation processes, development of the urban landscape, and artifact patterning and consumerism. Data derived from the Russell House study will be integrated into previous research on these topics to advance these long–term, city–wide investigations.

Site Formation Processes – In order to properly interpret an archaeological site, it is first necessary to understand the processes responsible for the formation of that record (Schiffer 1977). An archaeological site consists of a natural setting altered by the humans who occupied that site. Specifically of interest are those activities which introduce materials into the ground and reorganize them after deposition. Urban sites such as the Russell house are often a complex combination of such events. Site formation processes on suburban sites are somewhat different and less complex than those in the densely occupied commercial core.

Archaeologist Michael Schiffer has enumerated four methods by which cultural materials are introduced into the ground: discard, loss, destruction, and abandonment. Discard is the most common method of archaeological site formation. Artifacts and other debris are either broadcast on the ground surface, gradually forming zone deposits, or placed in newly dug or previously existing pits, forming features. Items deposited due to loss are usually small, such as buttons or coins. Lost items are discovered in wells or in soil lenses that collect beneath wooden floors. Abandonment can follow destruction of buildings and their contents from fire or storm, or result when artifacts are left behind when tenants vacate a property.

Once in the ground, artifacts can be redistributed or they can be removed. Usually the archaeological record is a combination of all three events. In the urban situation, archaeologists are particularly interested in the processes that redistribute materials.

The Urban Landscape – The landscape approach to investigation of urban sites encompasses many of the issues previously discussed separately, such as subsistence strategy, health and sanitation, lot layout, and refuse disposal patterns. This approach in Charleston embraces the idea of a cultural landscape, the modification of land according to a set of cultural plans, embodying often inseparable technological, social, and ideological dimensions. People created and used these landscapes in a planned and orderly manner for everything from food production to formal design to explicit statements about their position in the world (Kelso and Most 1990; Stilgoe 1982; Jackson 1984; Zierden and Herman 1996).

Archaeological evidence for evolution of the landscape may generally be divided into two categories: material culture and stratigraphy. It is the latter that is the most informative for landscape evolution; in fact, the recovered artifacts assume their importance from their position in the stratigraphy and their role in determining the source of those soil deposits. A third category of data includes plant and animal remains such as seeds, pollen, and bone fragments. Archaeological research on the landscape has been interdisciplinary in nature, employing the expertise of zooarchaeologists, ethnobotanists, palynologists, geographers, historians, and architects. Landscape studies to date have explored six issues: alteration of the terrain, deforestation, the role

of the work yard, health and sanitation, urban diet, and segmentation and privatization.

An important source of comparative data, particularly for the present study, is the research of Elizabeth Kryder–Reid in Annapolis, Maryland. In a series of innovative articles, Dr. Kryder–Reid has explored the ideology of landscape in the 18th and 19th centuries. More specifically, the principal data base is the St. Mary's site, an urban town lot with developmental parallels to the Nathaniel Russell house. The late 18th century house and gardens of Charles Carroll, a member of the colonial elite, was preserved in the 19th century by the Redemptorists, an all–male Catholic congregation of priests and brothers. Kryder–Reid's research (1991; 1994; 1996) will be used as a model for the present study.

Artifact Patterning and Charleston's Material World – Artifact assemblages from each of the sites investigated to date have been subdivided temporally, based on both specific site activities and general trends in Charleston's development. The three general subdivisions are 1710–1750, 1750–1820, and 1820–1880. The early period corresponds to Charleston's role as a frontier outpost and emerging port. The second marks Charleston's "golden years" as a leading seaport and center of wealth, and the third corresponds with Charleston's economic decline and stagnation. These periods also correspond to changes in ceramic and glass technology. The early period is that of relatively scarce and expensive material culture; the second corresponds to the rise of the British pottery industry and the development of refined earthenwares, and the third to a decline in new ceramic types and the ascendancy of mass–produced glassware.

The data are then organized by functional groups according to Stanley South's (1977) categories for the Carolina Artifact Pattern; this descriptive material is presented at the end of Chapter IV, following the detailed artifact discussion. In Chapter V, these results are used to investigate the refinement of society and the rise of consumerism (Bushman 1992). In the 18th century, gentility was the visible expression of gentry status, the most sharply defined social class in the colonies. Gentility gave expression to universally acknowledged social divisions. By the end of the 18th century, many middle class folks had acquired some of the aspects of gentility. Basic to the present discussion is the contention that the genteel life depended on the creation of proper environments. As refinement spread to more and more folks, the need for refined objects created an unprecedented mass market for individual items. Archaeological assemblages from early and late 18th century Charleston sites are used to investigate the refinement, in material terms, of Charleston society. As an acknowledged bastion of finery, the Russell house is an ideal data base to expand these studies.

Archaeology, Preservation, and Public Interpretation

Archaeology's role in preservation of a property such as Russell's is two–fold. First, the archaeological record – the layers of soil and artifacts – is part of the total fabric, worthy of preservation. All standing structures have an associated archaeological component; but not all archaeological sites have an extant architectural component. Further, the archaeological component is non–renewable, damaged or destroyed by any ground–disturbing activity.

Secondly, archaeological research is an additional source of broad interpretive data of an historic site. The key word is interpretation, for current anthropological theory suggests that all types of data are subject to interpretation, to be read by many viewers. Archaeological data, like architectural data, documentary information, maps, plats, oral history, etc. contributes to a clearer understanding of a historical question, but archaeological answers do not supercede those from other disciplines. This report is our contribution to the multifaceted exploration of the history of the Nathaniel Russell house and its occupants.

CHAPTER II

Documentary Background

The Settlement of Charleston

Colonies in the New World were the prize in the 16th century European battle for naval supremacy. Spain dominated the contest during this era, growing rich by her exploitation of colonies in central and South America and establishing a claim on the North American continent; la Florida included South Carolina and was anchored by the settlement of St. Augustine and Santa Elena on Parris Island, and a chain of missions along the south Atlantic coast and the Florida gulf coast. By the 17th century, Spain was increasingly threatened by English sea power; in 1588 the Spanish armada was defeated off the coast of England.

In the 17th century, possession of Carolina was disputed by Spain, France and England. The English, who viewed Carolina as a southern extension of Virginia, proceeded to establish a colonial settlement in Charleston, in the "very chaps of the Spaniards." All three countries were motivated not so much by the desire for land as by the need for raw materials which were unavailable or insufficiently produced in their native land. England was eager to free herself from dependence on southern Europe for silk and wine. She needed hemp and naval stores to support her sea power, and foodstuffs to allow her West Indian colonists to concentrate on the production of sugar. Although the English government did not encourage the development of rice as a staple crop, the Carolina colonists persevered and were rewarded by unimagined riches. Indigo, the other major agricultural export, directly contributed to England's commercial development, as well as to her domination of the European market, by releasing her from reliance on the French and Spanish West Indies for the dyes needed in her textile industry. But before these profitable staples took hold, trade in deerskins obtained from Indians and provisions such as lumber, beef, and naval stores led to Charleston's development as a port city, home to merchants engaged in the transatlantic trade (Crane 1981).

A group of eight patriotic English noblemen were granted the colony as a political reward; these profit-seeking men established Carolina in 1670. The early colonists had some trouble in determining what staple crop could best prosper. Early experiments in the cultivation of such valued commodities as wine, silk, and oranges proved disappointing. While experiments in husbandry continued, many of the settlers took advantage of the abundance of deer in the Carolina forests.

The colonists readily appreciated the value of this multitude of deer, and the Indians' ability to gather them. Native Americans had long managed the south Atlantic forests for deer and agriculture by selectively clearing and burning portions of the longleaf pine and hardwood forests (Silver 1990). The earliest trade in skins was a secondary, small-scale pursuit of individual planters. Some of these aspiring entrepreneurs hired an Indian hunter to supply them with skins while others traded with whomever wandered by (Crane 1981:118). This informal network was

radically altered by James Moore's raid of Spanish missions in 1704 (Hann 1988) and the Yemassee War of 1715. Though these skirmishes resulted in increased safety for the settlers, the final defeat of coastal Indians caused the remnant tribes to retreat inland, culminating two centuries of movement, dislocation, and realignment sparked by the first European contact (DePratter 1990; Hartley 1989). Those settlers involved in the fur trade found it more difficult to obtain skins and were forced to invest in extensive storage facilities. Soon the trade was transformed from one operated by a number of individuals on a small scale to a capital intensive industry controlled and dominated by the burgeoning mercantile community in Charleston. These merchants established credit relations with the British businessmen, enabling them to procure and finance the trading goods necessary for the primarily barter exchange carried on with the Indian hunters (Merrell 1989; Braund 1993). The recognition, respect, and wealth which many of these merchants achieved made it possible for them to become involved in other increasingly important trades – slaves, naval stores, provisions, and rice (Calhoun et al. 1982:2; Earle and Hoffman 1977:37).

The increasing cultivation of rice throughout South Carolina created a voracious demand for slave labor. Although the Carolina colonists were unfamiliar with this crop, many of the Africans brought to the lowcountry came from rice producing areas of Africa. Rice itself was introduced to South Carolina from Madagascar, and many African slaves possessed skills in rice cultivation and other tasks essential to the plantation economy (Littlefield 1981; Wood 1974). Significant continuities between African and Carolinian methods of planting, hoeing, winnowing, and pounding the rice persisted until these techniques were no longer economically feasable (Joyner 1984:13–14). By 1708, the majority of lowcountry residents were black. African bondsmen and women worked the crops in the country and provided labor for building and maintaining the city.

The earliest settlement was up the Ashley River at Albemarle point. Agriculture and commercial prosperity demanded security, however, and this was the first concern of the colonists. Oyster Point proved attractive to the colonists and, after some exploration, increasing numbers of them left Albemarle for the peninsula formed by the confluence of the Ashley and Cooper rivers. The leaders of the settlement sanctioned this trend, and they further instructed the Governor,

> to take care to lay out the Streets broad and in straight lines and that in your Grant of the Towne lotts you doe bound every ones Land towards the Streets in an even line and suffer no one to incroach with his buildings upon the streets whereby to make them narrower than they were first designed (Salley 1928:95–96).

The area of relatively high bluffs and narrow marsh along the Cooper was best suited for shipping and in 1680 the settlers founded a walled city bounded by present–day Water, East Bay, Cumberland, and Meeting streets. This planned city, known as the Grand Modell, encompassed the high land from Oyster Point to Beaufain Street (Earle and Hoffman 1977). The town was laid out around a central square and divided by wide streets into deep, narrow lots, a plan characteristic of 17th century Irish towns colonized by the British (Reps 1965). While the new Charles Towne was a renaissance city in many ways, the surrounding town wall and steep roofs gave it a decidedly medieval atmosphere (Coclanis 1984).

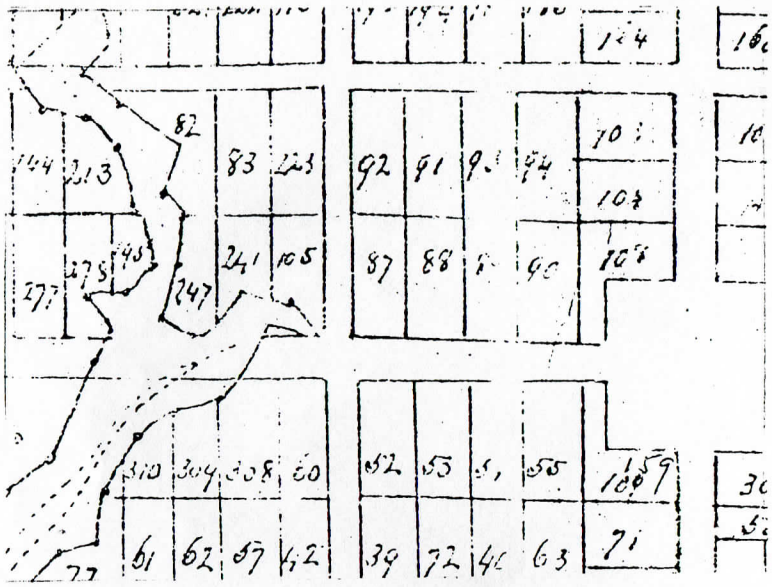
The Nathaniel Russell house occupies lot 247 of the Grand Modell (figure 3a). Most of the city's Grand Modell lots, including those outside the walls, were granted in the 17th century. Many were re-granted as individuals were unable to maintain their claim. However, many were not improved until well into the 18th century. Lot 247 was granted to Andrew Percival in 1694; around 1723 it was sold to William Donning, and around 1732 purchased by John Fraser. His family owned it until 1779. Currently available documentary and archaeological information indicates that Fraser was the first to improve the property, but exactly when this happens is unclear. The 1739 city map (Roberts and Toms 1739) shows the lot still unoccupied, with a large expanse of marsh extant in the southern portion of the property (figure 3b); when his son, Alexander Fraser, sold the property in 1779, it contained "houses, etc." No more precise dating for construction on the property has been determined.

John Fraser came to Carolina about 1700 from Scotland, and was a trader with the Yemassee Indians, living near Coosawatchie. He married Judith Warner of Rhode Island and had four children. He died in Charleston in 1754 (Salley 1983). He left "all that lott of Land on which I now Live" to his wife for her natural life and thereafter the lot was subdivided between his daughter Judith and his son Alexander (Record of Wills, vol. 7:190-193). Current scholarship suggests that Fraser was residing at this house on the Meeting Street lot when he died, but this is not certain. Fraser's wife Judith died in 1772. After her death, Alexander Fraser evidently acquired the Meeting Street property, for in 1779 he and his wife Mary Grimke sold to Nathaniel Russell and William Greenwood (CCRMCO C6:526),

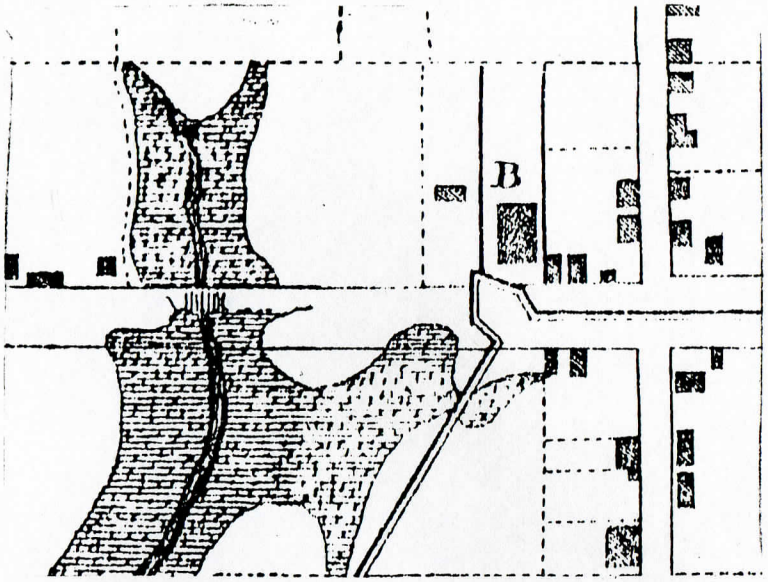
> "All that town lot piece of land situate and being on the west side of old Church or Meeting Street in Charles Town aforesaid containing from north to south on the east side therof fronting the said Street 123'3" of assize or near therebouts, then runs from south to north on the west side thereof 150' of assize or near thereabouts and then returns from west to east on the northside thereof 231'6" of assize be the same a little more or less and is butting and bounding to the east on the aforesaid Street to the south on Price's Alley aforesaid, to the west on lands partly of Joseph Dill and partly of Thomas Eveleigh, and to the north on lands of the Presbyterian Church now in the occupation of William Glen the elder together with all and singular the houses outhouses ways passages fences lights easements hereditaments and appurtenances whatsoever to the sd. town lot of land..."

Rising Wealth

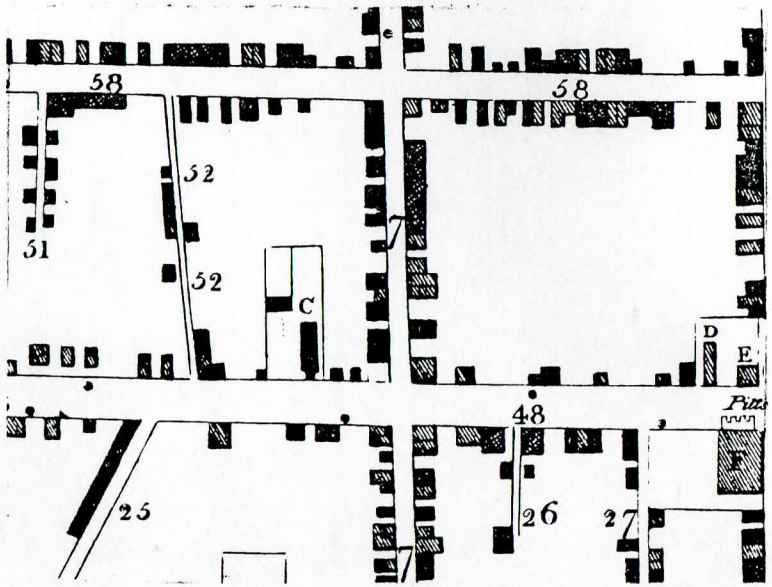
The decade of the 1730s witnessed Charleston's transformation from a small frontier community to an important mercantile center. When royal rule replaced an inefficient Proprietary government in 1729, Charleston entered the mainstream of the British mercantile economy. The development of outlying communities, following the Township Plan of 1730, brought an influx of products from the backcountry. Meanwhile, lowcountry plantations rapidly expanded. During this period, merchants emerged as a distinct group; further, they began to invest their earnings in the local economy, instead of returning to England after making their fortunes (Rogers 1980; Stumpf



a) Grand Modell, 1680



b) Roberts and Toms, 1739



c) Petrie, 1788

d) Bridgens and Allen, 1852

Figure 3
The Russell lot on various city maps

1971). As the colony prospered, the merchants and planters emerged as the leaders of society; indeed, the two groups often overlapped, for planters engaged in mercantile endeavors, and merchants invested their earnings in land, becoming planters themselves, establishing a centuries–long tie between country and city (Goldfield 1982).

Charleston's economic expansion in the 1730s was matched by physical expansion. By 1730 the city had grown well beyond the original city walls and development was primarily to the west (Calhoun et al. 1982; Roberts and Toms 1739). The city spread west to the banks of the Ashley River and south to the tip of the peninsula, though much of the peripheral area was only sparsely occupied. As the 18th century advanced, Charles Town expanded in economic importance and the relative affluence of its citizens. White per capita income was among the highest in the colonies (Weir 1983). As the planters and merchants gained in prosperity, they began to demand goods more appropriate to their elevated station in life. The clink of silver reverberated throughout Britain and the colonies, attracting factors, merchants, and craftsmen. Personal wealth poured into the colony from Europe in the form of furniture, silver, tableware, clothing, and paintings; imports were matched by a rise in local craftspeople and their slaves producing this finery, particularly cabinetmakers and silversmiths. This ascendancy of personal and collective wealth continued after the Revolution, peaking in the early 19th century.

Personal wealth was matched by a rise in imposing public and domestic architecture. The devastating fire of 1740 cleared the way for construction of large structures in new styles. Public architecture on a grand scale is embodied in St. Michael's church, completed in 176l, the State house on the opposing corner, and the Exchange building at the foot of Broad, built in 1769. On the domestic front, large Georgian houses were constructed on still–spacious city lots, in some cases replacing earlier, more modest structures on the same lot. These changes are part of a general shift in architectural style and land use which occurred in the third quarter of the 18th century (Herman 1993; Zierden and Herman 1996).

The government of Carolina was also centered in Charleston until 1788, making it imperative for those involved in any sort of legal transaction or position in government to come to the city. Poor inland communication, lonely stretches between plantations, and bad roads made it virtually imperative for a planter interested in society to reside in Charleston at least occasionally, while the danger of fevers made it desirable during the summer months for even the most resolute recluse. Some planters were only able to rent quarters. Others indulged their taste for the grandiose and built large, striking residents for their families. Although these planters generally chose lots near the rivers for their reputed health benefits, they were also influenced by wealth and taste in their decisions. Some, particularly the rice planters of the mid 1700s, situated themselves along the battery while others, preferring more spacious lots on which gardens and pleasure pavillions were possible, spread along the banks of the Ashley and Cooper rivers.

Factors appeared to handle the problems of customers whose actual wealth was determined by the seasons. To enable the planters to maintain their high standard of living throughout the year, factors issued advances based upon the estimated value of the crops at relatively high rates of interest. Goods bought on credit by the planter also bore significantly higher prices than those

commanded by cash. Increasingly, the commercial pursuits of the factor and commission merchant did not convey the same societal respect as in more northern climes. By the mid-19th century the planters emerged as society's elite where merchants did not.

During the first decades of Charleston's existence, the captains of ocean-going vessels had to use lighters to carry their goods to the town's docks. In the 1690s, however, those areas deep enough for large ships were converted into wharves (Green 1965:12), while other areas along the bay became fashionable residential quarters. The development of wharves and streets significantly lowered lighering and hauling charges for the merchants. Buildings were erected upon the wharves and proved to be ideal locations for both the storehouses needed by the colony's exports and outlets for the sale of imports. The Charleston merchants clustered on major east-west thoroughfares adjacent to the wharves. East Bay and Broad streets, two of the principal streets delineated in the Grand Modell, were highly valued for their proximity to the waterfront. In the 1730s, twenty percent of the city's advertising merchants were located along Broad. The thoroughfare retained this level of prominence throughout the colonial period (Calhoun et al. 1982).

Nathaniel Russell was born in 1738 in Bristol, Rhode Island, the second son of Joseph Russell, Chief Justice of the Rhode Island Supreme Court, and Sarah Paine. Attracted to the burgeoning wealth and commercial bustle of the port city, he arrived in Charleston in 1765 as an agent for Rhode Island merchants (Savage 1989:3). Clearly an astute and highly successful businessman, he advertised in the South Carolina Gazette,

> "Nathaniel Russell has just imported, in the sloop Defiance, from Rhode Island, a parcel of good Horses, Northward Rum, cheese, sperma-coated candles, onions and a few barrels of Apples, which he will sell cheap at his store in Colonel Beale's wharf."

He ended his business dealings in Rhode Island gradually, advertising his intent to depart that colony in late 1766 (Newport Mercury, October 13, 1776). He had mixed feelings about his new place of residence, however, for in a 1765 letter to the Reverend Ezra Stiles in Newport he writes,

> "This is a very Disagreeable Summer Country not only the Days but the Nights are excessive Hot. You will scarcely find one comfortable Night in a month. I think there would be but very Little inducement to Tarry here was it not for the Agreable winters Together with the Kindness and Hospitality of the People... ("The Nathaniel Russell Papers", ed. Robert Leath).

Between 1769 and 1773 he participated in the slave trade, importing two cargoes. Russell maintained business contacts with New England and European merchants throughout his career. By 1790 he was able to subscribe $36,610 of the state debt; in 1800 he owned 18 slaves. As his wealth accumulated, Russell sought the material goods and trappings suitable to a man of his stature. In 1779 he advertised in the South Carolina Gazette,

"Wanted to purchase, a Waiting Man that has been used to the Care of Horses, and that can be well recommended.---Also, a good Chaise Horse. Enquire of NATHANIEL RUSSEL, and Co. (Russell Papers, ed. Robert Leath).

That Russell's material wealth was matched by social esteem is indicated in the comments of Elkanah Watson,

"...in the intervals of business I mingled, with delight in the elegant and gay society of this refined metropolis, under the wing of Mr. Russell, the consignee of Mr. Brown, a gentleman of New England origin, but occupying a distinguished position in the mercantile community of Charleston..." (Russell Papers, ed. Robert Leath).

Revolutionary Changes

On July 4, 1776 the American colonists proclaimed their independence from the British Empire. Tensions between the mother country and her North American colonies had been building over the years, centered around payment of the national debt. The first attempt to conquer the province of Carolina came in 1776 when the Royal Navy attacked Fort Sullivan, later Fort Moultrie. They struck again in 1780 and were successful. The British occupation of Charleston was to last two years. The loss of Charleston was considered by many Americans to be their greatest defeat in the Revolution.

During the occupation, many Carolinians suffered sequestration of their property, the quartering of troops in their homes, imprisonment in the "dungeon" of the Exchange or on warships in the harbor, and exile. They were also plundered of "enormous wealth." Systematic and official looting is estimated to have resulted in a loss of goods and slaves totalling 300,000 pounds sterling (Wallace 1961). The British occupation also brought many changes to the city. There was a great deal of movement and change among the city's merchant class, and a variety of new products, particularly foodstuffs, were imported. The occupation forces also worked to clean up the city. Much of the rubbish was hauled to the "British Dump" whose location is unknown (Zierden et al. 1986).

Nathaniel Russell soon felt the effects of the conflict. In 1779 he wrote to the Royal Lt. Governor William Bull II,

"...Before this can possibly reach you, news of the British Army marching from Georgia to the Gates of Charlestown will be with you...It is impossible for me to describe to you the depredations that were committed by that Army & its followers...I will endeavor to give you some account of the mischief they have done...in short they destroyed everything in the house & Store belong to Col. Beale's Estate & myself except the frames of the chairs & 4 or 5 Tables. Mr. Beale lost all hard money, Jewels, & most of his plate...Poor Will the Carpenter got away from them at Johns Island. He came home very Sick and died the 7th inst. Bob was shot by some of the Militia of the Parish who say he

was driving cattle to the Enemy..." (Russell Papers, ed. Robert Leath; in a version of this letter transcribed by Lt. Bull as part of the Loyalist claims, Lt. Bull notes that 'Will the Carpenter' was one of Mr. Russell's slaves, and that Bob was "another of Russell's slaves, the principal gardener".)

At the beginning of the American Revolution, Russell supported the Whigs; he lent money to the state government and served in the Charleston militia and the third General Assembly. After the fall of Charleston in 1780, however, he wavered in his loyalty and departed the city. He remained in London from 1781 to 1783. His property was confiscated, and when he returned to Charleston in 1783 he was not allowed to disembark. The South Carolina Gazette noted his return:

> "Yesterday the ship Brothers arrived here from London, after a passage of eleven weeks, in which came Mr. Nathaniel Russell of this town, merchant, and a great number of other passengers, whose names we have not been able to procure for this day's gazette... (Russell Papers, ed. Robert Leath)

Russell was one of many tories who repatriated and reestablished themselves in local society. However, he remained on ship in the harbor for several months, and eventually received a special exemption from the earlier ordinance confiscating his property. He noted this in a letter to Caleb Davis & Co. in Boston;

> "...I received your Favour of the 23rd January by Capt. Shepherd...I was not permitted to Land here until a day or two before Capt. Shepherd's arrival. I then been in Port more than four months. I unfortunately arrived one day after a Law took Place which prevented my going ashore. I was therefore under the necessity of waiting until the Assembly met who Liberated me the first day of their meeting..."

His property was returned in 1784, and he purchased William Greenwood's share of the Meeting Street property. (Standard Biographical Dictionary 1981:624). He soon became involved in state politics, and for the next thirty years held a number of political and philanthropic offices.

By this time, the development and increased prosperity of Charleston resulted in a rise in the cost of renting and buying real estate within the commercial core of town. Significant portions of the artisan community dispersed throughout Charleston as all but the more affluent craftspeople were driven from the highly desirable locations. Many small businessmen attempted to combat rising real estate prices by sharing buildings. Craftspeople who derived their livelihood from such trades as the slaughtering of livestock, soap making, and tallow chandlery needed space, while the unsanitary conditions and danger of fire made these activities the subject of nuisance persecution (Calhoun et al. 1982). But the wealthy and influential merchants typically lived on East Bay Street adjacent to the wharves and the economic heart of the community.

Russell's marriage to William Hopton's daughter Sarah no doubt enhanced his status, both economically and personally. They were married in 1788 when Russell was 50 and Sarah was 36.

The marriage produced two daughters, Alicia in 1789 and Sarah in 1792 (Savage 1989:5). They continued to live at Russell's East Bay residence for a number of years. A respected merchant married to a society belle, they evidently lived among folks of similar status; next door was Governor Arnoldus Vanderhorst; nearby were merchants such as Adam Tunno and Hazelhurst and planters such as Thomas Roper (City Directory 1790).

His social and financial position now secure, Russell set out to proclaim his position by constructing a grand townhouse on his large Meeting Street lot, filling it with beautiful appointments, and surrounding it with a memorable garden. In doing so, Russell followed many of his social peers, who began to move away from the wharves and onto large, showy lots in more peripheral residential areas (Robert Leath, personal communication, 1996; City Directories 1790, 1802, 1809, 1819). Russell's use of his Meeting Street property between purchase in 1779 and house construction in 1808 has been a source of much speculation and research. The 1779 deed indicates that the lot contained houses, etc; the 1788 city map shows large structures along Meeting Street and Price's Alley (figure 3c). But in 1808 Russell advertises a house "to be rented" on the Bay (Charleston Courier, May 10, 1808). This ad suggests that Russell did not move to Meeting Street until his house was complete. Documents discovered by researchers on February 23, 1995 shed new light on use of the Meeting Street property during this time; an 1804 advertisement in the Charleston Courier lists:

> To Be Let,
> That Large and airy SCHOOL HOUSE, situated in Price's Alley near Meeting Street, with Desks, Benches, and every necessary proper to accommodate a large school. Possession will be given the 15th inst. Apply to:
>
> Nathaniel Russell

Review of the 1802 City Directory lists the following residents of Price's Alley:

#1	John Frederic, National Bank Guard
#2	Thomas Pinckney, Planter
#3	David Clark, watchmaker
#4	John Palmer, Seargent, City Guard
	William Stewart, school master
#5	Watson and Woodill, cabinetmakers
#6	Edward McCan, clerk of fish market
#7	Sarah Hinson, seamstress
#8	Diane Holland, seamstress
#9	Jane Dill, widow

Such a list of mostly middle class artisans and professionals is typical for occupation of an alley in the 18th century. Throughout the 18th and 19th century, Charleston was a highly integrated city. Rather than living in separate "neighborhoods," the wealthy lived on large lots on wide streets or

major thoroughfares. The middling or poor, black and white, often lived around the corner on side streets or narrow alleys; others lived above stores or in rental accommodations in the rear of large properties (Calhoun et al. 1982; Zierden et al. 1983a). The 1802 listing for Price's Alley, then, reflects a typical working class enclave or small neighborhood of the early 19th century. That the alley retained this character is indicated in Elizabeth Allston Pringle's story of the 1850s:

> "It was spring and all the windows were open, and the third night I was awakened by shrieks from Price's Alley, which ran along beside our garden wall! It was just as distinct as if it had been in the next room. I fled to Della's room and never again attempted to sleep in my own room. The next morning we heard it was a drunken man beating his wife; some Irish families occupied a house together there."(Pringle 1922:167)

This, plus careful reexamination of the 1788 map suggests the large, oddly subdivided building on the south side of the property was a series of working class tenements, none of them the home of Russell.

Antebellum Comfort

Nathaniel and Sarah Russell moved into their new grand townhouse by 1808, and it immediately became the subject of much admiration and discussion. According to family legend, the house cost $80,000, an enormous figure for the early 19th century. No architect has been identified for this neoclassical gem, and it seems likely that Russell sketched his own plans or secured the assistance of a "gentleman amateur" such as Gabriel Manigault (Savage 1989:5). New research indicates that Russell's builder may have been Edward McGrath (1763–1811), an Irish–born architect who immigrated to Charleston at the turn of the 19th century. McGrath and his partner, Joseph Nicholson, are best known for the United States Bank building on the corner of Broad and Meeting (now City Hall). Russell was a member of the building committee that supervised its construction. One year after completion of his own house, Nathaniel Russell acted as surety for McGrath to St. Paul's Church, Colleton, guaranteeing his work (Russell House files).

Inspired by Robert Adam, the tripart plan included a rectangular, an elliptical, and a square room on each floor. A spacious reception room on the first floor is separated from the stair hall by glazed doors. The handsome spiral stair rises three stories without any visible support, and the hall is lit by a large palladian window on the lower flight and a recessed elliptical window on the upper flight.

Carved wood, plaster, and applied composition ornament abound, reaching their apex in the second story elliptical room, the drawing room. This room also features curved doors and mirrored panels in elaborate surrounds (Savage 1989; Phillips 1979). The house does not have the piazzas common in Charleston by this time, but instead boasts delicate wrought iron balconies, the front one embellished with Nathaniel Russell's initials. The meticulous work was the product of many highly skilled craftsmen, including one Samuel O'Hara, who in 1808 advertised,

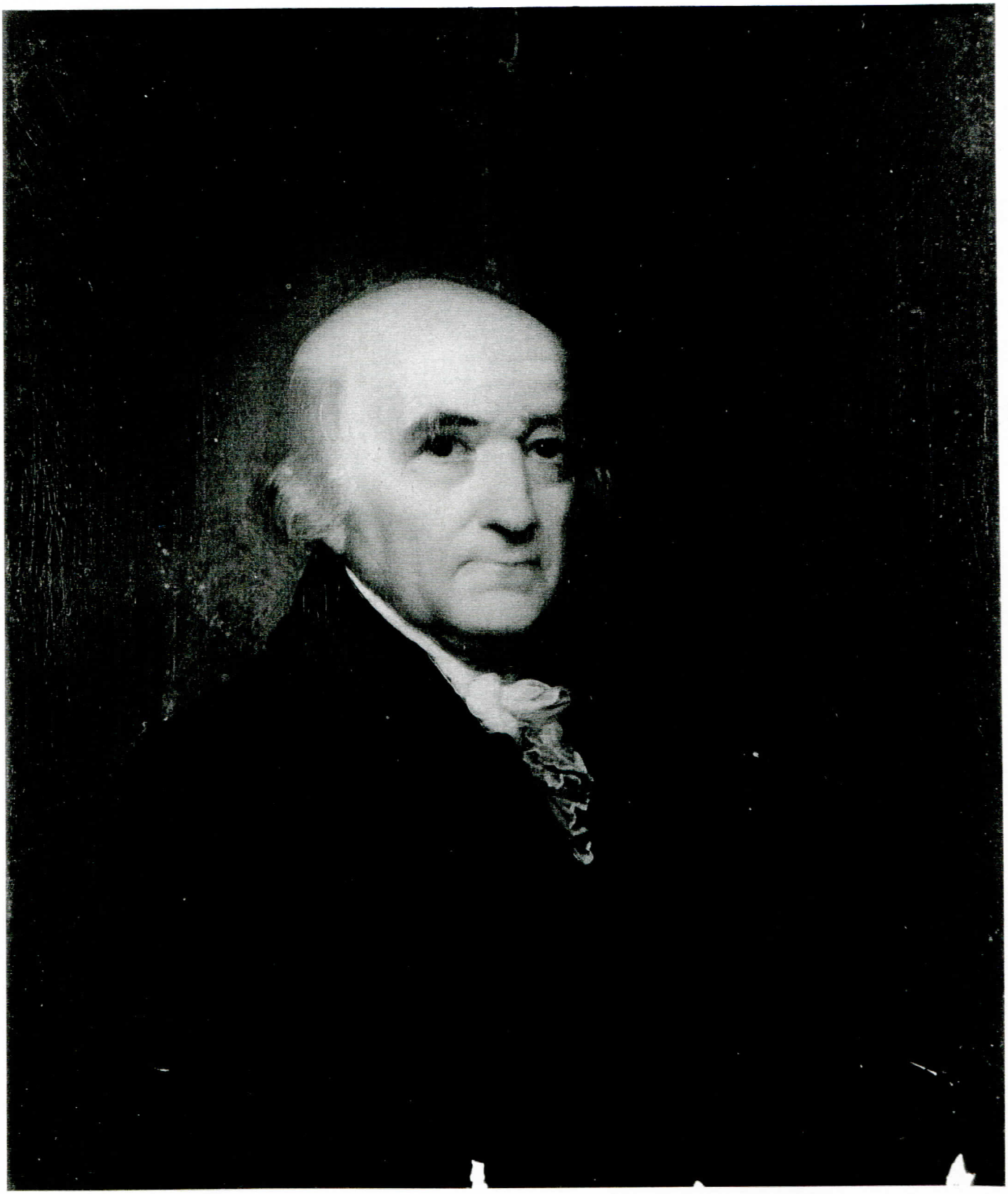


Figure 4
Nathaniel Russell, c. 1820, by John Wesley Jarvis
(private collection; photo courtesy Historic Charleston Foundation)

"Samuel O'Hara

RESPECTFULLY informs his friends and the publick, that he has removed to No. 81, Meeting Street, corner of Hasell street, where he carries on the House and Sign Painting business, in all its branches. He assures those who may be leased to employ him, that the most assiduous attention will be paid to their commands. He begs leave to refer gentlemen to Mr. Russell's new building in Meeting Street, for a specimen of his work, which he confidently believes has not been equalled by any in the city." (Charleston Courier, May 14, 1808).

By the 19th century, the town had expanded and there were shifts in the location of Charleston's mercantile community. As the town spread northward up the peninsula, retail merchants followed their customers. King Street, a relatively insignificant thoroughfare throughout the 18th century, rapidly gained commercial importance. As the town spread, its growth shifted from an east–west to a north–south axis. The waterfront remained important, and the wharves atrracted wholesalers, factors, and commission merchants (Calhoun and Zierden 1984).

In the antebellum period, residential and work places became increasingly differentiated. As Charleston expanded, the central business district evolved with a relatively small intrusion of residential areas (Goldfield 1982:86). This segregated land use was also reflected in the development of residential districts, including areas south of Broad Street and on the Neck, that area north of Calhoun Street (Radford 1984:155; Rosengarten et al. 1987).

Russell's grand house on a large lot, just outside the heart of the business district, fits this trend. The Russell house was much discussed throughout the 19th century, the gardens attracting as much attention as the mansion. Tragedy struck soon after the house was complete, in the form of a tornado in 1811,

"The new and large Mansion–House of Nathaniel Russell, esq. together with his extensive Back Buildings, entirely unroofed; the windows broken in, and his furniture, (for the most part) entirely ruined – his loss, it is said, will not fall short of $20,000" (Charleston Courier, September 11, 1811).

The Times noted on the same day that,

"it will convey to our distant readers, some feint idea of the immense force of the wind, when they are informed, that a piece of lead, judged to weigh from 35 to 40 lbs. was carried from the house of Nathaniel Russell esq. and lodged in the third story of the house of Mr. Lee, on the north side of Tradd–street, distant about 200 feet or more."

This was only the first of many natural disasters to seriously damage the house and outbuildings throughout the 19th century. In 1835, the Horlbeck brothers billed Mrs. Russell, through her son–in–law Arthur Middleton:

"1/2 bushel $150 – 1/2 lot 75 rep 4 the slate on the roof Carriage House, no. Meeting Street lately injured by storm; 9 bushel mortar, cart, 4 ladders, 3 c brick $3, 1 lot $1.25, 10 ridge tiles." (Horlbeck Bros. Daybook, South Carolina Historical Society).

The Russell garden, whose layout and content is unknown and the subject of much current research, was the topic of much comment in the 19th century. At least the front portion must have been formal, geometric beds and walkways (Barbara Sarudy, personal communication). In 1818, the Reverend Abiel Abbot dined with Russell and commented, "examined the garden again – delighted with the flowers." In 1819, William Faux, an English visitor, writes:

"called on the venerable Nathaniel Russell, Esq., residing in a splendid mansion, surrounded by a wilderness of flowers, and bowers of myrtles, oranges and lemons, smothered with fruit and flowers...living in a nest of roses...I saw and ate ripe figs, pears, apples and plums, the rich productions of this generous climate." (Faux 1969).

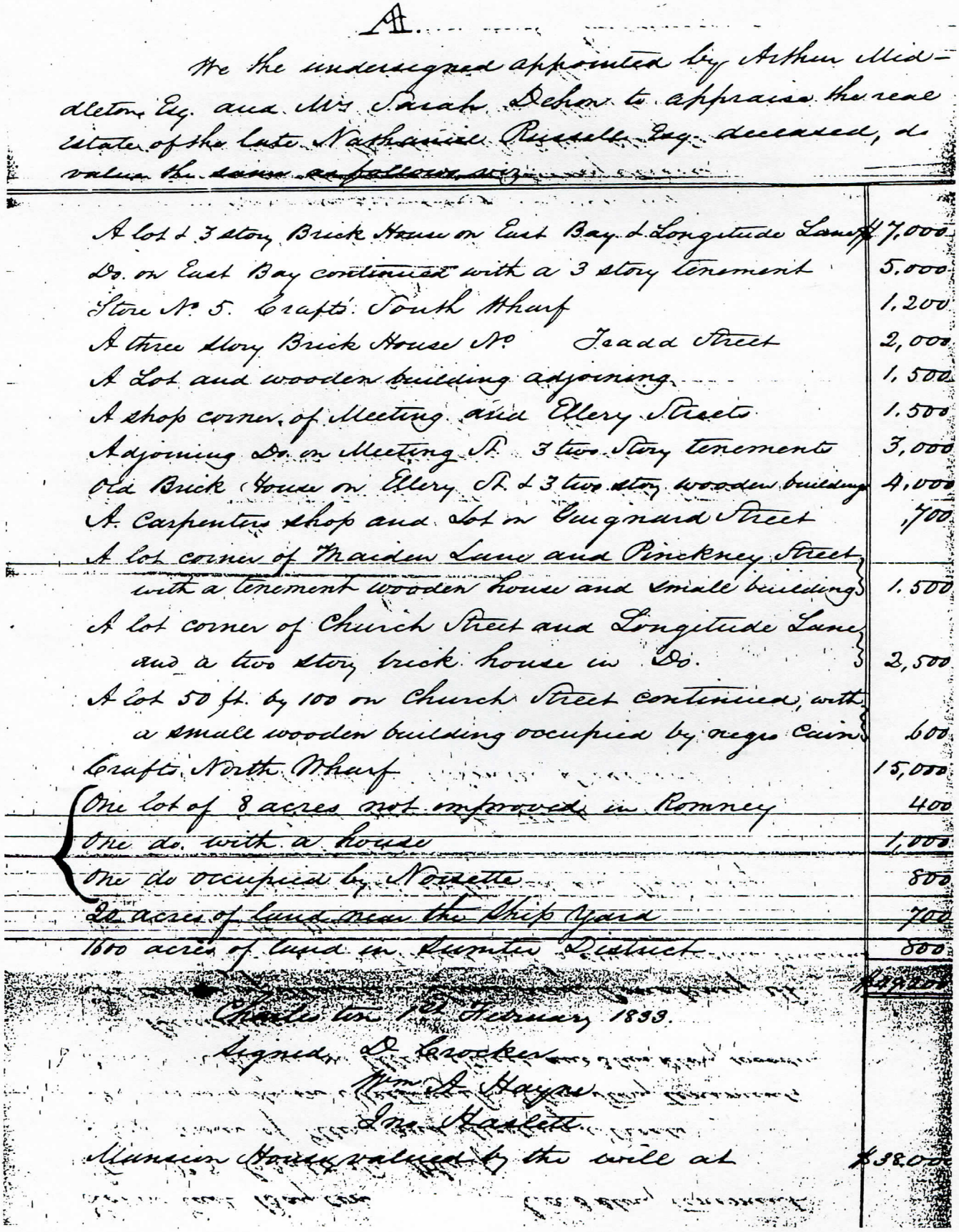
Russell's garden was evidently tended by the locally famous gardener Philip Noisette, who lived on one of Russell's 8 acre farms at Romney (figure 4). Noisette came to Charleston from Santo Domingo in the early 1800s. He was well known for his roses. He also advertised in 1814 from his "garden at Romney Village

... a great variety of FRUIT TREES, grafted by himself, of the best kinds from Europe; such as different kinds of Peaches, Nectarines, Apricots, Plumbs, Pears, Apples, Figs, and Grapes; as well as many foreign, Ornamental Trees, Shrubs, and plants. Also for sale, a collection of garden SEEDS, FLOWER SEEDS, AND FLOWER ROOTS."

Located only a few miles up Meeting Street, the Russell's farm at Romney may have been a source for fruits, vegetables, and livestock for the Meeting Street house on a regular basis. These could have been quickly transported from this "suburban" farm in less than an hour. An 1840 plat of the farm shows a wooded portion with a pond and a section of cleared land, as well as 8 improved acres surrounded by a fence. The plat suggests that the fence enclosed a modest house, a formal garden, and a less formal grove (see figure 72).

Already in his later years when his house was complete, Russell spent only a few decades in his mansion before his death in 1820. When he died, his widow Sarah, her children and grandchildren remained in the mansion until 1857, and maintained the garden throughout the antebellum period. In 1827, Mrs. Russell wrote to her grandson Nathaniel Russell Middleton,

"Your Balm of Gilyard Tree is now most Beautiful. It has branched out very finely. The Laurel Tree also I think never looked so handsome. It if full of fine Large Flowers. My Family of Silk Worms have all compleated their Work above a Week now––each one a beautiful ball of Silk from which they are now eating their way thro' as butterflys. I have gratifyed many of Friends by a sight of them..." (N.R. Middleton papers, Southern Historical Collection, UNC)



A

We the undersigned appointed by Arthur Middleton Esq. and Mrs Sarah Dehon to appraise the real estate of the late Nathaniel Russell Esq. deceased, do value the same as follows viz.

A lot & 3 story Brick House on East Bay & Longitude Lane	$7,000
Do. on East Bay continued with a 3 story tenement	5,000
Store No. 5. Crafts' South Wharf	1,200
A three story Brick House No. Tradd Street	2,000
A Lot and wooden building adjoining	1,500
A shop corner of Meeting and Ellery Streets	1,500
Adjoining Do. on Meeting St. 3 two story tenements	3,000
Old Brick House on Ellery St. & 3 two story wooden buildings	4,000
A Carpenters shop and Lot on Guignard Street	700
A lot corner of Maiden Lane and Pinckney Street with a tenement wooden house and small building	1,500
A lot corner of Church Street and Longitude Lane and a two story brick house in Do.	2,500
A lot 50 ft. by 100 on Church Street continued, with a small wooden building occupied by negro Cain	600
Crafts North Wharf	15,000
One lot of 8 acres not improved in Romney	400
One do. with a house	1,000
One do occupied by Noisette	800
20 acres of land near the Ship Yard	700
1600 acres of land in Sumter District	800
	$49,200

Charleston 1st February 1833.

Signed D. Crocker

Wm A. Hayne

Jno Haslett

Mansion House valued by the will at $38,000

Figure 5

Real Estate owned by Nathaniel Russell

(Division of Nathaniel Russell Estate, Sarah Dehon et al. vs. Arthur Middleton, Charleston District Court of Equity Bills, 1837, #61, South Carolina State Archives.

When he died, the Charleston Courier described Nathaniel Russell as "an upright, honorable man, a philanthropist, and a fervent and exemplary Christian." In 1819, Russell established the New England Society, for "a number of Gentlemen, natives of the New England states, desirous of establishing a Charitable society, for the relief of distressed or indigent persons from that quarter of the Union..." (Charleston Courier, Jan 8, 1819). However, it was Mrs. Russell and her daughters who were best known for their benevolence. In 1818 they established the Charleston Female Domestic Missionary Society, which ministered to the poor and to slaves. In 1824 Mrs. Russell provided land and money for the Female Domestic Missionary Society to establish St. Stephens Free Chapel, first church exclusively for the poor.

Nathaniel Russell's daughters each continued the social ascendancy begun by their father by marrying well. Alicia married Arthur Middleton of Bolton Plantation on the Stono River, and nephew of Arthur Middleton of Middleton Place; she bore four children. The wedding took place on March 9, 1809. It was the central event in a round of parties. On March 5, Margaret Izard Manigault in Charleston wrote to her mother in Philadelphia,

> "...The proper temperature for dancing is past---but the balls are not over. We are engaged to two this week, Mrs. William Heyward's and Mrs. Russell's -- this last in consequence of the wedding which is to take place on thursday...(Izard Papers, Library of Congress).

When she had recovered from the round of parties, Margaret Manigault wrote her cousin, Mary Izard Stead Pinckney,

> "...Arthur Middleton has been fortunate enough to select a very pleasing little woman for his mate. We must have thought so, had she possessed only her pretty countenance and soft winning manners. Her ample fortune ne nuit rien a la chose. There was a dance at the wedding. It was the first Ball the night after. There was a Ball at Mr. Gilchrist's. Mr. and Mrs. Henry Middleton gave a very pretty one Friday following. Mrs. Tom Middleton gives hers tomorrow. Mr. and Mrs. J. Manigault theirs on Friday. The Ball you see is kept up... (Manigault family Papers, South Caroliniana Library.)

In 1813, Sarah married the Right Reverend Theodore Dehon, rector of St. Michaels and second Episcopal Bishop of South Carolina, who had come from Rhode Island in 1809. They had three children before the Bishop's sudden death from yellow fever in 1817. The ever saucy Margaret Izard Manigault commented to her mother that,

> "...The Bishop was married, & they are making merry in that grave family just as other folks do upon these occasions... (Izard Papers, Library of Congress).

Figure 6
Alicia Hopton Russell (Middleton), c. 1806, by Edward Malbone
(courtesy Frick Art Reference Library, New York)

Figure 7
Sarah Russell Dehon, c. 1840, by Alice Izard McEwen
(courtesy Historic Charleston Foundation)

Figure 8
Bishop Theodore Dehon, c. 1819, by John Stevens Cogdell
(courtesy Historic Charleston Foundation)

They also entertained on more mundane occasions, as was common to people of their station. The Reverend Abiel Abbot noted on November 27, 1818,

> "...At two, called to dine at Mr. Russell's present, Dr. Palmer, Mr. Reed, Mr. Sturgis, Mr. Haddock, and Mrs. Middleton, an elegant and animated daughter of Mr. R's. Examined the garden again – delighted with the flowers. A handsome dinner – dispersed after it different ways."(Abiel Abbott Journal, SCHS).

Ten years later, when Alicia Russell Middleton wrote to her son concerning a tea party hosted by her Aunt Sarah, the social conscious of the family is revealed,

> "great preparations I assure you were made for this tea party, notes send the day before &c.&c...I came home early in the evening. About seven in walks Mrs. Guerard to the consternation of the family who were quietly sitting round the blue room fire instead of being in the drawing room prepared for company..." (Russell papers, ed. Robert Leath)

Mrs. Russell died in 1832 at the age of eighty, and ownership of the house passed to Sarah Russell Dehon. Figure 5 shows the division of Russell's extensive real estate holdings at this time. The following year young Sarah Dehon married the Reverend Paul Trapier, future rector of St. Stephens and St. Michaels churches. They and their twelve children lived in the house until Mrs. Dehon's death. Mrs. Dehon continued her parents' charitable work. In 1847 her son–in–law Reverend Trapier resigned from St. Michaels and established Cavalry Church as a place of worship for African American slaves; he performed numerous weddings for slaves at the Russell house. When Sarah Russell Dehon died in 1857 at the age of 66, her obituary called her a "mother in Israel."

While Sarah Russell Dehon was reknown among her peers for her good deeds, lists of property made after her death still reflect her position as a social leader. Her room by room inventory lists a host of elaborate furnishings, including 355 ounces of silver, a variety of cutlery, tea wares, "Blue India China Plates;" an infinite variety of specialized serving pieces, glassware, "gold and white Desert" ware, as well as a host of bonds and bank shares (Inventory box 109, no. 24, 1857). Though they gave and attended the requisite parties and dinners, and owned the requisite furnishings and plate, it appears that the Russell family, particularly Sarah Russell Dehon, favored a more relaxed, and private, lifestyle (Robert Leath, personal communication, 1996) The seemingly quiet tenor of daily life may be embodied in a letter from Reverend Paul Trapier to his cousin by marriage, Nathaniel Russell Middleton in 1842, where he orders " a comfortable chair" for Mrs. Dehon, "nothing stylish of course, but substantial and plain – and above all, easy."

Urban Commerce and Slave Labor

By 1819, Charleston's commercial bonanza years fell victim to the national depression.

(Greb 1978:18). The depresion brought a halt to the commercial expansion of the city. Although the economy of Charleston stabilized thereafter, the city had a begun a then-imperceptible decline. These forces were not yet visible to antebellum residents, however; during this period, the city launched many improvement efforts, embodied in its public architecture (Severens 1988:267).

Though Charleston's economy was irrevocably linked to cash crops and the plantation system, progressive citizens encouraged diversification and industrialization. Many of these enterprises were located in Charleston's burgeoning suburbs on the Neck. The two antebellum railroads, the South Carolina Railroad and the Northeast Railroad, were built between King and Meeting streets, and along East Bay street, respectively. Open spaces, lower real estate values, relaxed building codes, as well as the railways, attracted large-scale manufacturing enterprises. In less than half a century, the Neck was transformed from the "country" to the center of Charleston's industrial future. These efforts were ultimately unsuccessful, however, as Charleston failed to live up to its proclaimed dedication to modernization. An increasing fear of the black population and perceived threats from northern states drove Charlestonians to embrace the past and ultimately be bypassed by the expanding rail network (Pease and Pease 1985:223-224). Personal, rather than institutional, ties remained the fabric of Charleston's commerce.

In Charleston, slavery was synonymous with labor. Most slaves were field hands, laborers, servants, or porters, but on plantations and in the city, some served as coopers, blacksmiths, brickmakers, millwrights, carpenters, seamstresses, barbers, fishermen, pastry cooks, and in many other skilled occupations. Owners routinely "hired out" their slave artisans. A few won their freedom by buying it; masters "manumitted" others, especially house servants, in recognition of special services, or in response to sometimes familial affection. The emerging class referred to as "free persons of color" congregated in Charleston. All social and ethnic classes lived side-by-side in the 18th and early 19th century city.

Nathaniel, Sarah, Alicia and Sarah Russell were not the only residents at 21 Meeting Street. Sarah Hopton brought a large dowry to the marriage (Marriage Settlements vol. 1:402-414), including 25 slaves. These included Ben, Diego, Andrew, Roger, John, Pompey, Billey, Frank, Carlos, Scipio, Matthew, Castillia, Affee, Dinah, Fanny, Sarah, Sukey, Cloe, Dorcus, Tib, Jude, Amarinthia, Hannah, Renche, and Peggy. Some of these same people were found among the twelve urban residents enumerated in William Hopton's 1786 inventory, five of whom had special skills:

Ben, blacksmith	$120
Diego, carpenter	$40
Andrew, carpenter's apprentice	$70
Pickle, fisherman	$70
George, fisherman	$50
Suky, and John, her child	$100
Chloe	$30
Dorcas	$50

Judy, her children, Tib and Renche $170
Old Simon $5

(Inventory of William Hopton, 15 December 1786, Charleston County Inventories, Book B:485; Marriage Settlement of Sarah Hopton and Nathaniel Russell, 3 March 1789, vol. 1:402–414). Russell also owned several slaves, so it is likely that the extensive backbuildings houses at least a dozen people at any given time during the antebellum period. When Russell moved to his house he also moved 18 slaves. In 1820, six slaves are listed in residence. The 1830 census enumerates 7 male and f5 female slaves and, interestingly, one free colored male. Ten years later there were four male and four female slaves in residence. In 1850 Mrs. Dehon had 13 slaves at the Meeting Street house; Reverend Trapier owned six more, also in residence. (U.S. Census 1820, 1830, 1840, 1850).

It is interesting to note that many, if not most, of the slaves mentioned by name in Russell family documents are listed with a special skill. In addition to those belonging to Russell, he and other family members often advertised skilled slaves. Serving as Chairman of the Committe for construction of the Santee Canal, Russell advertised in 1792,

> "WANTED for the Santee Canal company, two hundred and fifty negro labourers, for one, two, or three years until the work is compleated...A number of Carpenters, Bricklayers, and Blacksmiths will also be wanted..."

The widespread employment of slaves in a variety of services for one's master and others prevented any real development of the mechanic arts among whites. The psychological conflict in white and black artisans competing for, and performing, identical tasks led to a deep aversion between the two groups. Many artisans came to scorn their work and hired out or bought slaves to carry on their business (Nevins 1947; 491; Starobin 1970; Wade 1964). Others migrated to northern colonies where wages were lower but their social status higher (Sellers 1970:103). This led to a dependence on slave labor which proved detrimental to the technological and industrial development of Carolina. In a situation where labor intensive methods were often not merely feasable but actually desirable, there was a disincentive to modernize the agricultural sector. Industry suffered from the same handicap, with the result that the South in general lagged significantly behind other areas in manufacturing techniques and results. Thus the withdrawal of mercantilistic laws following the Revolution, which had governed the productive capabilities of the colonies, had little effect on the economy of Charleston. Instead, the city continued to rely heavily on raw materials, at this point primarily agricultural, for its prosperity. The development of Charleston as a social center had stabilized its urban economy, but offered few opportunities for expansion. The economic well–being of the town depended on the monetary success of the country society for which it was the center (Powers 1972:15).

Vague fears of slave retaliation reached a fevered pitch in 1822 with the discovery of the Denmark Vesey affair. Reportedly, Denmark Vesey masterminded a slave revolt to overthrow white authority and establish black control over the city. Born either in Africa or the West Indies, Vesey was brought to Charleston in the service of a sea captain. Purchasing his freedom with winnings from a lottery, he worked for more than twenty years as a carpenter in the city.

According to testimony at the trials of Vesey and his lieutenants, members of the African church in Hampstead concocted the rebellion (Killens 1970).

Besides Vesey, four of his principal associates, Gullah Jack, Monday Gell, Ned Bennett, and Peter Poyas were said to belong to the Hampstead congegration. Slaves from the country and some from the Neck were to meet at Bulkley's farm the night of the uprising. Another band, under Ned Bennett's leadership, was to seize control of the federal arsenal on the Neck. A third company, under Rolla Bennett, would gather at Bennett's Mills in Cannonsboro. Gullah Jack would meet his men at Boundary Street and King, then seize some 500 muskets and bayonets stored at Duqusercron's, as well as weapons belonging to the militia company called the "Neck–Rangers." These were kept in an unguarded building on King Street Road, where Baccus Hammett slept on the night of the revolt (Lofton 1964:140–141).

An additional convicted conspirator was blacksmith Tom Russell, owned by Sarah Russell, and executed on July 26. He kept a blacksmith shop on East Bay Street, and was reportedly Gullah Jack's "armourer.". His part in the conspiracy was confined to the making of pikes and spears, "which it appears he did on a very approved model." (Hamilton 1822:25). A slave named Pierault testified that Tom had joined Gullah Jack's band, and had been at Vesey's house on June 16. Mrs. Russell submitted testimony through attorney James Gray that "Gullah Jack was constantly with Tom at breakfast, dinner, and supper, and that she cautioned Tom not to have so much to do with Jack or he would be taken up." A white witness, 16 years old, testified that Gullah Jack was frequently at Tom's shop, and they often talked together in Gullah. The Court unanimously found Tom guilty, and passed on him the sentence of death. (Killens 1970:82).

Several witnesses testified that between six and nine thousand slaves had been recruited to the cause, some from as far away as Santee River plantations. Most of those accused, however, were from Charleston and its environs. Conspirators named in the Official Report of the Trials included "Negroes hired or working out, such as Carters, Draymen, Sawyers, Porters, Laborers, Stevedores, Mechanics, and those employed in lumber yards and rice mills along the edge of the peninsula" (Killens 1970:3). In contrast to these recruits, who tended to be manual laborers, the leaders of the conspiracy were mainly skilled artisans and preachers: Vesey was a carpenter; Peter Poyas, a "first rate" ship carpenter; Mingo Harth, a mechanic, Tom Russell, a blacksmith, and Monday Gell, identified as an Ebo harnessmaker who hired out his own labor and kept a workshop on Meeting Street. Gullah Jack had been "a conjurer and a physician" in his native Angola, a witness testified, and had "practiced these arts in this country for fifteen years, without it being generally known among the whites" (Rosengarten et al. 1987:63).

The owners of the defendants, and the magistrates, expressed surprise and disbelief that "Negroes of such character and condition" would rebel. Except for Gullah Jack, all the leaders had been known for exemplary behavior. A clue to why these men joined the plot – in fact, the only clue the magistrates could find – came from a witness who heard Vesey say that he had several children who were slaves and "wished to see them free." The insurgents had hoped to take Charleston by setting the city on fire and killing all the white people and any blacks who did not join the rebellion. After that the plan was less clear.

One immediate consequence of the aborted uprising was the sentencing of 35 of the 131 accused to death. More long range consequences was a persecution of free persons of color, an expanded police department, and increasing restrictions on the manumission of slaves and various other "privileges" such as education and religion.

Industrialization and Modernization

By the middle of the antebellum period, most American cities were showing the effects of industrialization. Urban environments underwent radical changes between 1820 and 1860, as a national economy replaced local and regional economies (Goldfield 1977:52). Industrialized cities began to replace chaos with order; they featured a central business district, functional differentiation in the use of space (separate areas for industries, businesses, and residences), innovations in intra-city transportation (the appearance of horse cars), rapid in-migration (Charleston became the terminus of Irish and German immigrants), increased specialization among the mercantile class, and centralized improvements (street paving, sidewalks, lighting, drainage). Some cities moved faster in these directions than others. During the early years of the industrial movement, Charleston kept pace with the rest of the country; by the end of the 19th century, however, the city lagged behind other commercial centers in many areas of development.

As cities grew, more attention was paid to municipal services, planning, and promotion. Cities competed fiercely with one another for commerce, and urban promotion developed into a fine art (Goldfield 1977:52, 1979:235). Civic leaders emerged as a key social group, working to make their cities the best. The ideal city would be efficient, attractive, orderly, modern, clean, and above all, healthy. The goals ushered in an era of internal improvement, which required increasingly strong municipal governments; centralized, public projects replaced private, individual ones.

Physical improvements and services ultimately determined whether or not cities would attract new businesses and residents. Basic services such as fire fighting, police protection, water, lighting, and disease prevention were necessary if a city was to grow or prosper. Few visitors or customers would be attracted to a fire-prone, disease-ridden city (Goldfield 1977:67). The safe and efficient movement of people and goods depended on road improvement and street lighting. Lighting of the major thoroughfares, including Meeting, first by oil and later by gas, was a top priority. By 1837, the lower city contained 1,722 lamps, maintained by private contract.

After 1848, the streets were lit with gas. The Charleston Gas Light Company was established in 1848, the fifteenth city in the country to be so modernized. Initially gas service was provided only for street lights and some public structures, but by mid-century many of the well-to-do were adding gas lights to their homes (Ridout and Graham 1996:35). Ridout and Graham have suggested that Mrs. Dehon may have added gas lighting to the house, but is was certainly installed no later than November 1859. Governor Allston, owner of the house by this time, added other new inventions, as well.

Civic improvements were small protection from the natural disasters that ravaged the city with frightening regularity throughout its history. Recovery and rebuilding from hurricanes, fires, tornados, and even earthquakes all shaped the city. Situated on a narrow peninsula, traversed by marshes and creeks, this low-lying area was surrounded by the sea, and vulnerable to sickness and floods. The city's residents spent time on Sullivans island, in the pine flats, and in the mountains, hoping that the breezes would cure the lowcountry's many diseases. These efforts to guard against infection proved ineffective, as did efforts to protect the city from the ravages of ocean-borne storms. The city's lack of elevation made it vulnerable to flooding during the many hurricanes, and the floodwaters rushed up the numerous creeks. Debris and wreckage gradually filled these areas and transformed the city's terrain, but storms continued to plague the city and leave their mark on the town's architecture (Calhoun 1983:2).

Though the fires which gutted major sections of the city in the colonial and antebellum periods indirectly offered opportunities for urban planning and improvement, these plans were rarely realized. Fear of fire and attempts to prevent it are a major theme in Charleston's history. Major fires devastated the city in 1740, 1778, 1796, 1835, 1838, and 1861. Crowded streets filled with wooden buildings were seen as a major source of trouble, and legislative attempts to end building with wood appeared after each disaster. Within a few years, however, enforcement of these restrictions lapsed. Fires struck the city year after year, and produced in the citizenry a paranoia concerning arson. This fear was inevitably focused on the slave population (Pease and Pease 1978).

Civil War Disruptions

After Mrs. Dehon's death in 1857, her children sold the mansion to Governor Robert F. W. Allston for $38,000, the deflated value set by Mr. Russell in his will. In a letter to Mrs. Allston, Henry Deas Lesesne described the house as "beyond all comparison, the finest establishment in Charleston." Governor Allston's brief tenure in the house saw a period of quiet finery before the fury of the Civil War. Allston continued the gardening traditions of the Russells. He hired a new gardener, Walter Webb, to tend the garden, and brought a trusted slave, Daddy Moses, from the country to work in it. In a move that tantalizes archaeologists, he paid Mr. Webb for 48 loads of earth in 1859. In 1860 he paid Webb $176.50 for "One year's gardening...one Double red Japonica...one dozen Peach trees...garden seeds...Garden spade...three loads of shell...Six Poinciana Gillissii (Brazil Mamosa)...Six Spirea Double and Single...4 Citrina." Governor Allston made other, less glamorous, improvements to the garden. In 1861 he paid Mr. Webb for fifteen bushels of shell and cartage of same, as well as for "filling in and planking Privy" as well as for a year's gardening and seeds.

In addition to garden alterations, Governor Allston added furnishings to the house. In an 1857 ledger, the Governor purchased from Calder, Browne & Co, of King Street, 175 yards English Brussels, 30 yds. Stair Brussels, 4 doz 40" stair rods, 8 pcs Carpet binding, 11/2 yards carpet binding, 1 1/2 yards printed velvet, and 2/12 dozen stair rods." Governor Allston also paid $77.35 to M.G.B. Browne and J.S. Purse for "piecing and finishing new Velvet Carpet"

Figures 9 and 10
Governor and Mrs. Robert F.W. Allston, by George Flagg
(courtesy The Gibbes Museum of Art/Carolina Art Association)

Cosmetics were not the only changes made during the Allston tenure. As mentioned before, the house was likely outfitted with gas lights in 1859. Receipts for repairs indicated that the Allstons added a system of piped water, including "hot water pipes". The system was depended upon cisterns, and possibly a well, as municipal water was not available until after 1879. However, the reference to "filling and planking a privy" by Allston in 1861 probably coincides with installation of a water closet and this piped water system. Based on close scrutiny of the 1870 plat (figure 11), Ridout and Graham have also noted a series of pumps and sinks, a modern range or cooker to replace the open cooking hearth in the kitchen, and possibly a hot water tank. Finally, the referenced "force pump" suggests a system capable of moving water to the upper floors. (Ridout and Graham 1996:36–38).

The Allston household included a number of servants besides Daddy Moses. In 1857 the Allston household must have included the Governor and Mrs. Allston, the four youngest children, ranging in age from seven to fifteen, and nine black servants. In her later memoirs, Elizabeth Allston Pringle listed Nelson, a house servant, William Barron, who later bacame a caterer and cook, Steven Gallant, Joe Washington, the cook, Aleck, the carriage driver, Phoebe, Nanny, Nelly (Nelson's wife), and a boy, Harris.

At first, the Civil War had little direct effect on daily life in the Allston household. June 24, 1863 was a special occasion, as Allston's daughter Adele was married in the house. Her sister, Elizabeth Allston Pringle describes the wedding in effusive terms:

> "...I was to be the first bridesmaid. The wedding was very beautiful. To begin with, Della was lovely beyond words, an ideal picture of a bride, and the groom, Arnoldus Van der Horst, was a handsome and martial figure in his uniform, that of a major of the Confederate army. They were married by the assistant rector of St. Michael's Church, the Reverend Mr. Elliot, in our beautiful oval drawing–room or ballroom. It had a very [high] ceiling and was papered in white with small sprigs of golden flowers scattered over it. There were four large windows on the south, opening on the iron balcony which ran round the outside. And, on the opposite side of the room, two windows exactly like those opening onto the balcony, running from the tall ceiling to the floor, but the panes of these were mirrors. It made you think you were looking into another crowded room. There was a high mantelpiece of white wood carved with exquisite figures of women dancing and holding aloft garlands of flowers, Adam's most beautiful design; the cornice around the ceiling was also beautiful; the furniture was rosewood, covered with blue velvet with little pink rosebuds, and the carpet was velvet with bouquets of pink roses tied with blue ribbons. The first groomsman, Lewis Van der Horst, brother of the groom, was also in uniform, that of a private in the Charleston Light Dragoons, C.S.A. He was killed the following spring in Virginia, fighting gallantly..." (Pringle 1922: 187–188.)

The Civil War interrupted the flow of life in the Allston household, and indeed all others in Charleston. On July 10, the shelling of Charleston began. As the city fell under seige, the

family beat a hasty retreat to Society Hill, leaving the faithful Daddy Moses in charge. Elizabeth Allston Pringle describes the departure in the following manner,

> "It was a terrible undertaking to pack all that big, heavy furniture and get it away under stress. We found afterward that we had left many things of great value. At this moment I remember especially two blue china Chinese vases, urn shaped, which stood two feet high and were very heavy. It seemed impossible to get boxes and material to pack them and they were left. Daddy Moses remained alone to take charge of the house and garden."

Daddy Moses died shortly thereafter of a stroke while tending the garden. Governor Allston remained in Georgetown county attempting to manage his plantations and send his crops to market. On January 21, 1864 he received a letter from Robertson, Blacklock & Company,

> "...The Bombardment of the City is continued with unabated violence. All day yesterday and last night the Enemy shelled the lower portion i.e, East Bay and the Battery and from South Bay to Tradd st. We have not been informed of any damage done to your house lately.
> p.s. D[ear] Govr. I have directed your handsome Gas Chandeliers to be taken down. I will have them cared for somewhere the best I can."

After this struggle, he died on April 7, 1864. In his will, Governor Allston left the house in Charleston and its furniture to his widow, along with carriages and horses, the house servants and their families. To each of his five children was left a plantation and 100 slaves. His inventory lists a variety of "China and Glassware" in his house in Charleston, including French China, tea service, coffee service, wine glasses, etc.

Though the 1861 fire dealt a much harsher physical blow to the city, the Civil War dealt the final economic blow. The city's economy had become dependent on the cotton market, and the local economy became vulnerable to international market fluctuations. The prosperity of Charleston was irrevocably linked to that of the agrarian system it served. Although antebellum Charleston remained the most important port in the south Atlantic, the success of railroads and steam exacerbated the economic recession and encouraged the growth of rivals. Charleston slowly withdrew into itself and became a "closed" city (Rogers 1980). By the 1850s, Charleston's dreams of civic destiny were waning (Severens 1988:265). The cotton economy was a credit economy, and this, coupled with the loss of the labor force following emancipation, forced a new order of things (Rosengarten 1986).

For several months following the firing on Fort Sumter, soldiers freshly mustered into Confederate camps around the city found it "hard to realize we are engaged in warefare." The light-hearted mood did not last. After the fall of Port Royal and Beaufort in November, refugees from coastal islands crowded into Charleston. The city was blockaded and placed under seige, and repeated bombardments threatened the southern end of the peninsula. Charlestonians moved into the upper wards, or to summer resorts in the piedmont and mountains. Although the damage

caused by these shells was limited, the impact of the War on the city was nonetheless profound. Charleston's economy, debilitated by the War, remained stagnant throughout the postbellum period. This was embodied in a lack of construction and expansion. While the Neck experienced a building boom, the lower city, particulary the burnt district of 1861, stayed in ruins for many years.

Decline in Defeat

The Allston inheritance lost its value with the defeat of the South in 1865. Mrs. Allston returned to Charleston and had the Meeting Street mansion repaired. The empty house was shelled during the seige, and three shells went through the roof. In order to make ends meet, Mrs. Allston then opened a girl's school. Her daughter Elizabeth Allston Pringle described the preparations in the following manner:

> "Preparations for the school are going on apace. We have moved into our house and it is too beautiful. I had forgotten how lovely it was. Fortunately, the beautiful paper in the second floor, the two drawing rooms, and Mamma's room, has not been at all injured. The school is to open Jan. 1st and, strange to say, Mamma is receiving letters from all over the State asking terms,etc. I thought there would be no applications every one being so ruined by the War, but Mma's name and personality make people anxious to give their daughters the benefit of her influence; and, I suppose, the people in the cotton country are not so completely ruined and without money as we rice planters of the lowcountry are Be it as it may, the limit Mamma put of ten boarding pupils is nearly reached already."

All over the city, Charlestonians patched their houses, moved back in, and made do. Many took in boarders or other strangers. Refurbishing, rebuilding, and new appointments would wait decades. Charleston had entered the 19th century at the forefront of civic competition, but ended the century far behind its rivals. This lack of progress was not without good reason; a fixation on cotton and rice in the antebellum period was followed by economic collapse. The phosphate boom of the 1870s provided only temporary relief to the city's economic stagnation (Shick and Doyle 1985). Natural disasters in the postbellum period, notably the earthquake of 1886 and a series of hurricanes around the turn of the century, struck devastating blows. By the early 20th century, the Board of Health was demanding municipal improvements; this time it was lack of funds, rather than lack of interest, that kept Charleston's civic leaders from moving ahead.

By 1869, her school a success, Mrs. Allston decided to return to the country and allow her son to plant rice. With her meager funds, she restored Chicora Wood, the family plantation near Georgetown. The Charleston mansion was sold to the Sisters of Charity of Our Lady of Mercy for $19,000. The Order had arrived in Charleston in 1829, and had been housed in various locations throughout the city. With the purchase of the Russell house in 1870, they expanded the role of their school, the Academy of Our Lady of Mercy. The number of students ranged from 85 to 120, and there were eight teachers living in the house (figure 11). While no firm written

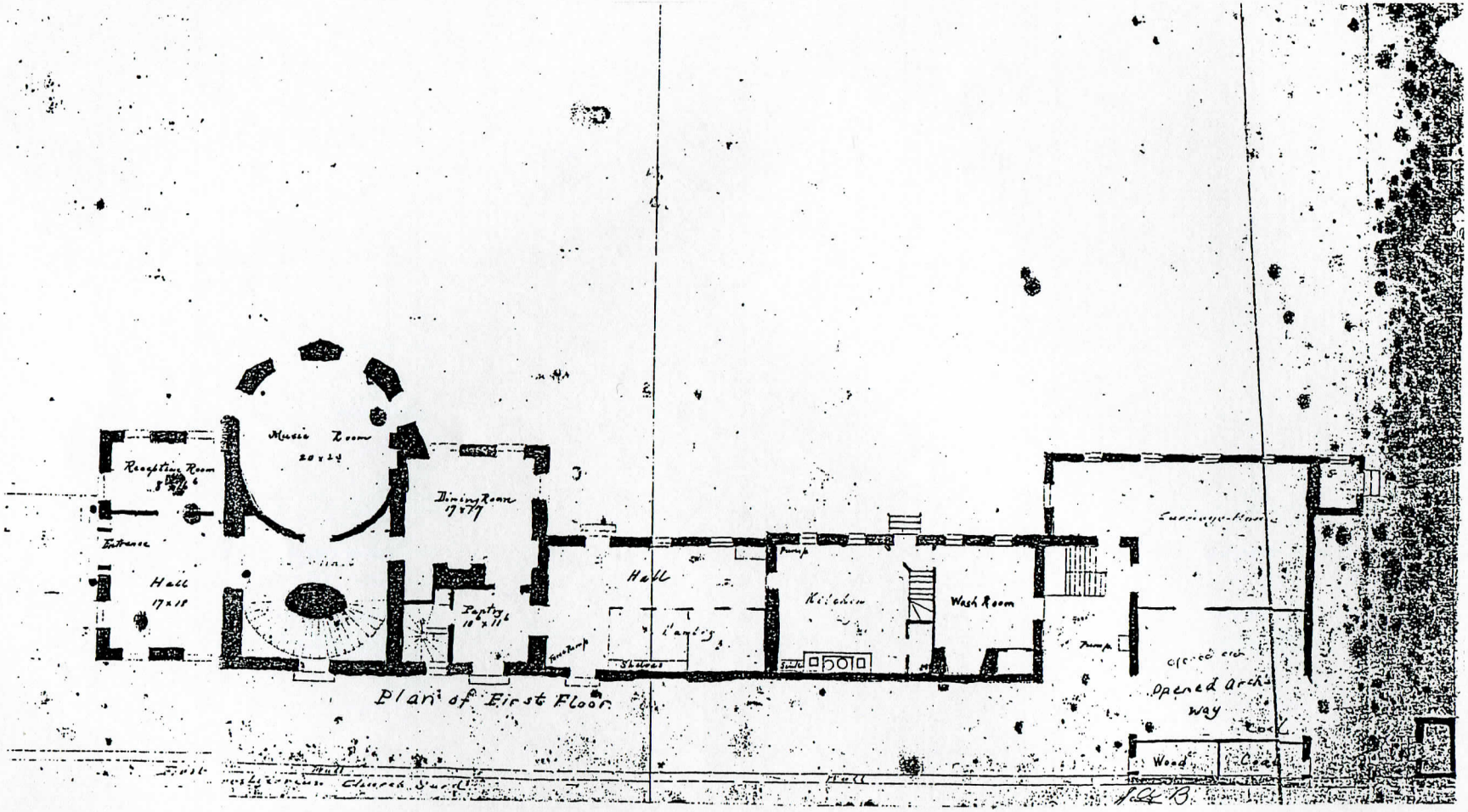


Figure 11

Layout of the Russell house after purchase by the Sisters of Charity
(Original in possession of the Sisters of Charity; copy on file, Historic Charleston Foundation)

documentation has been found, it is the Catholic Diocese's contention that the building was purchased with funds petitioned from the Federal government. The sisters had nursed Federal troops during the Civil War, and property of the Order was destroyed by Federal artillery.

The Sisters were living in the house during the earthquake of 1886. Though the house was described as "badly sprung," damage was relatively light. The main house, listed in the "Earthquake Book", described the brick house with slate roof as "badly cracked on the east and "cracked over openings" on the west. The north and south walls were listed as "good" The stable was described as "badly cracked"; damages were estimated at $2,500. The buildings were anchored and bolted north to south and east to west.

According to the Sanborn Fire Insurance maps from 1888 to 1902, the outbuildings underwent a series of changes during the Sisters' tenure (figures 12 and 13). They also maintained the gardens. Photographs of the period show formal paths in the front of the yard and large, heavily overgrown trees and bushes in the rear. An undated photograph of Sister Mary Carmel shows her standing on a garden path adjacent to the bay window, surrounded by flowers and bushes. In 1939, E.T.H. Shaffer wrote that,

> "the patterned beds of flowers are separated from the kitchen garden by a thick hedge of altheas, giving beauty to both. Tall oleanders reach up to the curious iron balconies that are woven into the monogram of the builder. From the gate the path is bordered with English box; just inside the gate, looking over the wall, are large crepe myrtles. A few years ago the gardens were dotted with large orange and grapefruit trees that once flourished throughout the winters both in Charleston and Beaufort, but that have now, owing to a colder weather cycle, disappeared. The garden is lovely with pomegranites, with spikenard, the pale shadowy tamarisk, and everywhere the blue sky caught to earth in pools of blue larkspur".

In 1901 the Academy moved to Calhoun Street, and the mansion served as the motherhouse until 1908. The Sisters sold the property to Dr. and Mrs. Lane Mullally, returning the house to the role of a private residence. The Mullallys made extensive changes to the house, and maintained the garden. Their daughter described the garden in the following manner:

> "The garden was divided into three sections. The front of the house and around side to terracotta room was a formal garden; from there to kitchen was informal and play space for the children; at the rear was a third divided into smaller thirds and used as kitchen garden, for a cow, a pony and chickens, etc."

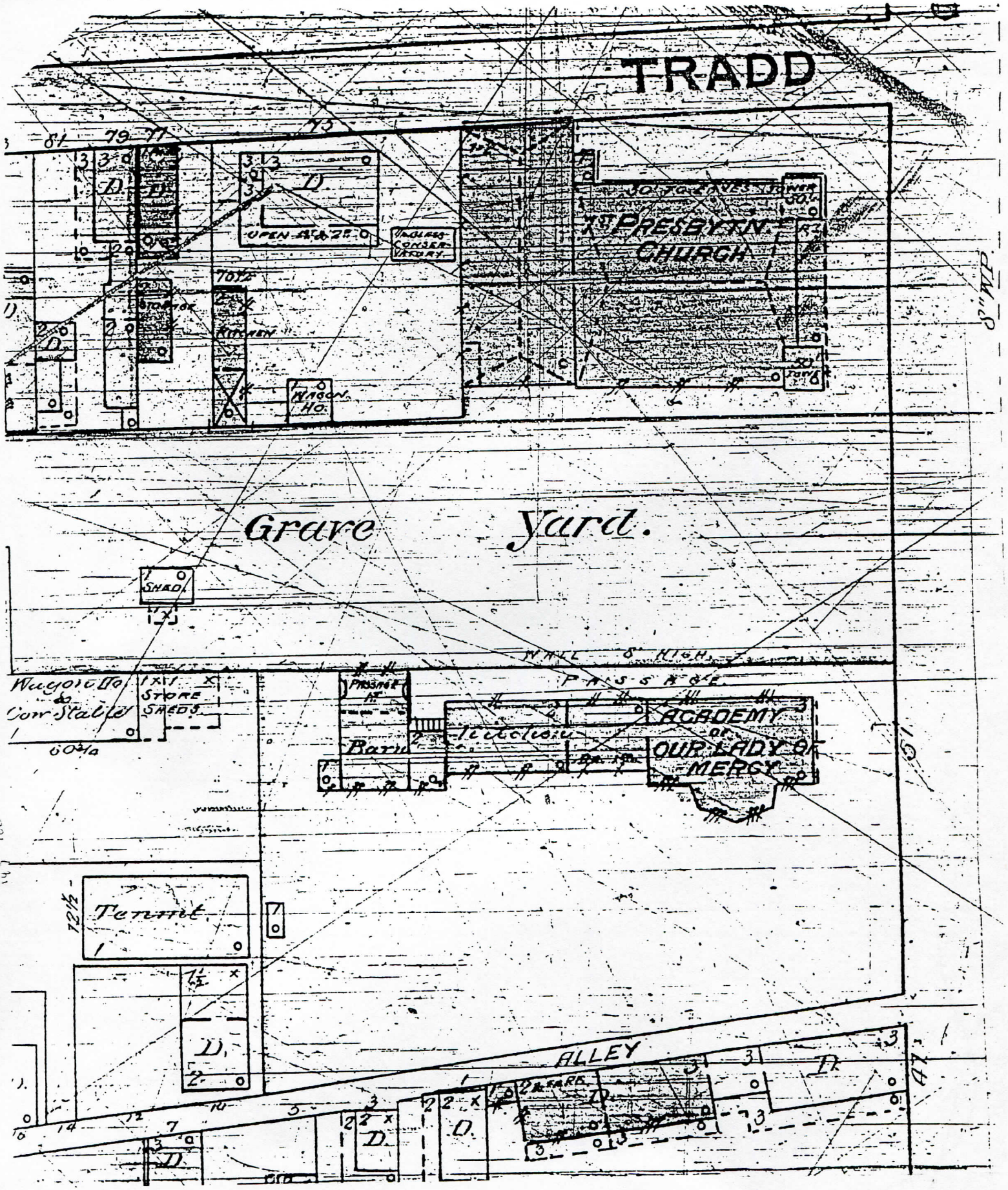


Figure 12

Sanborn fire insurance map, 1888

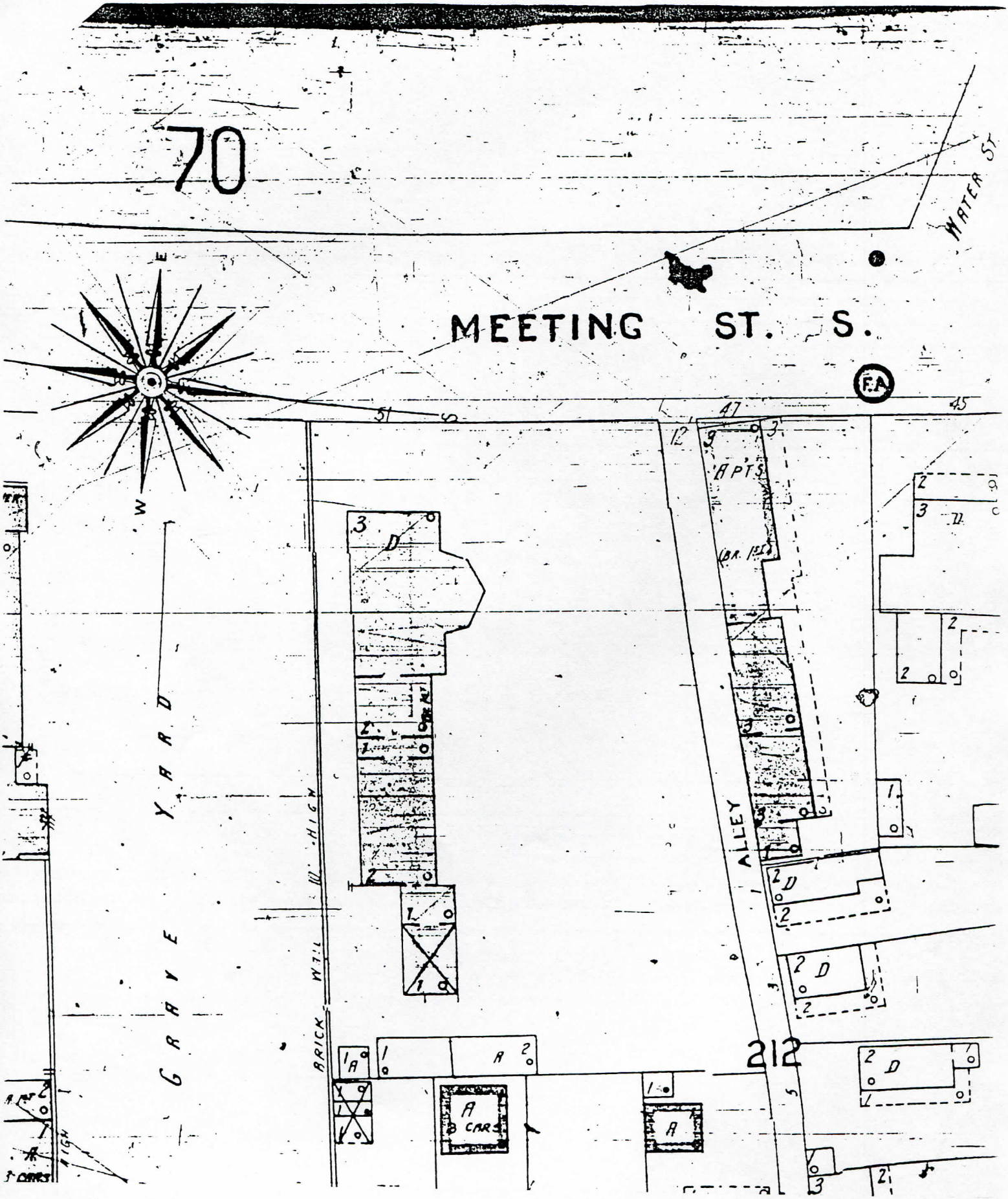


Figure 13

Sanborn fire insurance map, 1902

In 1919 the house was sold to Mr. and Mrs. Francis Pelzer. They continued the use of the house as a private dwelling, and further altered to building to accommodate modern conveniences. In addition to numerous interior alterations, the removed a portion of the old stable to construct a squash court.

Many of the grand houses of the 18th and 19th centuries suffered from neglect, if not abuse, during this period. Ironically, many old dwellings avoided razing because of Charleston's lack of progress. Nonetheless, it was misuse and neglect of such structures as the Joseph Manigault house that resulted in the birth of historic preservation in Charleston in the 1930s; the city remains at the forefront of a complex and challenging preservation movement. Historic Charleston Foundation purchased the Russell house in 1955 with locally raised funds. It served as the Foundation's headquarters and center of the preservation movement for the next 37 years. It was also opened to the public in 1956. The house was designated a National Historic Landmark in 1974, and Curator J. Thomas Savage was hired in 1981. Hurricane Hugo dealt yet another heavy physical blow to the house in 1989, and emergency repairs were undertaken. The present project represents a synthesis of a variety of restoration efforts, designed to return Nathaniel Russell's mansion to its original architectural distinction.

CHAPTER III

Fieldwork

Site Description

The property currently numbered 51 Meeting Street was built on lot 247 of the Grand Modell, Charleston's 1680 town plan. The lot retains original dimensions and has never been subdivided. The site measures 123 feet across the front and is 231 feet deep. Three sides of the property, the east, north, and west, are perpendicular; these bound Meeting Street, First Scots Presbyterian church, and the back of King Street properties. The south boundary follows Price's Alley, which is a filled creekbed; this proceeds southwest at an angle, making the rear property line 147 feet long.

The 1808 Adam style house fronts, but does not abut, Meeting Street. Directly behind the three story single house, and extending almost to the rear property line, are a series of service buildings. These include a two–story kitchen and slave quarters, a two–story infill which connects the main house and kitchen, and portions of a brick stable building, later converted to storage with wooden infill. The structures are separated from the northern property line by a shell–lined driveway. The entire southern portion of the property is occupied by a formal garden. The present garden configuration dates to 1981 and was designed by Rudy Favretti. The garden is marked by a number of large, old trees and, with the exception of an oval grassed area in the rear third of the yard, is quite shady and contains dense vegetation of all types. Though lovely, the garden greatly reduced visibility for grid layout and access for excavation. The entire property is surrounded by brick walls; the space on the interior of these walls was considered the site limits.

Field Methodology

Because of anticipated long–term study, the project began in 1994 with the establishment of a Chicago grid over the site. The key stake, arbitrarily designated N100E100, was placed in the inside southwest corner of the garden, adjacent to the interior corner of the brick wall. A sloping buttress made actual placement of a stake here impossible, but measurements for the initial north/south line along the west wall were made from the true edge of the brick wall, above the point where the buttress begins to slope outward (about 1.0 feet above the ground surface). Grid points were initially placed along the west wall at 10 foot intervals, and grid point establishment proceeded from this point.

From the first stake onward, dense vegetation and efforts to minimize its alteration posed problems. Shrubbery near the ground made it difficult to pull the tape straight and taut, while tall plants greatly obscured visibility with the transit. The establishment of units in various parts of the

site entailed several transit moves to get around large trees. Further, the vegetation often required that nails be set in by lining up on the plumb bob string, rather than actually viewing the nail and the ground surface. For these reasons, the 1994 grid locations were likely inaccurate. To minimize this problem, the locations of units were also measured relative to permanent landmarks on the site. Also, a number of impermeable site features – paved areas, large trees and their root systems, etc. meant that unit location was often inflexible. For these reasons, location/coordinates of many units were odd numbers.

After the summer 1994 fieldwork and the driveway fieldwork were completed, there appeared to be some disagreement and/or inaccuracies between grid coordinates for the two projects and existing survey plats of the property. These measurements were re-checked in 1995; further, a new plat of the property suggests that the rear wall is not completely straight. It is parallel to the Meeting Street wall from the southwest corner north about thirty feet; at this point it angles slightly to the west. This means that the edge of the wall at the northwest corner of the property is actually 97 grid east. Previous coordinates, designated by measuring from the wall, are thus incorrect, but their coordinate names were not changed. With the new survey maps, unit locations shown on figure 8 are now accurate.

These problems persisted in 1995. In order to minimize inaccuracy, a number of the 1994 grid points were remeasured in 1995, and unit coordinates were rechecked relative to absolute measurements. The system of recording site specific locations while maintaining the Chicago grid coordinate system was continued. Grid coordinates and the precise methodology for unit placement is discussed separately for each unit.

Vertical control was easier to maintain, and continued the 1994 system. Three temporary datum points were established during the course of the 1994 projects. Reference point 1 was a mark placed on the sidewalk adjacent to the southeast corner of the northern gatepost leading to the front door. Reference point 2 was a small X placed on the westernmost point of the brick edging around the circular garden bed (see figure 14). Reference point 3 was established for the driveway excavations, as an X on the southeast corner of the northern gatepost leading to the driveway. All measurements on site were taken with transit and stadia relative to one of these points. All of the summer 1995 excavations used RP2. The three points were, in turn, tied into the U.S.G.S. marker located in the doorway of the U.S. Post Office at the corner of Meeting and Broad streets. The absolute elevation of RP1 is 8.37 feet, RP2 is 7.86 feet, and RP3 is 8.49 feet above mean sea leve (msl). All elevations in this report are listed as feet above mean sea level. Measurements at the site, both horizontally and vertically, were taken in feet and tenths of feet, to correspond with historic measurements.

All excavations were conducted by hand using shovels and trowels (figure 15). Excavations followed natural zones, and deep zones were subdivided into arbitrary levels. All materials were dry-screened through 1/4 inch mesh until soil moisture hampered visibility. These were then water-screened. Given the low elevation of the site and the depth of most of the units, a relatively large proportion of the proveniences received some water screening. Soil samples were recovered from most natural proveniences.

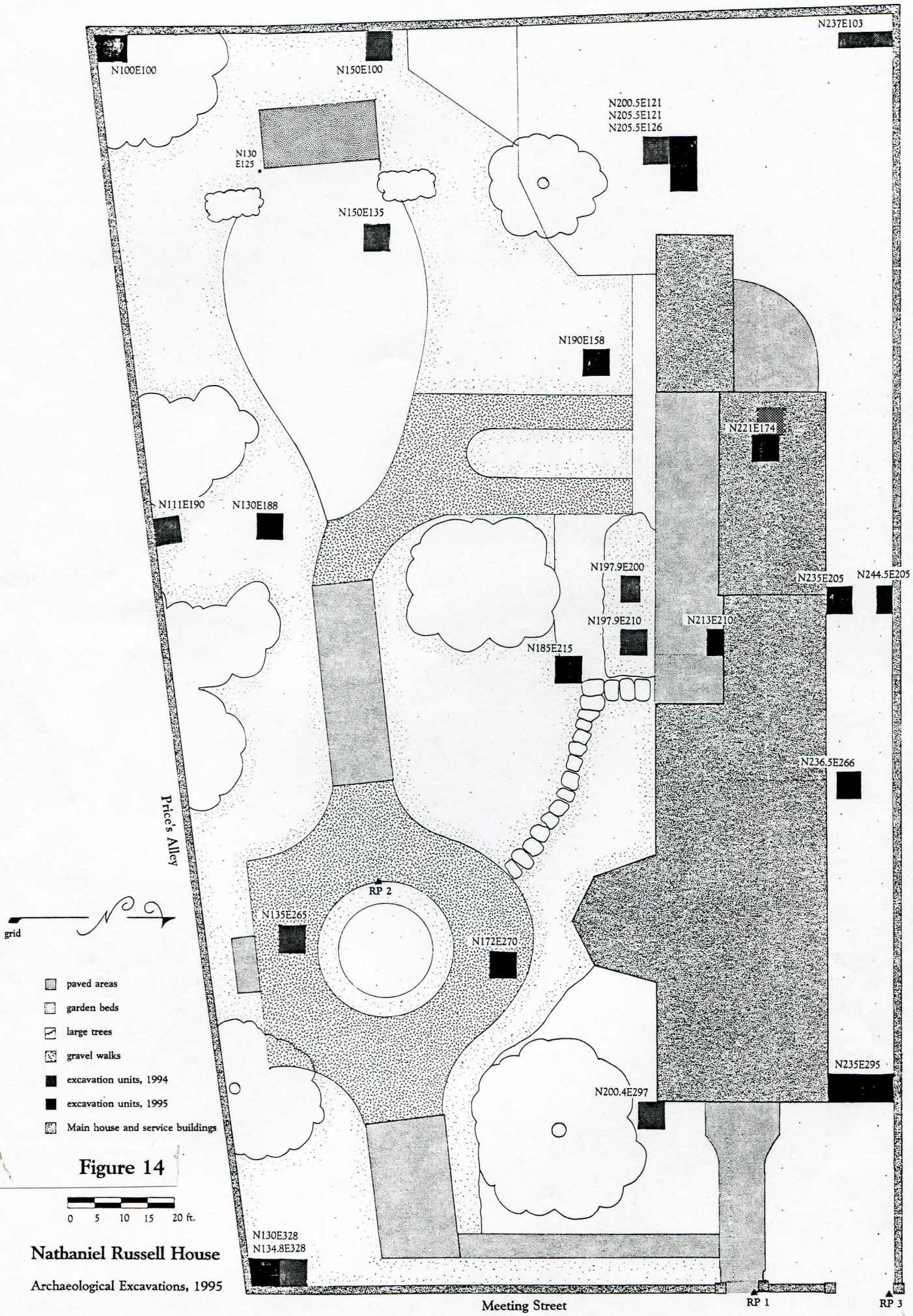


Figure 14

Nathaniel Russell House

Archaeological Excavations, 1995

Figure 15: Excavation in progress
a) Virginia Pierce works in the garden in N130E188, avoiding the roots of a crape myrtle
b) Catherine Orvin, Natasha Ries and Henry Cleveland screen soil from N221E174, adjacent to ticket counter door

Record keeping entailed narrative notes and completion of a variety of forms on a daily basis. Planview and profile maps were made for each unit, as appropriate. Material from each designated provenience were bagged and tagged separately; a field specimen number (FS#) was assigned to each in ordinal fashion. Photographs were taken in black and white (T−max 100) and color slide (Kodachrome 200 professional film), and processed for archival stability.

Dating Techniques

All encountered archaeological deposits were dated on the basis of stratigraphic point of initiation and Terminus Post Quem. Terminus Post Quem, or TPQ, is the principal which states that no provenience can be deposited earlier than the invention date of the latest dating item in the provenience. A provenience can be deposited any time after that date; therefore, date of deposition is rarely the same as the TPQ date.

Stratigraphic point of initiation is based on the Law of Superimposition, the geological principal that soils gradually accumulate on sites of human occupation. Therefore, the deepest deposit is the earliest, with deposits occurring later as one approaches the top of the ground. Relative dates are therefore assigned according to the profile map and the level of the top (or point of initiation) of each deposit. Thus the date of deposition assigned to each archaeological provenience is based on both techniques and is determined by considering each provenience relative to those around it.

On sites such as Russell where dispersed test units are excavated, additional emphasis is placed on recognizing stratigraphy, in terms of dating, depth, artifact content, and physical characteristics, across broad areas of the site. Following a determination of date of deposition for each provenience, appropriate temporal divisions are determined for a site. In Charleston, site assemblages may be subdivided temporally according to changes in site ownership or usage, general historical trends within the city, or changes in world technology. After the parameters for appropriate temporal subdivision is determined, each individual provenience is placed in the appropriate group. These temporal subdivisions then form the basis for discussion of artifact patterns (found in Chapter IV), and for intersite comparison (contained in Chapter V).

In addition to these dating systems, a new absolute dating system was employed with the Russell material. Dr. Douglas Frink has developed a new dating procedure based on the biochemical degradation of organic carbon. This procedure, termed the "Oxidizable Carbon Ratio" or OCR, produces age estimates comparable to 14C age estimates. The interdependent dynamics of climate, biota, relief, parent material, and time affect the evolution of soils and archaeological materials within the soil. Chemical analysis of archaeological charcoal deposits demonstrate that charcoal is also subject to environmental degradation, and changes through time. The OCR procedure describes this change by simple chemical carbon analyses to determine the ratio of total carbon to readily oxidizable carbon, and the environmental factors influencing the rate of biochemical degradation (Frink 1994). In simple procedural terms, an OCR date is derived from small soil samples obtained from carefully controlled excavations. This relatively new technique

has resulted in a large percentage of dates which correspond favorably to projected dates based on TPQ on historic sites. The Russell house represents the first urban site analyzed by Dr. Frink, with interesting results (see Appendix III).

Description of Excavated Proveniences

The ten units excavated during the summer of 1995 each exhibited distinct stratigraphy and artifact assemblages. The rationale for their location varied, as did the precise methodology of their excavation. Each unit, the rationale for location, and the reasons for specific methodology, will be described separately. Determined dates of deposition for proveniences within each unit will be discussed in preliminary fashion for each unit. The units excavated in the driveway in February 1995 will also be discussed in detail. Units from the 1994 excavation have been described in a previous publication (Zierden 1995), but are summarized here for context of the present project.

Summary of the 1994 Units

The ten units excavated in 1994 are described in detail in the previous report, and these rather mundane details will not be presented here. However the results of last year's work was central to the '95 project, from the location of new units to the interpretation of their contents. The ten units and their "highlights" are summarized below, in order to place the present discussion in context.

N197.9E200 and N197.9E210: These two units were located in the flower bed adjacent to the kitchen and were the first units excavated. These were expected to yield deep, complex, refuse–laden strata, reflecting workyard activities; such was not the case. Instead, the stratigraphy was very shallow, there were relatively few artifacts, and the dark soil ended abruptly on a hard red clay surface. Barbara Sarudy suggested that this may mean that the area was part of the formal garden. The zone 3 above the clay was antebellum.

N150E100: This unit was located adjacent to the back property wall, to date the wall and to intersect a small building shown on the 1888 Sanborn map. The unit revealed some articulated brick rubble, probably associated with this structure, in the upper zones, and some deep, dark features full of debris from the mid–19th century. Beneath this was a zone deposit from the Russell era, followed by an early 19th century builders trench for the wall.

N111E190: This unit was located along the south wall, oriented to it, designed to determine the date of the wall. The predominant feature was 19th century zone deposit of refuse and architectural rubble. The most significant feature, located at the top of zone 2, was feature 12, a square foundation associated with extended stretchers from the wall itself. This has been interpreted as a possible foundation for a dividing garden wall. Beneath this was an early 19th century zone, followed by a dense layer of brick rubble, probably from the demolished tenement building. The base of the brick wall and associated builders trench was not encountered, but the

position of the wall relative to zone 4 suggests that the wall is at least contemporary with the Russell house.

N150E135: This unit was located in the center of the rear lawn, and the late 19th century zones contained quantities of slag. The northern half of the unit contained layers of brick rubble but no intact foundations. The water table was encountered 3' below surface, so excavations were not completed to sterile in this unit.

N200.4E297: This unit was located adjacent to the front (southeast) corner of the main house. It was suggested that such a unit might reveal evidence of a boundary between the front yard and the formal garden; no concrete evidence of this was encountered. A series of small features which might be planting holes was encountered, as well as the builders trench for the main house.

N135E265: This unit was located in the proposed formal garden area. The unit was also possibly located in the footprint of the 18th century tenement. The unit revealed early deposits relatively close to the surface. Feature 19 was an early 19th century building rubble pocket, and the underlying feature 18 dated to the late 18th century. Feature 18 may be a well construction pit, and this was not completely excavated.

N134.8E328: This deep, complex unit was located near the front (southeast) corner of the site. The unit revealed seven zones, dating from 1730 through 1890. The deepest three deposits appear to predate the tenement, and may be creek fill. These are followed by demolition rubble from the tenement, and subsequent refuse accumulation through the 19th century. The unit also revealed three superimposed brick foundations for the front wall, from the 18th, early 19th, and early 20th centuries.

N200.5E121: This unit was excavated in the rear driveway to locate the small room adjacent to the carriage house. This unit encountered a series of late 19th century zones, the exterior southwest corner of the room, and two large features dating to the early 19th century. The earlier was a homogenous dark grey soil, while the latter was this same soil mottled with yellow sand, interpreted as the builders trench for the foundation. The foundation and builders trench were deep, and the water table was encountered before the base of the foundation.

N273E103: This trench was located in the northwest corner of the site, intended to encounter the privy building shown on the 1870 map. The unit revealed a poorly made foundation along the south and east walls. A deep deposit of late 19th century refuse appeared to be privy fill, but was located outside the foundation. Excavation were suspended 2.0 feet below the surface due to the instability of the deposit.

Driveway Excavations

Four units were excavated between February 6 and February 17, 1995. This project was designed to mitigate damage from drainage improvement efforts, including regrading the upper levels and installing a new downspout. Installation of the HVAC system in 1990 necessitated excavation of a wide trench down the center of the driveway for installation of the conduit lines. Photographs and profile maps prepared by Fred Andrus show that a large portion of the center of the drive was destroyed by the conduit excavation, but remaining portions on the side showed intact and highly complex stratigraphy.

Several goals were planned for this small project. The first was to encounter an undisturbed area of the zone deposits recorded in 1990 and to isolate these and recover datable artifacts in a controlled manner. Second was to explore the north property wall, the interface of the kitchen and hall, and the drain system enountered during the 1990 work. Work at the front corner of the house would mitigate potential damage caused by installation of a downspout and reveal the main house foundation for the architects. Excavation at the infill/kitchen interface would reveal both foundations and hopefully encounter a datable builders trench for the hyphen. Excavations adjacent to the north wall would continue the exploration of dates of construction for property walls, while units which transected the drive should reveal the brick drain.

The four driveway units were located and measured relative to permanent site features as well as to the previously established grid. The units were measured from the northwest corner of the property, parallel to the north wall of the main house using tapes, and grid coordinates were assigned relative to the grid coordinates of this northeast corner. These measurements were re-checked in June, in light of the new site map.

N235E295 The first unit was a trench five feet wide, running the width of the driveway, 12.1 feet in length. The southeast corner of the unit was flush with the northeast corner of the main house. The grid coordinates were assigned relative to the northwest corner; this corner is in fact three feet west of the southwest corner, due to its slope. Despite this discovery in June, the coordinates assigned in February were not changed. The measurement made relative to the main house is correct.

After removal of the present crushed oyster surface and a sandy clay layer, designated zone 1, the conduit trench was clearly visible in both planview and profile. The feature was much wider and deeper than anticipated, initiating about 1 foot north of the main house and continuing to within three feet of the north property wall. The conduit trench was marked by highly mottled grey-brown and gold sand, with pea gravel, mortar, and brick rubble. The resulting fill was very hard, very compact, and had a cemented feel to it; this may be partially responsible for the drainage problem. Samples of the trench fill were screened, while other portions were hand collected and discarded. The southern 7 feet of the trench was excavated to a depth of about 2 feet below surface. The small area of soil south of the conduit trench was disturbed as well. In the interest of time, excavation of this area was halted, and controlled excavation focused on the northern five feet of the unit, three feet of which was outside the conduit trench and contained

undisturbed stratigraphy.

Within the undisturbed portion of the unit, excavation proceeded with a series of zones. Beneath zone 1 was a layer of pea gravel in dark soil, identical to the zone encountered in the rear parking area. At the base of this, a row of brick headers was noted, marking a garden bed parallel to the property wall. This was designated feature 35. The bricks were located 1.2 feet south of the north brick wall. At this point, the soil on the inside of feature 35 appeared different from that on the exterior (south) side, so the two were segregated.

Excavations continued with the zone deposits on the outside, eventually fully exposing feature 35. A narrow band of medium grey dirt was designated zone 3. At the base of this, a narrow (.3 feet wide) builders trench for feature 35 was encountered. This was designated feature 35 trench, and excavated to the base of the bricks. Beside this, and predating it, was a series of soil lenses, excavated as zone 4. They included a lense of shell and coal dust, a narrow (.15') band of yellow mottled sand, and a narrow (.2') band of black sand. Excavation of feature 35 trench and zone 4 fully exposed the brick border.

Zone 5 was encountered beneath these soil deposits, and continued beneath the brick itself; therefore the artifacts in zone 5 provide a TPQ for feature 35, as well. Zone 5 was a lense of grey sand and fine crushed shell, evidently a previous paving event. Below zone 5 was a deep deposit of gold and grey mottled sand. The first foot was excavated as zone 6. At this point, however, the profile suggested that this mottled soil might in fact be a large feature, sloping toward the main house, as the area of mottled soil was adjacent to an area of grey sand with slight gold mottling. The mottled soil was redefined as feature 38, and appeared to be a large builders trench. It later proved to be the builders trench to the brick drain.

At this point, the unit was cleaned and photographed (figure 16). The dark topsoil on the inside of feature 35 was designated feature 36. This proved to be topsoil for garden planting. Feature 36 bottomed onto zone 5, the fine crushed shell and grey sand. At this point the bricks were removed and the remaining soil block to the wall was excavated. This included zone 5, an interface of zone 5 and 6, and zone 6. At this point, a third deposit, adjacent to the wall, was defined. Feature 37 was an area of loose tan sand with brick and mortar rubble, and appears to be the builders trench to the north property wall. Beginning at a point 2.3 feet below the surface, feature 37, feature 38, and zone 7 were excavated separately to a point 3.0 feet below surface. At this point the base of the brick wall was encountered.

The soil profiles were recorded at this point, clearly showing features 37 and 38 as distinct events, intruding into the yellow and grey sands of zone 7. Zone 7 was originally defined as the grey sand only, but upon excavation the yellow sand appeared to be part of this deposit.

At the base of this excavation, a feature was clearly visible beneath the brick wall. This was a roughly rectangular pit with rounded corners. The feature was well defined against orange clay. The fill was highly mottled lenses of light grey, yellow, and orange sand. The feature stepped in a bit, and then had straight, slightly sloping sides and a flat bottom. The mottled fill was the

N235E295, northern section
West Profile

a – crushed oyster; zone 1
b – pea gravel and black dirt; zone 2
c – medium grey sand
d – dark soil with oyster shell and coal dust
e – yellow mottled sand
f – dark grey and gold mottled sand; feature 35 trench
g – black sand; zone 4
h – fine crushed shell and grey sand; zone 5
h'– same as h; excavated as zone 5/6 interface
i – loose black topsoil; feature 36
j – gold sand, finely mottled with grey sand; exc as zone 6
k – medium grey sand mottled with gold; exc as zone 6
l – loose tan sand with brick and mortar; feature 37
m – dark grey homogenous sand; zone 7

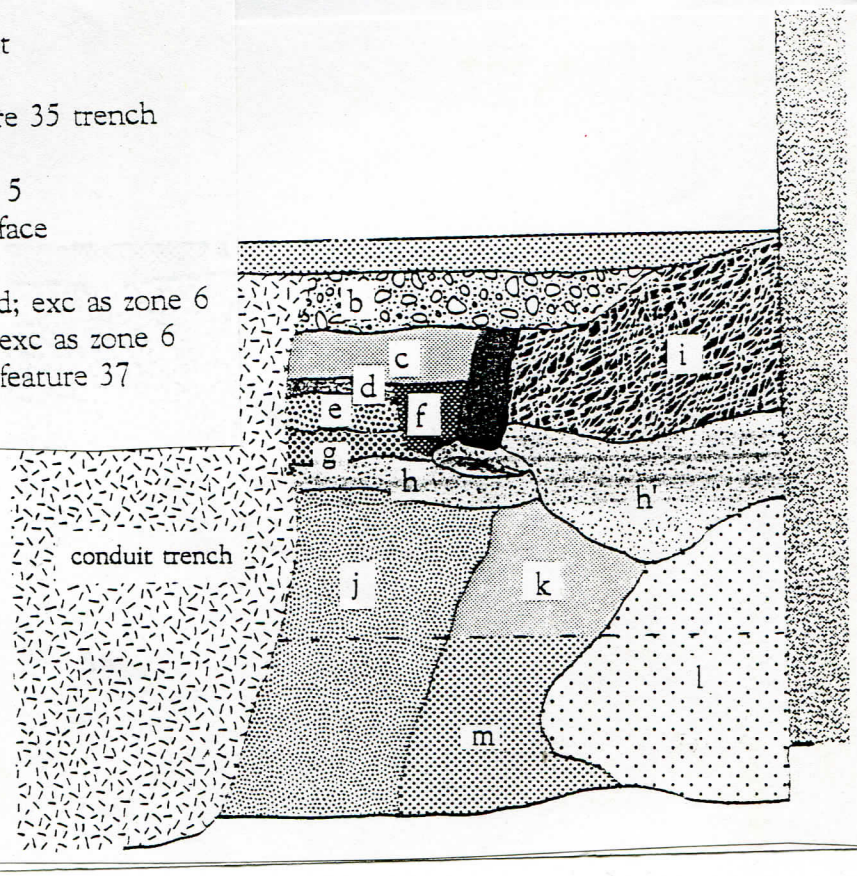


Figure 16

same throughout. Feature 39 was originally defined as a large post-in-hole, possibly reflecting an earlier fence line, but there was no post visible in the feature or in its profile. The exact purpose of feature 39, then, remains a mystery.

Excavation of the conduit trench was then completed in this portion of the unit, and feature 38 was redefined. Feature 38 continued beneath the conduit trench, and a sample was excavated to the water table. At this point, the remainder of the conduit trench was excavated quickly in an attempt to locate the brick drain. The rounded top of the brick vault was encountered at 6.38' msl, 3.0 feet below ground surface. In the interest of time, excavation continued on the north side of the drain only. The base of the drain was encountered at 4.35' msl. The rounded top of the brick drain gave way to straight sides. The brick drain was defined as feature 46. Feature 46 continued through feature 38, which is tentatively interpreted as a builders trench for the drain. The base of feature 38 was encountered at 4.64' msl. A narrow (.6 feet wide) builders trench continued adjacent to the drain. This was slightly darker grey soil mottled with orange, and it was defined as feature 47 and excavated separately to the base of the bricks. At this point, the water table was breached and excavations were halted.

N235E205: This unit was a 5 foot unit located adjacent to the interface of the kitchen building and infill hall. Zone 1, disturbed by 1990 construction and earlier sewer lines, was discarded to a depth of 1.0 feet below surface; this exposed a brick border garden along the south side of the drive. This feature was designated feature 42, and is comparable in size, style, and elevation to feature 35. Beneath feature 42 was a thick pad of soft mortar, defined as feature 41. The construction trench for a pvc sewer pipe occupied the center portion of the unit, truncating feature 41 and a highly mottled soil deposit defined as feature 40. When the pvc pipe trench was excavated, there were small portions of the mottled soil of feature 40 remaining in the northwest and northeast corner of the unit, and southwest of the pipe trench. Each of these three sections was excavated separately to the level of the pvc conduit pipe, 2.5 feet below surface. This left the base of the conduit trench in sterile subsoil. Excavation of this unit then focused on the features and deposits in the southern portion of the unit.

Like feature 35 to the north, the interior of feature 42 was a soft, loose black topsoil, but here it appeared to be disturbed by a variety of pipes and wires located adjacent to the kitchen building. In this case, this interior soil received the same designation (feature 42), and was excavated as feature 42 interior. There was no builders trench for feature 42 extant in this unit. Prior to excavating this deposit, the brick of feature 42 was removed. Directly beneath the feature 42 brick, and above the feature 41 mortar, there was thin zone of dark grey sand with crushed oyster shell. This was defined as zone 5, as it appeared comparable to these deposits in N235E295. This zone was .15 feet thick.

Next excavated was feature 41, the mortar layer. This feature was thicker to the north, away from the building. There were pockets of loose dark dirt adjacent to the kitchen walls, and these were excavated separately. Beneath feature 41, the soil was a mottled brown and yellow sand, with a clear edge 2.1 feet north of the south wall, designated feature 45. Less well defined was a builders trench adjacent to the infill structure, extending out 1.3 feet. This was designated

feature 43; it contained proportionately more dark dirt, was looser, and contained slate and other debris. The soil was even darker in the southwestern corner of the unit, continuing in an L-shape along the west wall of the unit. This was defined as "feature 43 disturbance" and was excavated separately. Beneath this, a more clearly defined builders trench adjacent to the kitchen, .9 feet wide, was defined as feature 44 (figure 17). Each of these features was excavated in a number of arbitrary levels (3 for feature 44 and 4 for feature 45). Feature 45 level 1 sloped in toward the kitchen, resolving into a linear area averaging .7 feet in width (figure 17). Beneath the northern portion of feature 45 level 1, intruding into sterile, was a clearly defined rectangular posthole with a round post in the center. This was defined as feature 48, and the posthold and postmold were excavated separately. After this was completed, a sample of feature 45 was excavated an additional 2.0 feet, tracing the foundation of the infill. Excavations halted at 5.37' msl, and the base of the foundation was not encountered. This small test was done hastily in advance of rain, and so visibility was limited. The base of feature 44 was not encountered at all. Therefore, the precise depth, dimensions, and depositional sequence of these features remains unknown.

N244.5E205: a parallel 3 by 5 unit was excavated along the north wall. This was designed to encounter another section of the stratigraphy defined in N235E295, and to refine dates of deposition without reexcavating the conduit trench. Zone 1 was excavated and discarded; zone 1 level 2 extended over the entire unit as well, and its excavation exposed the top of feature 35. As was the case with the easterly trench, the 1990 conduit trench was much wider than expected, leaving only a .3 foot wide section of undisturbed stratigraphy outside of feature 35. Contained in this narrow area was zone 2, the pea gravel/black dirt paving, and zone 3, a lense of dark grey-brown dirt, which may correspond to zone 4 in the previous unit. Zone 3 continued to the base of the feature 35 bricks, so there was no visible builders trench in this section of the wall.

Visible on the outside of feature 35 was zone 5, located between the bricks and the feature 41 mortar. As in the case of the southerly unit, the mortar pad was located outside, and underneath feature 35, as well as on the unit's interior (figure 18). The two units would suggest that this mortar continued all the way across the drive, and was removed in the center when the conduit trench was excavated. The east/west dimensions of feature 41 remain unknown.

At this point, feature 36, the topsoil inside feature 35, was excavated to the top of zone 5. This time, feature 35 was left in place. Zone 5 was excavated inside feature 35, followed by feature 41. Feature 41 was not as thick or as hard in this unit as in the more southerly deposit. Feature 41 appears to continue to the northern property wall, though there were pockets where the mortar was absent and a dark soil was visible instead. At the base of this mortar level, a tan sand/mortar mixture was encountered. The dark pockets adjacent to the wall became a linear feature, full of large brick fragments. At this point, it appears that the wall was rebuilt, for the brickwork is displaced about 1/2 brick width (figure 18). These configurations were mapped and photographed, but due to time constraints excavation of the unit was halted at this point. The builders trench appears to be from a rebuilding episode, and dates after 1840. Further work in this unit is warranted.

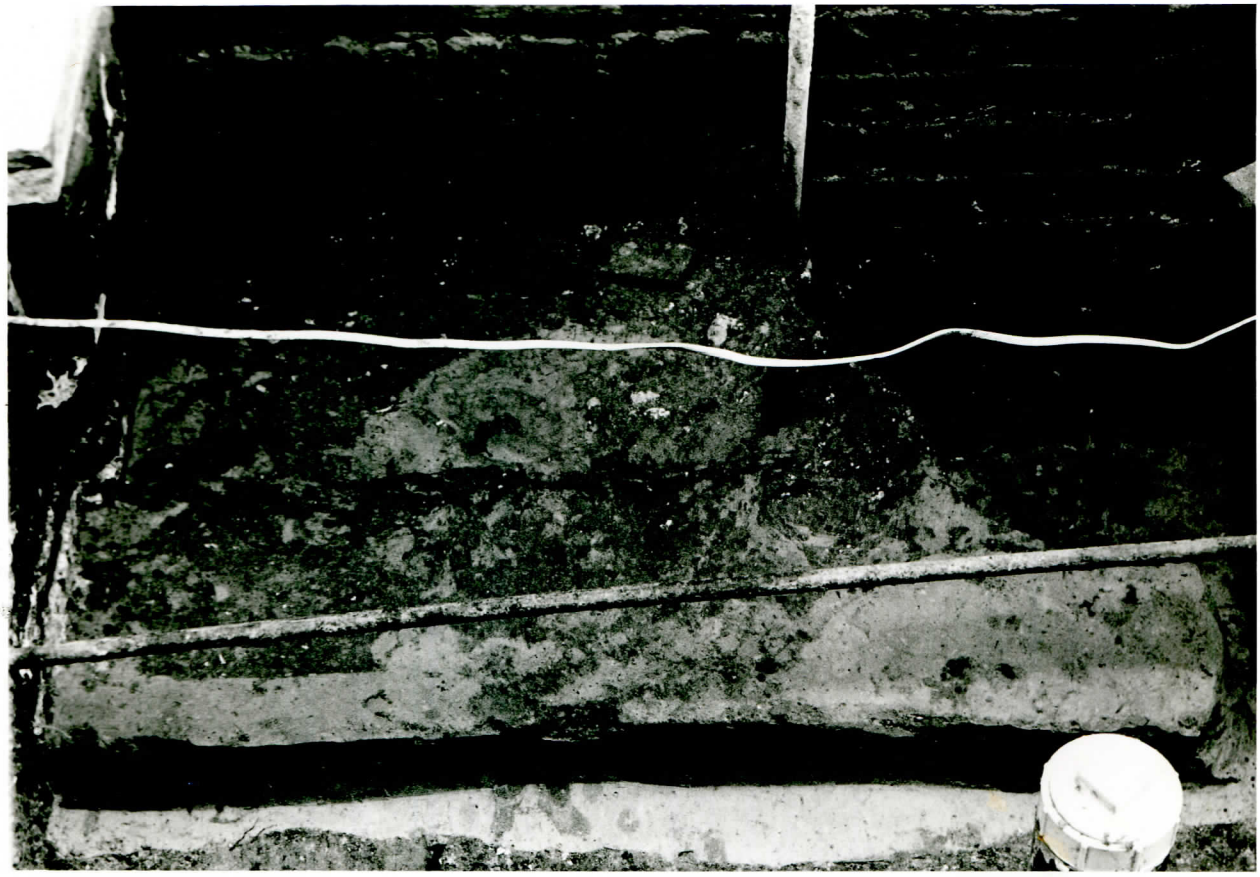
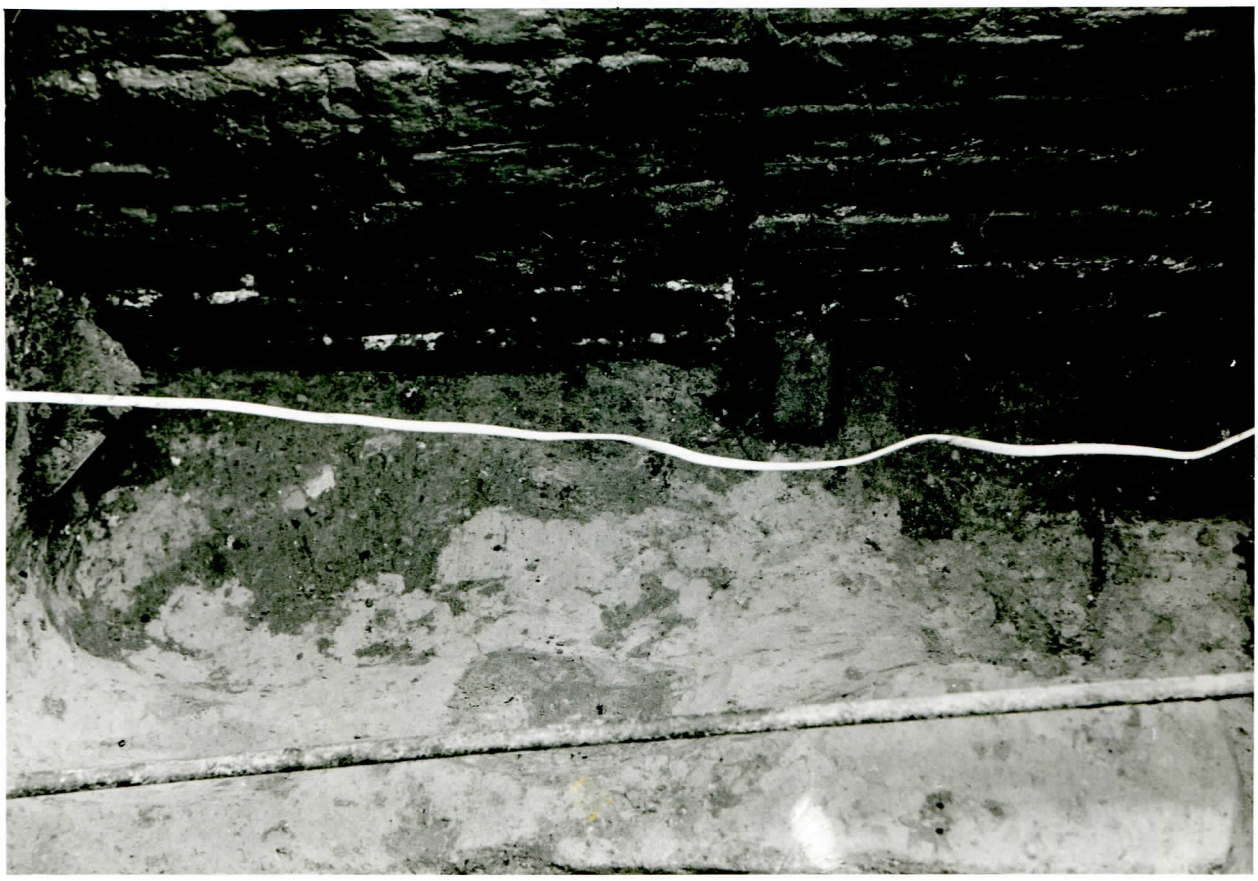


Figure 17 N235E205, top fea 43, 44; pvc pipe visible in foreground.
N235E205, top fea 45 level 3; fea 44 level 2; fea 48.



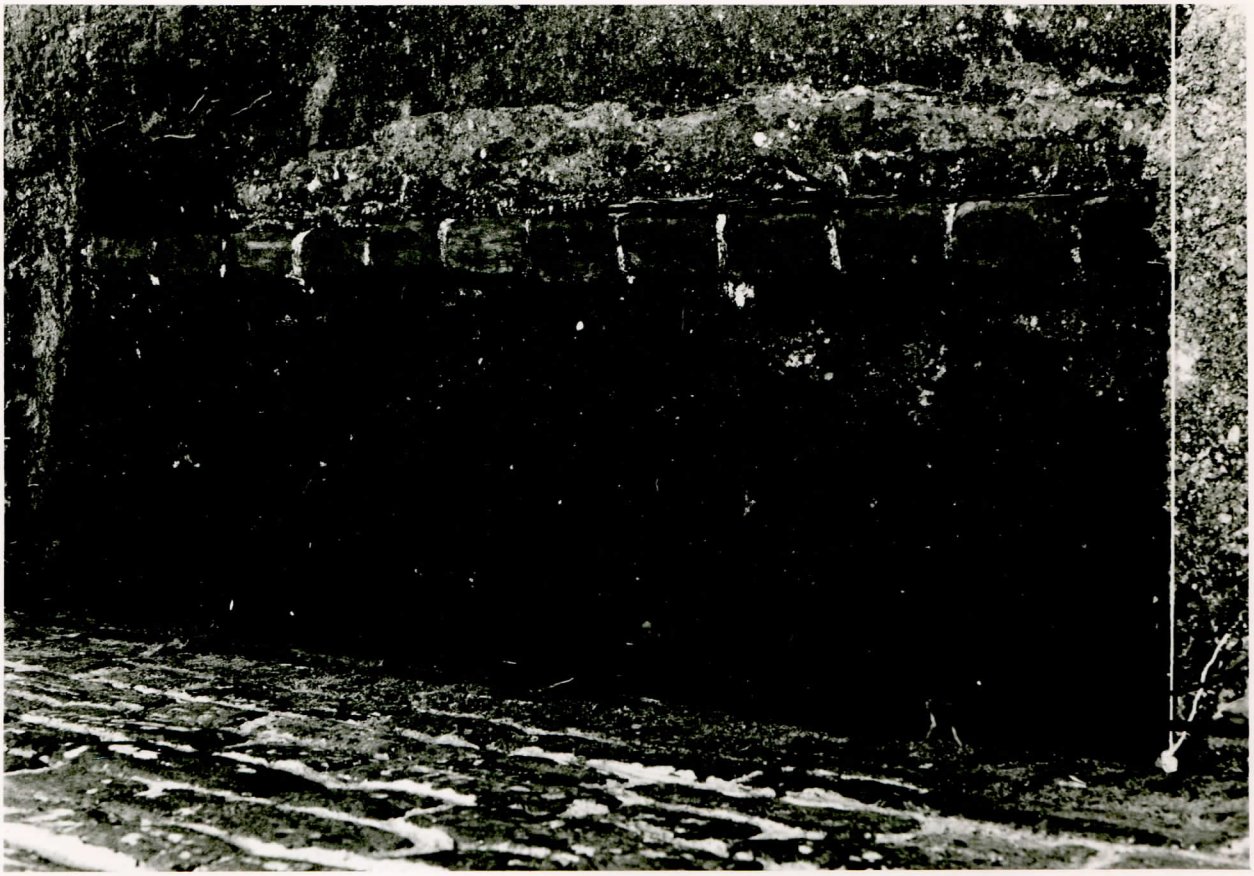


Figure 18

a) N244.5E205, feature 35 before excavation; feature 41 is visible beneath the bricks

b) feature 35 after excavation, showing rebuilding seam in north wall

N236.5E266.5: The final unit excavated was a 5−foot unit adjacent to the coal chute, designed to encounter the spillway for the drain noted and photographed by Fred Andrus in 1990. This unit was excavated 3.0 feet below surface. The entire unit was severely disturbed to this point, and included numerous large bricks and brick fragments. In the interest of time, excavations were suspended.

Dating the Driveway Proveniences

The small units excavated, and the even smaller portions that were undisturbed nonetheless provided a wealth of information on this portion of the site and how it was used through time. Most interesting are the border beds, feature 35 to the north and feature 42 to the south. These are in fact extant above the present ground surface near the front of the drive, and currently planted the length of the driveway with evergreen vegetation. Upon discovery, their age became a question of great interest. The construction can be dated by the feature 35 builders trench, and by the TPQ of the underlying zone 5. In N235E295 this zone contained flow blue whiteware, and in N244.5E295 it contained sprigged whiteware, both ceramics providing a TPQ of 1840, and white porcelain, with a manufacture date of 1851. This suggests that the border beds were created no earlier than the 1850s, and quite likely by the Allstons after 1857. The mortar layer, feature 41, appears to date to the 1840s, based on the presence of sprigged whiteware; the repair to the north property wall may have occurred at this time. The dark topsoil inside feature 35 and feature 42 contained late 19th/early 20th century artifacts, indicating that the garden beds were used and replanted throughout the remainder of the 19th century, and probably into this century, as well. All of the above zones (2 through 4) accumulated subsequent to construction of the border beds in the 1850s, even though they contain only early 19th century artifacts.

Features 37, 38 and 39 are all early features, dating to construction of the house or earlier. Feature 37, the construction trench for the north property wall, contained creamware as the latest artifact, indicating that it must date after 1760. Feature 38, which is most likely the builders trench for the drain, and feature 47, the deeper builders trench adjacent to the drain likewise contained creamware as the latest artifact. Several features encountered during the 1994 excavations associated with house construction contained creamware (1760) and pearlware (1780) as the latest artifacts: feature 13, construction trench for the house; feature 15, construction trench for the back wall; and zone 4, builders trench for the front wall. This would suggest that feature 37 and 38 were constructed at the time of the main house, though it is always possible that they were constructed at a later date.

Feature 39, the deep pit located beneath the north brick wall, contained white saltglazed stoneware, providing a TPQ of 1740. This, plus its stratigraphic position, suggests that it may predate the Russell house. The exact function of this feature has not been determined.

The builders trenches for the kitchen and hall were more problematic, and the present project did little to resolve the question of date of construction for these two buildings. Reasons

for this include modern disturbances along the wall which were difficult to isolate and define, lack of clear definition to the trench features, and lack of time to excavate the lower levels completely. Feature 43, which was defined as a possibly later builders trench for the infill, contained transfer printed whiteware, providing a TPQ of 1820–1830. Below this, feature 44, the builders trench for the kitchen, contained undecorated whiteware in the upper levels and blue on white pearlware in the lower levels. This would suggest that the kitchen was original to the house, and perhaps altered or repaired at a later date. Feature 45, defined as the builders trench for the infill, contained early ceramics only, with creamware as the latest artifact. It is thus possble that this wall is original to the house.

June 1995 Excavations

Ten 5–foot units were excavated in the summer of 1995. This third project was designed to further explore the physical features encountered in 1994, and to answer specific questions raised during the architectural study by Willie Graham and Orlando Ridout, and to contribute to Barbara Sarudy's research on the garden. The '95 units were selected to answer some of these specific questions, while simultaneously providing data on the general archaeological questions. Unit location was in fact the product of meetings with Barbara Sarudy, Robert Leath, Tom Savage and Ridout and Graham. These scholars selected and prioritized unit location based on unanswered questions and developing interpretations of site layout. These proposed locations were refined in the field, based on extant site features such as plantings, and the requirements of visitor traffic flow.

Every effort was made to minimize impact to the Russell house garden. Bush pruning and root cutting were kept to a minimum, and a single path was utilized through garden beds where necessary. All units were backfilled by hand, and heavy rubble was placed at the bottom of the unit and clean topsoil saved for the top. Following our efforts, all units were dressed and restored by Minh Nguyen and his staff. Some units required particular attention; unit N172E270 in the garden path required special care with the pea gravel and with leveling. Prior to excavation, the pea gravel was collected and set aside on plastic sheeting. After unit excavation, it was backfilled by the archaeological crew. It was then topdressed with clean sand fill before replacement of the pea gravel. Likewise, N221E174 under the kitchen required special care. The plants were removed from the herb garden by the master gardeners and set aside before excavation began. The large pile of coal debris had to be managed at all times to minimize impact on traffic flow. Minh and his staff covered all backfilled units with pinestraw after the project was complete, and one week later the only visible signs of our presence was some squashed–looking daylillies in the vicinity of N130E188.

N130E188: This unit was located in a flower bed of daylillies, between the grassed area and the footpath in the rear third of the site. The unit was placed to further explore the hypothesized garden wall or boundary in this location. The small brick foundation discovered in N111E190 is tentatively interpreted as a foundation for an internal garden wall. Barbara Sarudy

suggests that such a wall would be perpendicular to the axis of the main house, and a projected line places the terminus just in front of the kitchen door. Probing along this line encountered a number of possible brick features at about 1.5 feet below surface. Unit N130E188 was located to intersect one of the positive probes. The stratigraphy in this unit proved to be comparable to that in N111E190, and no additional brick features were encountered.

The unit was located relative to established grid points N130E125, in place from the previous year's work. The transit was used to place grid points east of this point, and the unit was in the vicinity of a large crape myrtle tree, left in place during the excavations (see figure 15a). Excavation began with zone 1, which was retained and screened; zone 1 contained quantities of artifacts and mortar in this vicinity. The mortar was concentrated in the northeast corner. Zone 1 was a loamy black topsoil (2.5yr2/0), .6 to .8 feet in depth, excavated in two arbitrary levels. There were no modern artifacts recovered from the zone, and a TPQ of manganese glass (1870) suggests an early 20th century date of deposition. The density of artifacts encountered in this upper zone continued for the remainder of the unit, with the refuse dating principally to the second half of the 19th century. Zone 2 was a very dark gray sand (10yr3/1), mottled with some brown sand, with mortar and oyster shell. This zone was relatively shallow, .4 feet, but contained a dense concentration of material; domestic artifacts, bone, brick rubble, mortar, slate fragments, pantile fragments, and coal.

At the base of zone 2 level 1 a rectangular stain was noted in the center of the unit. The fill of this stain, designated Area A, was the dark grey–brown sand of zone 2 mottled with darker grey sand. This was excavated separately and interpreted as a planting hole. A second level of zone 2 was then excavated. Zone 2 level 1 had a TPQ of 1880 (gilded white porcelain), while level 2 contained undecorated whiteware in the paneled style popular in the mid–19th century. Based on these materials and stratigraphic position, it appears that the zone 2 deposits date to the late 19th century.

At the base of zone 2 the artifact concentration became even heavier, and included a number of large fragments of terra cotta roofing tile. This may account for the obstructions encountered by probing. A portion of zones 2 and 3 located beneath a pvc sprinkler pipe and the north wall were excavated separately; these soils contained fragments of a very late–style transfer printed whiteware plate.

These deposits were followed by zone 3, .5 feet deep and slightly more brown than the above zone (10yr2/2). Zone 3 was highest in the northeast corner and dropped toward the southwest, averaging from .3 to .5 feet. A sherd of "flow black" whiteware provided a TPQ of 1840. Artifact density remained high in zone 3. An abrupt soil color change marked the beginning of zone 4, a dark brown sand (10yr3/2). Artifacts in zone 4 level 1 were much sparser, and dated to the first half of the 19th century (TPQ 1850 from white porcelain). Lenses of yellowish sand (10yr5/6, 10yr5/1) were noted in zone 4. Brick rubble increased throughout zone 4, until a dense layer of whole bricks were encountered at the water table. Soils excavated around these bricks was designated zone 4 level 2, and had a TPQ of 1780 (hand painted pearlware). Zone 4 and the brick rubble were likewise encountered in unit N111E190, with comparable artifact

assemblages. These are interpreted as debris from demolition of the tenements, contemporaneous with construction of the Russell house. Unfortunately, the water table precluded efforts to excavate below the bricks. Unit N130E188, then, did not provide any new data on garden layout.

N185E215 The probing expedition in March which encountered a concentration of brick rubble in the vicinity of N130E188 also encountered an area of intact brick in the vicinity of N190E210, adjacent to the infill. A unit was located in the grassy area, south and east of the 1994 units which encountered the clay surface. Unit N185E215 was established simultaneous with N130E188, by beginning with the transit over N130E125. The transit was then located on the N130E183 nail, and a third point was established at N190E183. This point, which consisted of an ink mark on the brick border to the rose bed, was subsequently used to establish three units in this vicinity. The first was a 5 foot square at N185E215. This unit was adjacent to the garden path leading from the ticket office patio (and the joggling board), and thus received a good deal of visitor attention.

Excavation of this unit began with removal of sod and a few astilbe plants. The top two inches of zone 1 were discarded. Artifact density then increased, so screening and 100% retention began with zone 1 level 2. Soils throughout this unit were wet and difficult to screen; most required constant water screening. The wetness was due to heavy clay content and active sprinklers. The latest artifact in this deposit was manganese glass, with a TPQ of 1880. Zone 2 was a slightly lighter and browner sandy loam, and averaged .4 feet in depth. Zone 2 was excavated in two levels; at the base of level 1, .85' below surface, the pvc sprinkler was exposed. Zone 2 also had a TPQ of 1880 provided by manganese glass.

At this point the soil changed, and appeared to be the dark grey–brown sand of zone 2 mottled with red clay. This was excavated as zone 3, and was relatively shallow. Zone 3 contained gilded white porcelain and produced the first religious artifact associated with the Sisters' presence at the site; a small heart–shaped medal bearing the Lord's Prayer. Beneath zone 3 was the same level of red clay encountered in the 1994 excavations, N197.9E200 and N197.9E210. The hard red clay was examined by Richard Marks, who noted that the sand particles in the clay were rounded and uniform in size, suggesting that it had been prepared and was thus an artificial surface. The clay was quite thick, and was excavated in the southern half of the unit to a depth of about .5 feet.

Several features were encountered in and beneath zone 3. Of particular interest was an intact brick feature, evidently encountered during the probing. When first noted at the top of zone 3, the feature consisted of a linear area of whole bricks set on end, at a 45 degree angle, producing the sawtooth pattern characteristic of a Victorian flower bed border. When exposed at the base of zone 3, there was a linear area of brown, mortar–flecked soil on either side that appeared to be a builders trench for the border; this soil was designated feature 49 and the brick itself feature 50.

The areas of feature 49 on either side of the brick were excavated separately as feature 49

east and west. Feature 49 proved to be extremely shallow, less than .2' thick, and bottomed onto bricks laid as stretchers, flush with the clay surface (verbal description of this feature is difficult; please see figure 19). This newly revealed brick suggested that feature 50 was too substantial and well made to function simply as a planting border. The configuration and dimensions of the outer bricks suggest instead a drain; it was then suggested that the interior angled bricks represent some sort of top to a drain that collapsed, in domino fashion. Elevations taken along the feature indicates that the feature slopes from north to south, as one moves away from the house.

Excavation then proceeded with careful removal of three of the angled bricks. This revealed that the "interior" of feature 50 was filled with a second course of these angled bricks, effectively filling the interior of the possible drain (figure 19). Beneath the second level of bricks was a mottled sandy clay layer of mostly yellow sand, mottled with some grey sand. Some grey silty soil was present in and around the interior bricks; the soil had the appearance and texture of drain silt, and contained some artifacts. The feature 49 soil contained pearlware, yellow ware, and a porcelain button, providing a TPQ of 1817. The silt on the interior of feature 50 contained transfer printed whiteware in a paneled style, providing a filling/usage/possible abandonment date of c. 1850 (figure 35).

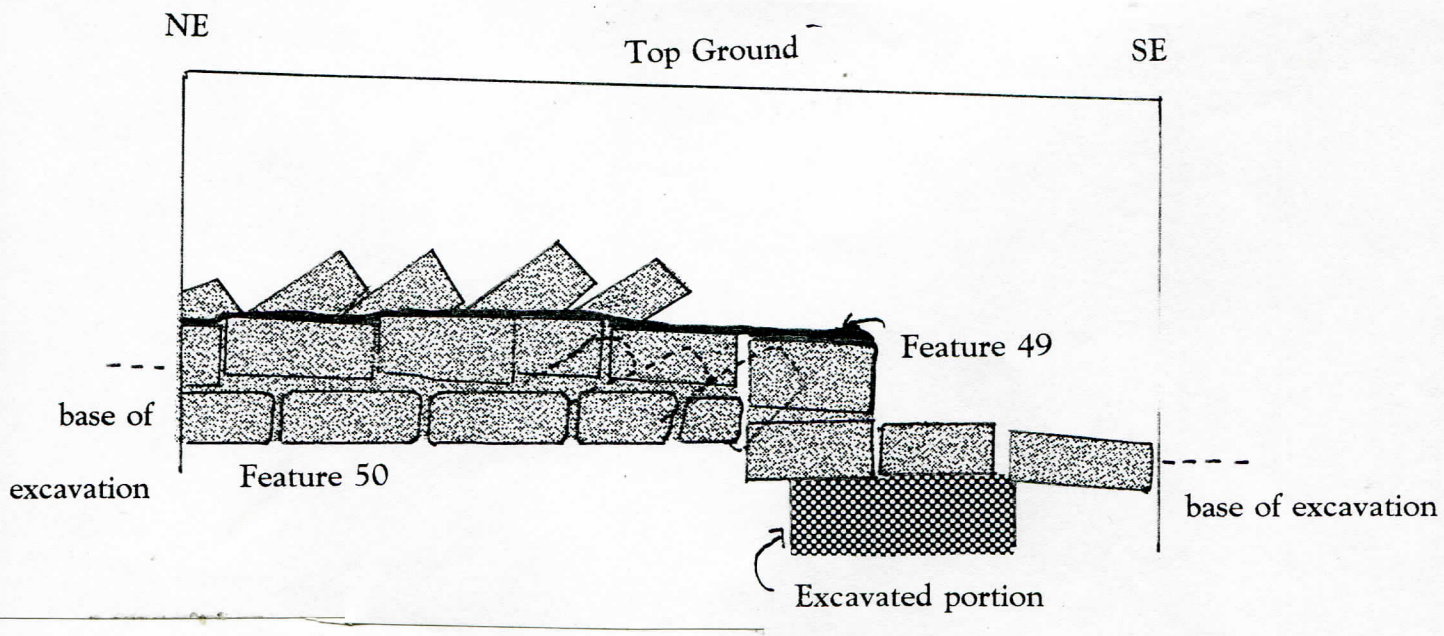
The unusual configuration and function of feature 50 remains a mystery. Neither the architects nor the garden historian had a definite answer. The current "best" interpretation is of a drain, designed to trickle water away. The feature certainly has enough slope to transport water. Probing indicates that the feature continues at least 10 to 15 feet further. The relationship of this feature to the clay surface noted in this area is of great interest.

Finally, two additional features were encountered intruding into the clay surface. Feature 51 was a small irregular area of tan sand heavily flecked with mortar. This feature initiated beneath feature 49 and intruded into the red clay. Undecorated whiteware provided a TPQ of 1820. Feature 52, in the southeast corner of the unit, was a circular area of black soil with some orange mottling. It contained few artifacts; recovered from the bottom of the feature was a twist of modern steel wire. Feature 52 appears to be a planting hole of recent vintage.

N190E158 This unit was located beneath the citrus trees adjacent to the stable building. This unit was designed to test the area immediately "outside" of the proposed garden line wall; comparison of stratigraphy and depositional sequence of this unit to N185E215 would serve as a way of verifying the existence of some boundary marker/change of function in this area. Unit N190E158 was established relative to grid point N190E183 on the rose bed border, using the transit. The precise location of the unit was designed to minimize impact to the surrounding bushes. The unit was a 5 foot square, with a baulk left in the north wall to minimize damage to a large tea olive.

N190E158 did, from the earliest zones, exhibit stratigraphy radically different from the adjacent units to the east, suggesting different activities. Artifacts and bone were more numerous, the soil more organic (figure 20). Zone 1 was the same black topsoil (10yr2/1), excavated in three

Figure 19
N185E215, feature 50; three top bricks have been removed, revealing second level inside



(based on a map by Justin Clark)

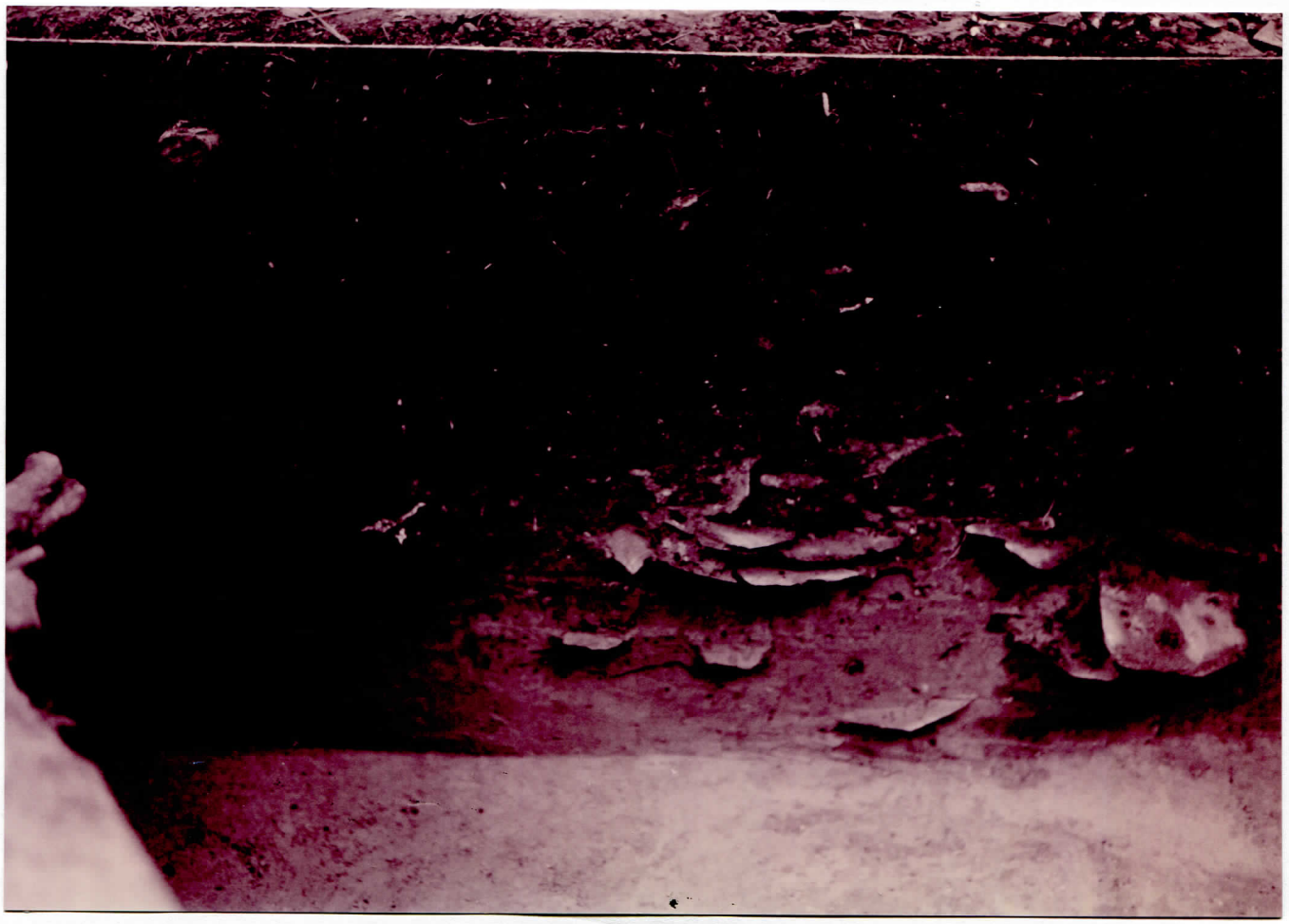
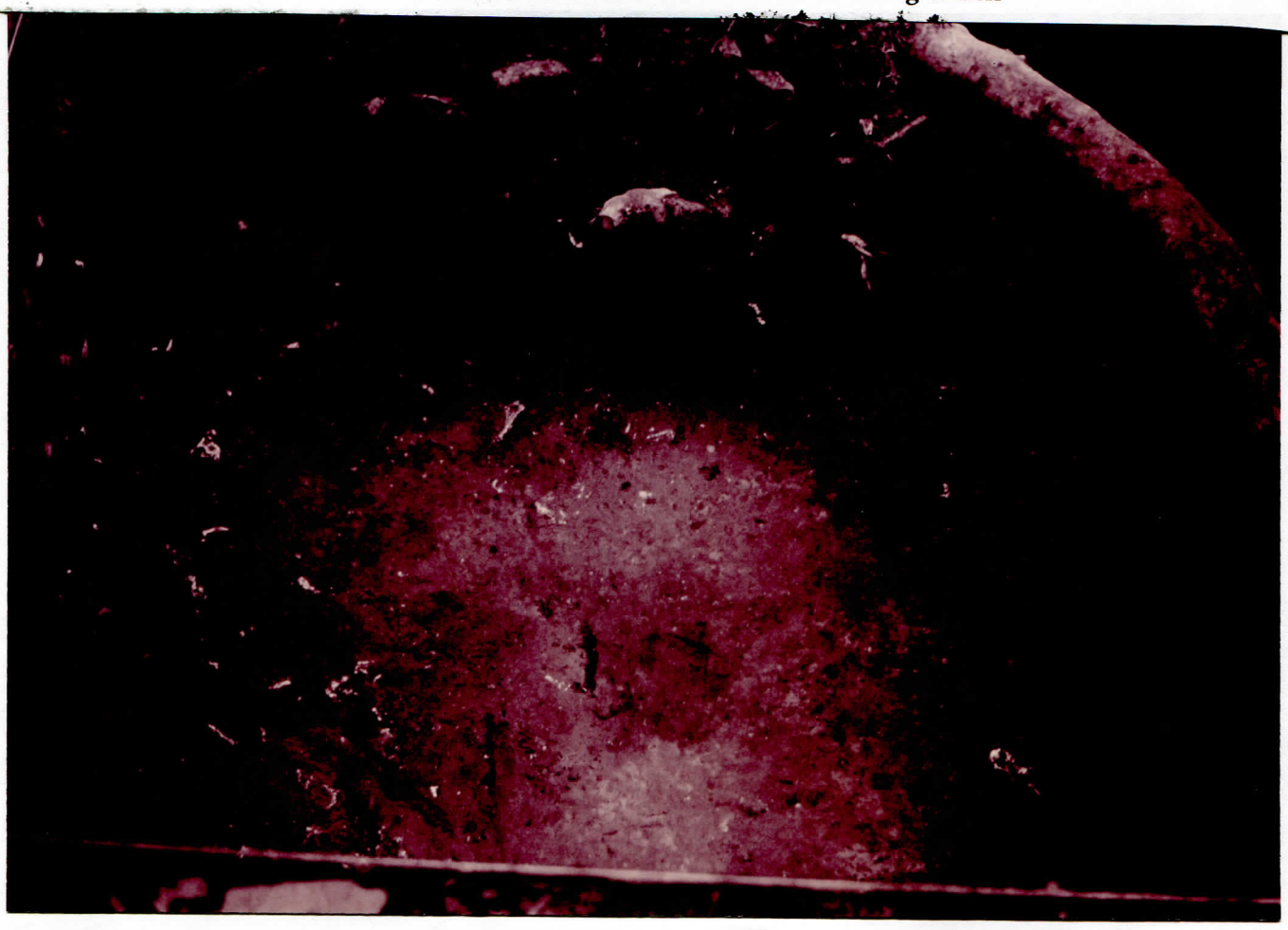


Figure 20
N190E158, south profile; base zone 4 level 1 looking north



levels. Artifacts were relatively sparse in this area, and the top level was discarded. Levels 2 and 3 were screened and retained, and contained gilded white porcelain. Here, zone 1 dates to the early 20th century or so. Zone 1 was .5 feet deep. The underlying zone 2 was again slightly lighter and browner (10yr2/2) with bits of brick and mortar. Zone 2 was .4 feet deep and was excavated in two levels. A roughly circular stain was encountered at the base of level 1. This soil, designated Area A, was a very dark brown sand mottled with reddish-brown sand. This appears to be a planting hole and contained pressed glass, c. 1840. Zone 2 level 1 contained milk glass (TPQ 1870), while level 2 had a TPQ of 1850 from white porcelain. This suggests that zone 2 is associated with the Sisters' occupation.

Zone 3 was a grey-brown sand with slate, mortar and shell, and was excavated in a single level. Artifact, bone, and rubble content greatly increased in this level; white porcelain provided a TPQ of 1851. In addition, several features were noted at this level. Feature 65 was a small circular area in the southeast corner, of a homogenous dark grey sand. There were virtually no artifacts in this deposit. An area of dark grey soil mottled with orange and yellow sand was noted in the northeast corner at this point, but was not defined.

At the based of zone 3 level 1, the soil again became slightly lighter (10yr4/1) and was marked by a dense concentration of architectural debris, particularly along the south wall. Of particular note was roofing slate, back glazed pantile, and plaster. Zone 4 contained red transfer printed whiteware, providing a TPQ of 1830. At the base of zone 4 level 1, the soil became a mottled orange, yellow and grey sand (mostly 10yr5/4), which was defined as zone 5. Intruding into zone 5 were two dark, irregular features. Beneath feature 65 was a larger, roughly rectangular shaped area of dark grey soil (10yr3/2) with mottles of orange sand and sparse amounts of brick, charcoal, and shell. Feature 67 in the northeast corner was of a similar nature; this feature contained more charcoal. Artifacts were sparse, and the function of these features remains unknown. Feature 66 contained shell edged pearlware (TPQ 1780) and feature 67 contained delft.

Zone 5 was the final provenience excavated in the unit and, unlike the above zones, artifact content was sparse. Zone 5 contained transfer printed pearlware and two small fragments of whiteware, suggesting and 1810-1820 date of deposition. Zone 5 was .5 feet deep, ending on an orange clay subsoil. Subsequent cleanup of this unit was hampered by a thunderstorm which flooded the unit and eroded a portion of the profile. The south and east wall was mapped and photographed successfully.

Accumulation of soils in this unit spans the 19th century; further, debris from daily life appears concentrated in this area. The sparse artifacts, appearance just above sterile subsoil, and predominance of pearlware suggests that zone 5 was deposited shortly after house construction, and the swirled soils may reflect construction activity. Zone 4 and its concentration of architectural rubble dates to the 1830s and may correspond with documented repairs to the carriage house following a hurricane in 1832. The debris in zone 3 dates to the mid-19th century and may be refuse from the Allston occupation. Finally, the artifacts and soils of zone 2 were deposited during the late 19th century tenure of the Sisters of Charity.

N213E210 This unit was 3 by 5 foot square with the long axis adjacent to the infill wall. The unit was placed to expose the builders trench for the hyphen structure. Unit size and placement considered visitor traffic flow (between the ticket office entrance and the dining room exit), downspouts, drains, electrical boxes, and large plants, all adjacent to the infill wall, as well as the need to remove brick paving in this vicinity. The unit was placed in the area that seemed the least disturbed by intrusive features, and least disturbing to these, in turn.

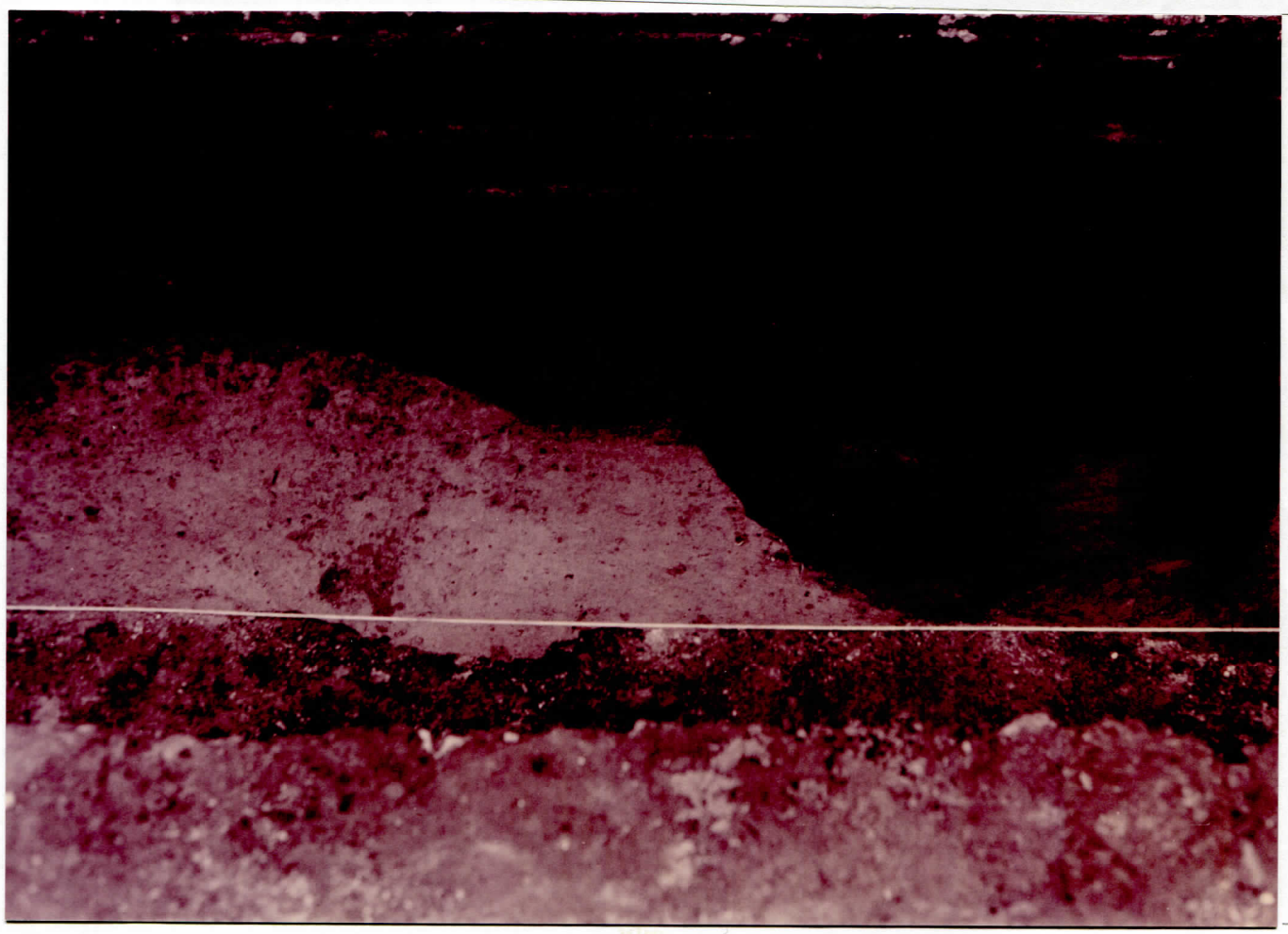
Removal of the brick paving in this location was the first step. Minimal damage and salvage of the brick was a concern. The students first attempted to remove the brick by hand using hammers and chisels, working from the edge of the planting hole for the large crape myrtle tree, but this proved impossible. After consultation with Glenn Keyes, Richard Marks, and Tom Savage, a small electric jackhammer was used by Minh Nguyen and student John Lehman to remove the brick and portland cement. Beneath this was a thick poured concrete pad, which was also successfully removed with the jackhammer. A unit was then established within this exposed area.

The unit was established at whole number coordinates relative to the grid points of N185E215. The transit was placed over the N190E215 nail, which had been established with the transit, and a nail was placed 23 feet north of this point; this point became the southeast corner of the unit. From this point it was 2.3 feet north to the base of the structure.

A few artifacts were recovered from the base of the concrete rubble. Beneath this was a dark organic soil, mottled with some gold sand. The upper levels were highly mottled and mixed, but there were large pockets of the artifact-bearing midden soil containing coal, oyster, and quantities of artifacts. This was designated zone 1, but appears to correspond with zone 2 in adjacent squares (based on content and age of materials). Zone 1 dates to the late 19th century, based on the recovery of white porcelain (TPQ 1851) and a penny dated 1888. The soil beneath this was a relatively thin deposit of mottled light brown and yellow sand with shell and mortar flecks. Zone 2 contained 19th century stoneware along with small flecks of white porcelain, which would suggest an 1850s date of deposition. Beneath this, yellow sterile sand was encountered, with a feature of mottled soil intruding into it (figure 21). This was designated feature 60, and was interpreted as a builders trench. The feature was roughly linear, along the wall of the infill, bulging into a semicircle in the eastern portion of the unit. The soil of feature 60 was similar to the above zone 2. The feature was medium brown sand with slight mottling of gold and yellow sand, with some charcoal, oyster, and cultural debris.

Despite careful observation, no difference could be discerned between the linear area and the semicircular area; therefore excavation of the first level (.2') of feature 60 intruded into both areas. After removal of the top level, it was then possible to discern separate deposits for the two areas. The semicircular area retained the feature 60 designation. This was a small circular trash pit of medium tan-grey sand. It contained whole oyster, bone, and large artifacts. The linear builders trench was .4 feet wide, mottled soil with orange clay, yellow sand, and tan-grey sand. Feature 63 intruded into feature 60, and thus the feature 63 fill contained sterile subsoil and fill

Figure 21
N213E210, features 60 and 63 before and after excavation



from feature 60. Feature 63 was thus excavated first and contained whieldon ware as the latest artifact. Feature 60 contained creamware; however the upper level of the two features combined contained a large sherd of transfer printed whiteware which provides a TPQ of 1840+ (see figure 35).

Features 60 and 63 initiated at 7.20'msl; the base of the wall foundation was encountered at 7.0'msl, and the base of the builders trench at 6.75'msl. The base of the trash pit, feature 60, was encountered at 6.24'msl. The top of the 20th century brick paving was at 8.4'msl and the top of zone 1 at 7.73'msl. This excavation revealed that the wall foundation for the infill is much shallower on this south side; in the driveway, excavations of feature 45 were halted at 5.37'msl and the north wall foundation continued below this (figure 21b; see figure 17).

N100E100 This unit was located in the southwestern corner of the site, and continued investigation of the surrounding property wall, its date of construction, and changes through time. Discussions among the various project consultants in the past year have focused on yard layout, location and function of the work yard, and traffic flow patterns. Examination of the rear wall and the south wall in the same vicinity indicate numerous alterations; this in addition to the documented appearance of the south wall as a brick foundation with wood superstructure as late as 1902. Excavation of N100E100 was designed to examine builders trenches for the south and west walls, record the nature of the interface between these two walls, and date subsequent changes.

Excavation in 1994 of N150E100 adjacent to the west wall revealed a narrow builders trench and thin midden layer with late 18th century materials, covered with dense deposits of refuse from the second half of the 19th century. Similar stratigraphy was encountered in N100E100. The southwest corner pin of the unit was actually .6 feet north of the south wall itself, allowing for the sloping buttress at this point; the southeast corner of the unit was flush with the south wall, allowing for the non-right angle of the south wall. Unit N100E100 thus measured 5.0' along the east profile, 5.6' along the west.

The unit contained very dense artifact and rubble concentrations throughout the soil layers. Zone 1 level 1 was excavated and discarded, along with a heavy layer of asperdisia. Level 2 was screened and retained. Among the many late 19th century artifacts were some 20th century items as well. Zone 1 level 2 initiated at 6.68 ' and the top of the ground was at 7.18' msl. Five zones were distinguished in this unit, with three layers of builders trenches initiating throughout these zones; however, numerous cross-mends and matching artifacts suggest that at least some of these deposits may be contemporaneous. Conversely, some of the materials could have been redeposited. Zone 2 was again slightly lighter and greyer than the above topsoil, and the artifacts and architectural rubble increased in density. At the base of zone 2 level 1, there was a linear concentration of this artifactual material along the south wall, and the soil was slightly lighter. This was defined as feature 69, a possible re-builders trench for the south wall. This was excavated .8 feet, from 6.92'msl to 6.14'msl, where it appeared to intrude into a new zone. Excavation was suspended at this point, and excavation of zone 2 level 2 resumed. Feature 69

level 1 contained an early tire valve stem, suggesting an early 20th century date of deposition. Zone 2 was a medium grey dirt (10yr3/2) full of rubble and large artifacts. It was excavated in two rather narrow levels, due primarily to the dense artifact content. There was a distinct textural difference between zone 3 and the underlying zone 4; despite the dense rubble, zone 3 peeled away from the zone 4 below it with troweling; this would suggest that the top of zone 4 served as a trampled, living surface for a while. Zone 4 was again a darker soil (10yr2/2).

Intruding into zone 4 were two builders trenches; these seemed to be remnants of the zone 3 soil. The trenches were along both the south wall and west wall, and wrapped around the buttress. The builders trench along the south wall was defined as feature 69 level 2, and included the soil around the buttress. The soil adjoined to the west wall was designated feature 70. Feature 69 level 2 probably dates to the third quarter of the 19th century and contained a lettered panel bottle. Feature 69 level 2 retained good definition, and ended on yellow and gold mottled sand. Feature 70 was contemporaneous (gilded white porcelain). It also retained good definition in the southern portion, but became ill-defined in the northern portion. The buttress terminated at the base of feature 69 level 2, and this is clearly a later addition to the south wall (figure 22). Both the south wall and the west wall foundations continued below this point.

Zone 4 began as a homogenous dark brown sand with few materials, but soon was filled with large concentrations (actually conglomerations!) of debris. The zone terminated highest in the southwest corner and sloped to the northeast. Zone 4 contained an agateware furniture pull and milk glass, suggesting an 1870s date of deposition. Zone 4 was relatively shallow, and was followed by zone 5, a light grey sand with solid brick rubble. Zone 5 contained dense architectural rubble and terminated on an undulating base of red clay which appeared to be sterile subsoil (2.5yr4/6). The base of the west brick wall was encountered at this point.

The base of the south wall continued beyond this point; instead of red clay, yellow sand was present along the south wall. This was defined as feature 72. The top level of feature 72 also surrounded the buttress; undecorated whiteware provided a TPQ of 1820. The base of the buttress was encountered at the base of feature 72. Three subsequent levels of the builders trench were further defined and sampled to the base of the south wall. This next level received a new designation (feature 78), due to the fact that the buttress was no longer part of the feature. Feature 78 was excavated in three levels, designated feature 78, feature 78a, and feature 78b before encountering the base of the south wall; the latest artifact in feature 78 was transfer printed pearlware (1795). A seam in the brick wall was noted at the interface of feature 72 and feature 78, suggesting a rebuilding episode at this point (figure 22). Due to time constraints, excavation of N100E100 was halted at this point.

N130E328 This unit was the deepest and most complex encountered at the site. An adjacent unit, N134.8E328 was excavated last year, and revealed over 5 feet of soil and artifact deposits, the deepest predating the Russell house and the Frazier occupation. Also exposed in the eastern profile were three distinct, superimposed brick walls, dating from the mid-18th century to the early 20th century. Finally, cow horn cores were left in situ at the base of the 1994 unit,

Figure 22
N100E100, base of feature 72, 78 excavation, showing relation to buttress;
showing rebuilding seams in the south wall

as they intruded into the south profile. Unit N130E328, in the immediate southeast corner of the property, was excavated to recover these and other artifacts from this early deposit. It was also located to more fully explore the three eastern wall foundations, and the interface of the south and east walls.

This unit was laid out by measuring and triangulating along the interior of the wall. The southeast corner was flush with the inside corner, and the east unit wall measured 4.8 feet. Due to the angle of the south wall, however, the west wall of the unit measured 5.4 feet. The north wall was 5.0 feet long. Grid coordinates were then calculated by pulling tapes from grid points established in the southwestern portion of the site and by extracting measurements from the site plan.

Excavation began with removal of backfill from N134.8E328; it was necessary to re-open this first unit for working space and safety, visibility of the foundations, and retrieval of a large sample of feature 26/zones 6-7. A baulk was left in the northwest corner of the new unit to preserve a large budellia bush, and large roots were a problem throughout the top zones. The profile maps from the previous unit served as a guide to proper excavation and designation of proveniences (figure 23).

A good portion of zone 1 was excavated and discarded, with selected artifacts saved without screening. Zone 1 in this corner was full of 20th century liquor and soda bottles. A small portion of this black topsoil deposit was screened as zone 1 level 2. The black topsoil of zone 1 (10yr2/1) was followed by a slightly lighter and browner sand (10yr3/1). Mortar and shell inclusions in this soil increased in density throughout the zone. Zone 2 contained late 19th/early 20th century artifacts, including some toy car wheels, emeraldite lamp shade glass, and an 1891 penny. Undulations at the base of zone 2 suggests at least moderate planting holes or other disturbance during the creation of this zone.

Zone 3 beneath dated to the mid-19th century. This was a greyish-brown sand (10yr3/2) with mortar, shell, and brick fragments. This deposit was thicker than in previous deposits, and was excavated in three levels. Transfer printed whiteware provides a TPQ of 1820-30 for this deposit. Two features appeared at the base of zone 3 level 3; feature 53 was a linear area along the front, or east wall, and was a lighter, tanner sand with some rubble. A similar area was noted in the southwest corner of the unit, and was designated feature 54. Feature 53 contained undecorated pearlware (TPQ 1780) while feature 54 contained Combed and Trailed slipware (TPQ 1670). While feature 53 may be a builders trench for the Russell-era wall, feature 54 may be a "high" portion of the underlying zone 4; indeed, the top of zone 4 was first noted in the southwest corner of the unit. Zone 4 appears to be demolition rubble from the 18th century tenements. Excavated in three levels, the deposit contained a 1772 penny, blue handpainted pearlware, creamware, and 19th century stoneware. It is interpreted as contemporaneous with construction of the Russell house.

At the base of zone 4 level 2, another linear area was noted along the south wall. This deposit of tan and grey sand also contained heavy rubble, and the soil was coarser and a bit more

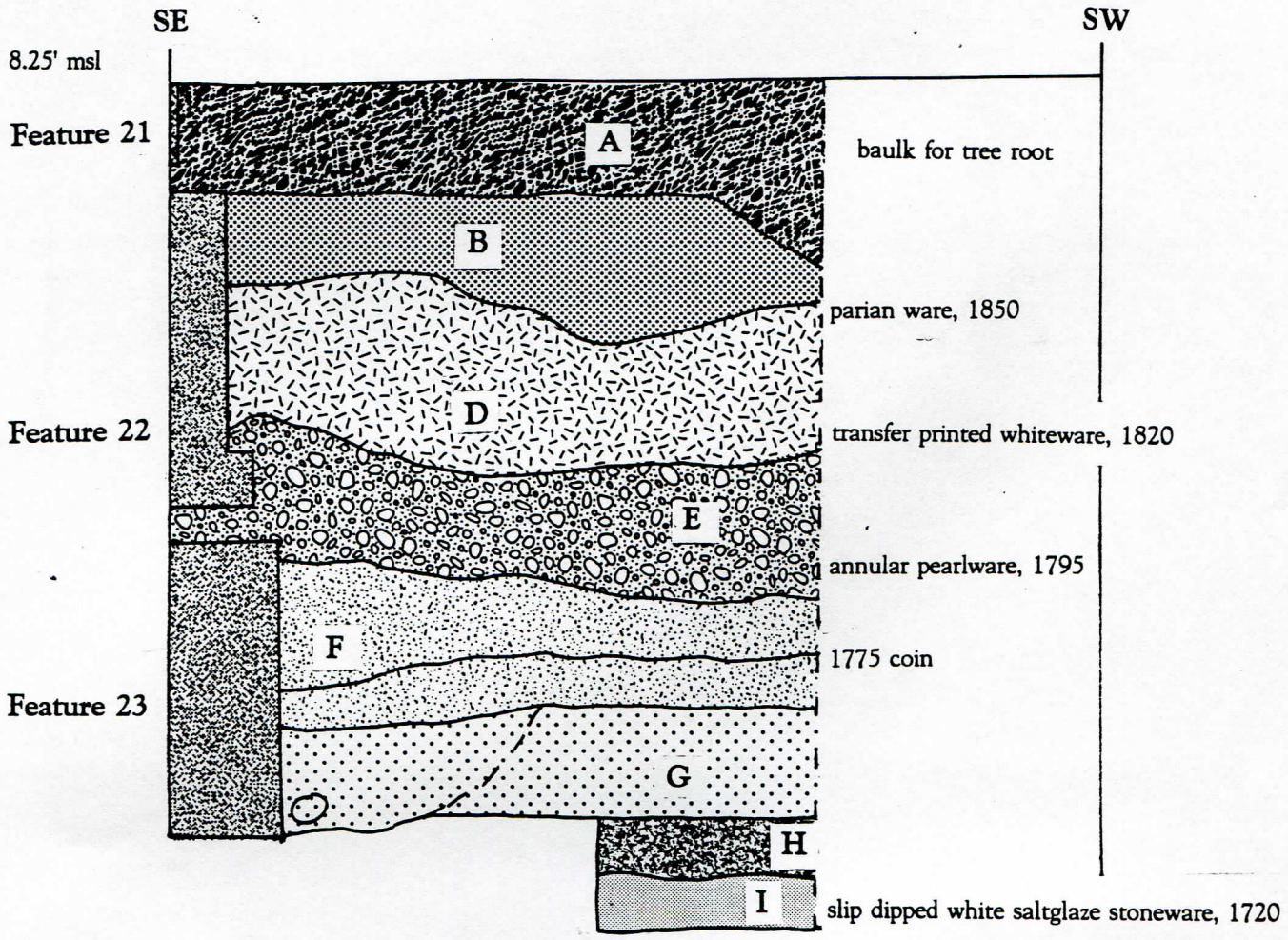


Figure 23

N134.8E328, south profile

a) black topsoil, zone 1
b) dark brown–grey homogenous soil, zone 2
d) medium brown–grey and gold mottled sand, zone 3
e) tan sand with brick and mortar rubble, zone 4
f) yellow sand lensed with dark grey sand, zone 5
g) light grey sand mottled with orange clay, feature 26
h) dark grey/black loamy sand with whole oyster shell, zone 6
i) medium grey sand, zone 7

(1" = 1')

tan than the surrounding sand. This was designated feature 55, and was excavated in separate east and west sections. The only datable artifact in the deposit was a sherd of unusual mustard–colored Celadon porcelain (Robert Leath, personal communication; Ottilie Bentz, personal communication), dated to the late 18th century. This feature has been interpreted as a builders trench to the south wall, as the wall terminated at the base of this feature.

Beneath feature 55 and zone 4 was a soil deposit not present in the adjacent unit; this was designated zone 4a and consisted of a rather shallow (.2') lense of dark grey (10yr2/2), friable soil with large amounts of charcoal and bright orange bricks. This lense was just above zone 5, and clearly continued underneath the foundation of the south brick wall. The bottom of this deposit was quite uneven, and there were several pockets of residual soil at the base of this that received feature designations (features 56–59, 61 and 62). When first noted, some of these appeared to be postholes, but upon excavation proved to be rather shallow and irregular. Artifacts were sparse in all of these deposits, and they dated to the late 18th century.

These were followed by zone 5, a deposit of yellow and grey lensed sand (2.5yr6/4). This deposit had, in fact, a higher proportion of grey sand than in the adjacent unit. This was excavated in two levels. Mottled ware (TPQ 1720) was the latest artifact in this unit, but a 1770 coin was recovered from zone 5 in the previous unit. Removal of zone 5 revealed the bone and artifact deposit encountered in the '94 unit (figure 24). Previously, lines in the sand suggested a builders trench for the lowest brick wall (feature 23), so this deposit had been labeled feature 26. However, this is probably residual zone 5, a clean sand fill placed above the creek fill labeled zone 6. For consistency's sake, howver, we retained the feature 26 designation for the grey sand that was transitional to the creek deposit of zone 6.

After sampling, excavation of N134.8E328 had been suspended at this level last year; excavation of these lowest deposits now resumed with unit boundaries abandoned. Proveniences from N130E328 for feature 26, zone 6 and zone 7 actually come from a 2.5 by 1.5 foot sample in the center of these two units. Due to the fragile nature of the artifacts, the presence of the water table, and the possibly unstable nature of the property walls, this small sample was excavated from the center of the units, adjacent to the east wall, leaving baulks along the remaining walls (figure 24).

Feature 26, zone 6 and zone 7 were excavated separately, as defined in 1994, but were most likely a single, though long–term, deposit. Feature 26 was a zone deposit of light grey sand; though it presently contained bone and other artifacts, it may have originally been deposited on top of the bone, to cover it (figure 24). The bulk of the bone and other artifacts were contained in the underlying zone 6, a dark loamy soil that contained quantities of oyster shell as well. Other characteristics of this deposit were large brick fragments, large quantities of bone, particularly cow, metal fragments, bottle glass, and some ceramics. Zone 7 was a light grey sand (possibly a leach zone for zone 6). The underlying deposit was a mottled yellow and orange clay/sand with very sparse brick and oyster fragments. This may be sterile subsoil, and was interpreted as such, but a rising water table made further excavation impossible. The base of zone 6 was 4.23'msl and the

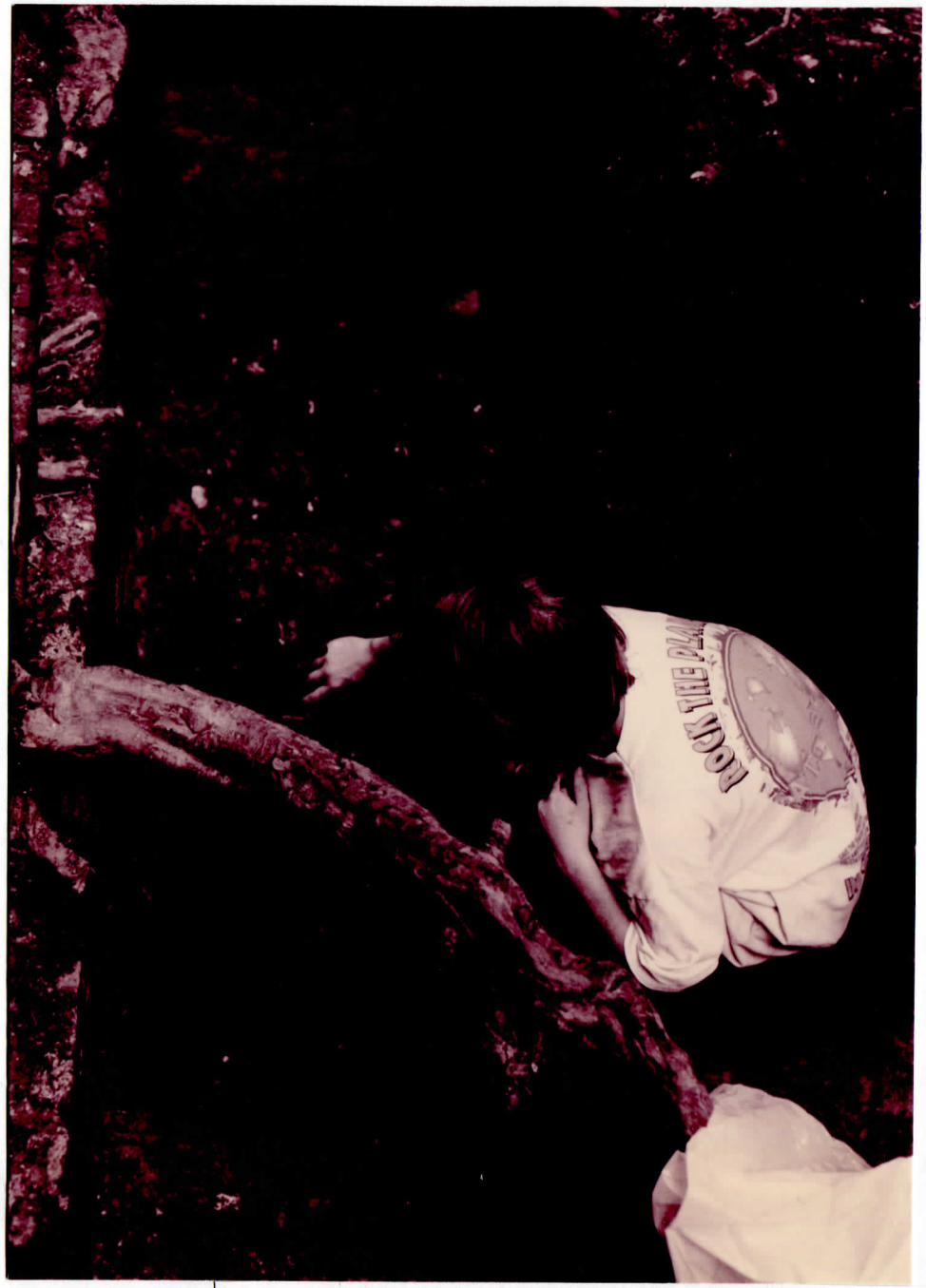


Figure 24
Cow bones and butchering remains *in situ* in N130E328;
Claire Anders excavating zone 6 sample

base of zone 7 at 3.63'msl (top of the ground at 8.3'). The foundation of feature 23 was much deeper than anticipated, and continued to the base of zone 7.

Excavation of N130E328 exposed the three front walls, features 21, 22, and 23, the north corner pier, and the south wall in its entirety. The complexities of these features will be discussed further in the section on architectural data.

N172E270 This unit was the only one deliberately located within the suspected bounds of the formal garden. It was designed to locate any surviving remnant of the historic garden and date it. A concurrent goal was to determine the condition, nature, and clarity of stratigraphy in the garden area. Precise location of the unit was based on a historic photo. An 1880s image shows Sister Mary Carmel standing in the garden, on a path of light sand or crushed oyster shell. She faces southwest, and a portion of the bay window and front corner of the house is visible in the background. An attempt was made to place the unit in the precise position of the photo; discovery of this pathway should then provide an "anchor", both horizontally and vertically, for future exploration of the garden.

Excavation of N172E270 did not locate any evidence of a garden path. It did, however, reveal complex and intact stratigraphy and garden features dating to the Russell period. Excavation of this unit, then, suggests that at least portions of Russell's garden are intact, and are amenable to archaeological research.

The unit coordinates were established with tapes and transits relative to previously established grid points. Establishment of this unit began with the transit over N190E183, the point along the rose bed, and backshots to N130E183. The transit and tapes were then used to establish grid stakes in the desired vicinity. This placed the unit within the modern circular gravel walkway. The area was cordoned off, and visitor traffic was rerouted for a few days. Like N185E215, the unit attracted considerable visitor attention.

The loose gravel was carefully raked aside, and saved on plastic for backfilling. The underlying medium gray sand was designated zone 1. This soil was .5 feet deep. Zone 1 contained moderate amounts of cultural material, including molded bottle glass and a glass marble, suggesting an early 20th century date of deposition. The underlying zone 2 was lighter and browner (10yr2/2), and contained milk glass and manganese glass, suggesting that this soil dates to the Sisters' ocucpation. Visible at the top of zone 2 was a narrow linear area of lighter brown sand (10yr4/2, 10yr3/3). This was designated feature 71, and was initially interpreted as a possible garden path, though it was quite narrow. The surrounding soil, labeled zone 2, was darker and contained numerous flecks of finely crushed oyster. Excavation at this level began with feature 71, but it soon became apparent that the soil surrounding it was intrusive, particularly in the southern half of the unit. Soils designated zone 2 were excavated separately from either side of feature 71. The southern portion was excavated first; excavation of the northern portion soon revealed a new feature in the center of the unit. This was a well defined circular area of reddish sandy clay (7.5yr5/6). There was a darker circle in the center. The feature was bisected east/west,

and the inner and outer sections of each half were excavated separately. The feature contained very few artifacts, and no datable ones; stratigraphic position suggests a mid–19th century date of deposition. Feature 73 retained a regular shape with a rounded bottom, intruding into zone 3. The feature has been interpreted as a planting hole (figure 25).

Excavation then resumed in the southern portion of the unit. The remainder of zone 3 in this area was excavated first. This revealed the mottled sand of zone 4 with a small irregular feature of dark sand (10yr4/2), containing bone, mortar, and oyster flecks. A second area of soil that appeared to be residual zone 3 was noted in the southwest corner. Feature 76 and the residual zone 3 were excavated separately.

With the south and north halves excavated separately, zone 4 was excavated in two levels. The zone was swirled yellow sand with quantities of discarded roof slate in the northeast portion of the unit. Zone 4 contained Canton porcelain (TPQ 1800) as the latest artifact in the provenience. At the base of zone 4 level 2 it was clear that the north and south halves of the unit remained different. In the south half there was a clearly defined rectangular area with rounded corners. This was designated feature 77. Elsewhere the soil was a mottled and swirled brown and yellow sand. Feature 77 retained its integrity during excavation, and sloped inward towards the center. Subsequent excavation of zone 4 level 3 revealed yellow sterile sand over the floor of the unit. Excavations were halted at this point.

Though shallow (2.0 feet deep), the stratigraphy of N172E270 was among the most complex of the site. For this reason, all four walls were profiled, and this finally provided correct interpretation of the depositional sequence. It revealed that the feature configuration defined as feature 77 was only the basal portion of a feature which had been present in this shape since the top of zone 2. It appears to be a garden bed, rectangular with rounded corners, and the swirled pockets of different sand may reflect numerous turning of the soil for replanting. The artifacts contained in these proveniences remained consistent in type and date throughout, with an 1820–30 date of deposition. From bottom to top, then, feature 77, feature 76, zone 4 level 2 south half, zone 3 south half, and zone 2 south half were all part of the same garden feature. Elsewhere in the unit, zones 2 and 3 were a single zone deposit. Sterile subsoil initiated at the base of zone 2 in the northwest corner of the unit, and zone 4 may be a large, irregular pit to discard building rubble at the time of house construction. Features 74 and 75 remain mysteries, and the high concentration of small animal bone in this portion of the site is equally tantalizing. All of the proveniences below zone 2 are associated with the Russell occupation.

N221E174 This unit was excavated on the interior of the kitchen, specifically to retrieve kitchen debris. A unit excavated by Fred Andrus in 1990 revealed quantities of bone and kitchen artifacts in a series of superimposed zones. Most of the materials were associated with the Russell occupation. A second unit was excavated to retrieve a larger sample. Andrus' sample was a 5 foot square located flush with the west wall foundation of the kitchen and 5 feet north of the interior southwest corner. Andrus had noted that the debris beneath the kitchen was densest near the entrance hole, and the present unit location was chosen to obtain the richest sample.

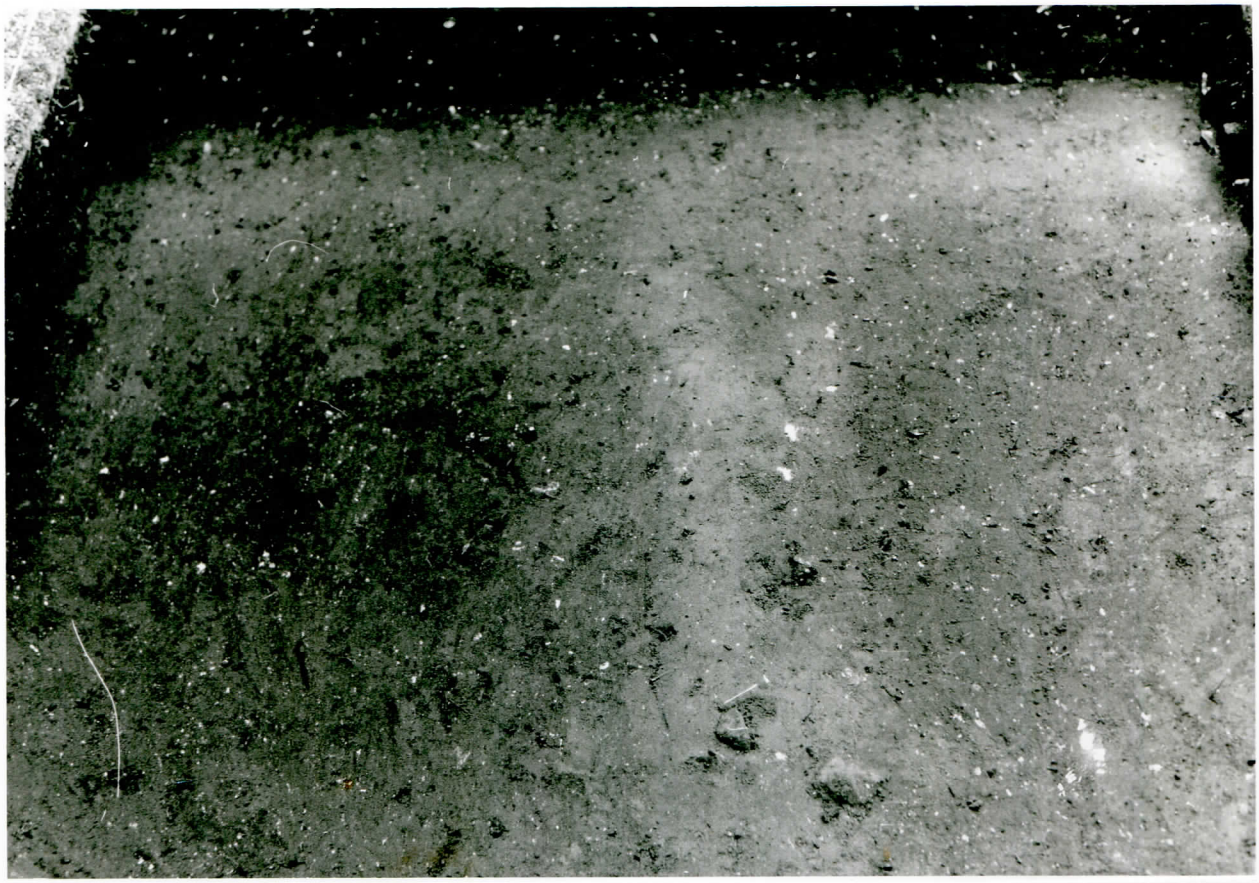
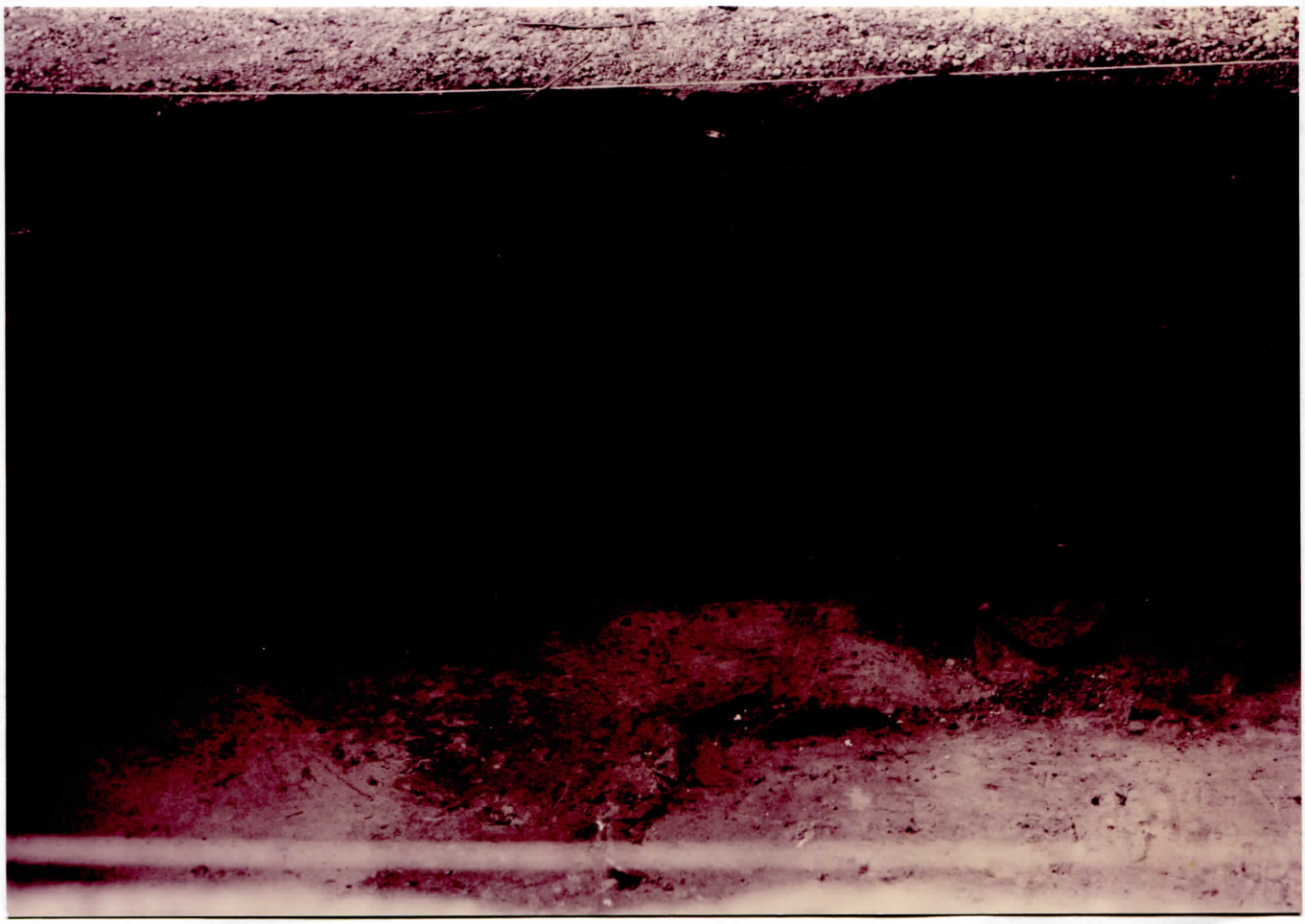


Figure 25
a) N172E270, top of feature 76, the garden bed
b) north profile, showing slate deposit in earliest level



The present unit was located with transit and tapes relative to the kitchen interior. It was designed to obtain a comparable sample, and was located to avoid obstructions and disturbed areas, and to minimize the logistical problems associated with excavating in an enclosed basement. The southwest corner of the unit was 4 feet north and 5 feet east of the interior southwest corner of the kitchen. The unit was triangulated relative to the kitchen walls. Grid coordinates were then determined by measuring with transit and tapes from the N190E183 point. Since the tape was pulled across paved borders, through an entrance, and down a foundation, by students, the grid coordinates are approximate.

Excavation of this unit posed special challenges. Acess to the basement was through an arched opening in the south wall of the kitchen, and the interior ground surface was about 2 feet below the exterior level. Air handling duct work and conduit piping was located near this entrance, and these obstacles had to be avoided. Once past these, there was about 3 feet of clearance between the ground surface and the floor joists.

All excavations were conducted by trowel, and the soil placed in buckets. The buckets were then passed through the opening to screeners who worked on the paved areas in front of the kitchen (see figure 15). Thus an additional consideration was management of the backdirt pile relative to visitor traffic flow and to the herb garden planted in front of the basement entrance. This was exacerbated by the fact that the bulk of the unit fill was coal. Elevations were taken with a string and line level placed on a stake just outside of the entrance. The elevation of this stake was measured with the transit, and then elevations were taken below surface with line level string and folding rule.

Lighting in the unit was also a problem. Artificial light was used extensively and photography was problematic. Whenever possible, soil colors were checked by bringing a sample into natural light. Air flow, in contrast, was not a problem. The basement was very cool, and was the most desirable work station of the summer.

Unit N221E174 was excavated in natural zones, and levels within deeper zones; a total of 6 zones were defined. Zone 1 was more or less typical of the subsequent zones, a granular black dirt with great quantities of coal, containing animal bone and kitchen artifacts. The remainder of the 3 feet of fill in this unit was in fact mostly lenses of coal with varying proportions of accompanying soil. The exception was zone 2, which was a lense of tan sand, deepest on the south side of the unit. Beneath this was a dark gray mortary lense. In fact, almost all of the layers in this unit can be characterized as lenses, rather than zones. They were of uneven thickness, and none covered the entire floor of the unit. Beneath the sand and mortar lenses of zone 2, a granular dark grey sand with mortar flecks and black coal was defined as zone 3. Within this were some pockets of ash and solid pockets of black coal.

Zone 4 was marked by a change in artifact density, as much as a change in soil. Zone 4 was perhaps slightly darker, with proportionately more coal. Again, zone 4 contained pockets of light grey ash. Zone 4 was excavated in two levels, the first zone to be so divided. Zone 5 was

the first major soil change in that it was actually soil – a dark brown sand, still containing quantities of coal. Zone 5 also contained large quantities of bone, as well as moderate amounts of artifacts. Zone 5 was excavated in two levels. Throughout these zones, the northwest quadrant of the unit contained the most coal and the least artifacts. Cultural materials were most abundant on the east side of the unit, and bone in the southwest corner. Sprigged whiteware provided a TPQ of 1840 (figure 34).

At this point the water table became a problem, and the coal deposits ceased. Due to the moisture problem, the walls were cleaned and photographed at this point. A sample of the subsequent zone 6 was excavated in the northwest quadrant. Zone 6 was a radical soil change – a gray sand mottled with red clay, containing quantities of roofing slate. This sample was excavated to a depth of .4 feet until standing water was reached. The soil profile map was amended, and the unit was backfilled by shoveling soil back into the opening. Workers (principally the author) inside the kitchen scraped the soil into the unit with dust pans and trowels while on their knees.

N205.5E121 and N205.5E126 These units were excavated to further expose the small room at the rear of the stable. Excavation of N200.5E121 revealed the southwest corner of this building. The new units exposed the entire west wall, the entire interior of the south wall, and the interior of the east wall (which was in fact the exterior of the carriage house). Where unit N221E174 was the coolest unit, these were by far the hottest, with no shade, no breeze, and sun reflecting off the white oyster pavement.

These units were triangulated directly from the northernmost nails of the previous unit, left in place throughout the winter. These had been placed and designated by taping along the back wall from the N100E100 mark, and then using the transit to turn 90' from the wall. This was done before the "bend" in the back wall was discovered, so these grid numbers are not accurate. The eastern edge of the unit was 7.7 feet from the existing stable wall, and the southwest corner of N205.5E121 was 43.5 feet south of the existing north property wall.

Zone 1 level 1 consisted of crushed oyster shell and dirt lenses, and was discarded. Screening began with the pea gravel lense, which was designated zone 1 level 2. The underlying amorphous layers of sand were excavated as zone 1 level 3 to the top of feature 29, the sewer pipe trench located in the southwest corner of the unit. A second pipe trench ran north/south through the unit, and the top of the brick wall, feature 30, was visible running north/south in the eastern third of the unit. The zone 1 deposits were a bit deeper on the interior of feature 30, and this deposit was excavated next. The fill in feature 29 was then excavated.

Work then began on the soils on the exterior of the building. While such deposits were intact and highly stratified in the previous unit, here they had been swirled and mixed together some time in the 19th century. The soils next encountered were designated zone 2, even though they did not resemble those so designated in N200.5E121. The present zone 2 was a highly swirled and lensed fill of grey and orange sand. This deposit was ultimately excavated in 7 levels,

to 2.1' below the point of initiation. At this point the water table was encountered, and so excavation was halted.

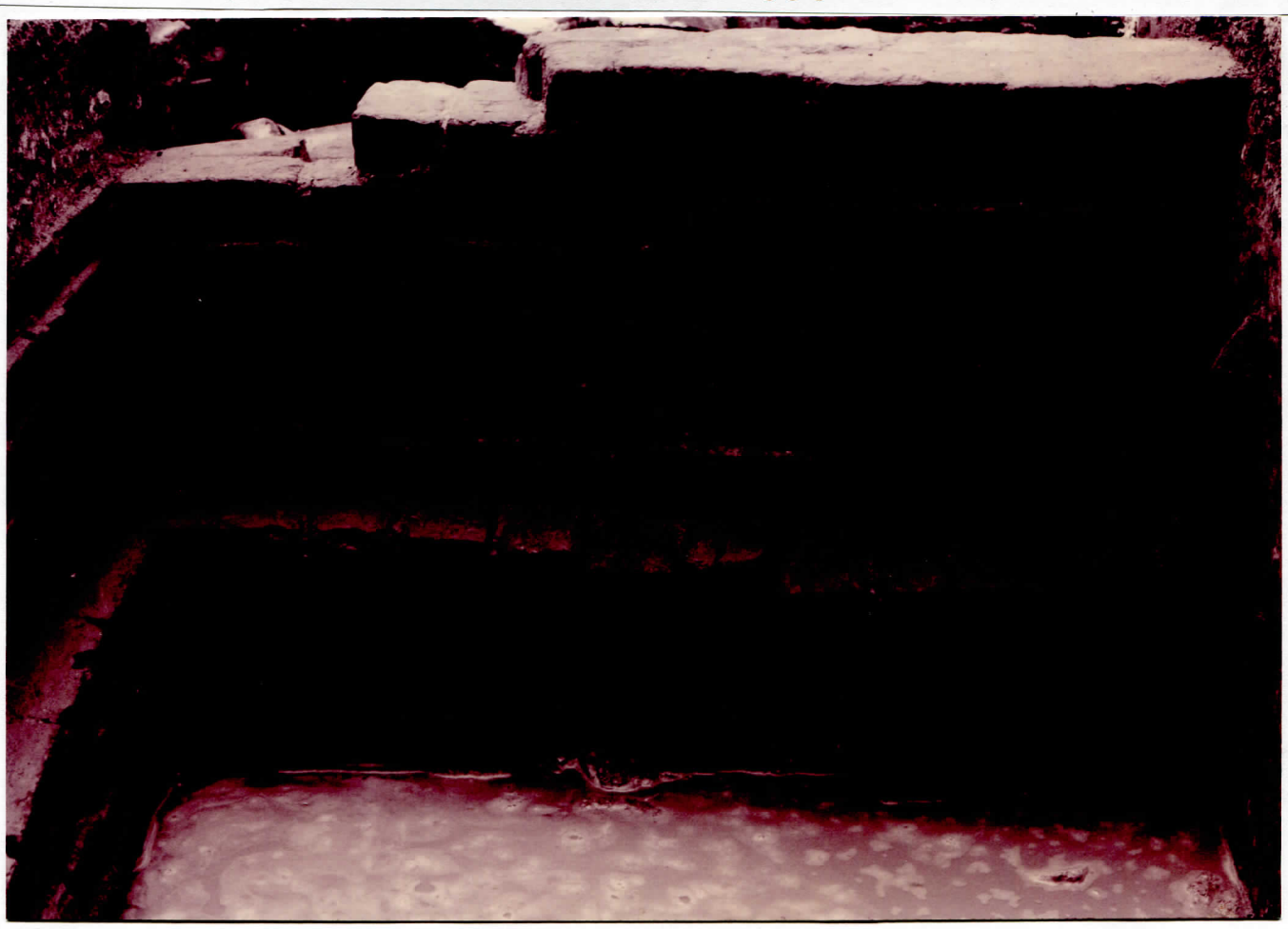
Within the upper levels of zone 2 were two possible brick foundations of unknown function. Feature 34, in the southwest corner and beneath feature 29, was previously visible in the profile of N200.5E121 and so received the same designation. It consisted of four bricks in an interlocking pattern, one brick deep, on and within the swirled soils of zone 2. Feature 64 was in the northwest corner and was also one brick thick. It was laid four bricks side to side. The two features had the same elevation. After recording, feature 64 was removed for further excavation of the zone 2 soils. Feature 34 was left in place. Excavation on the interior of the building began with zone 2, which was an orange–tan sand. This gave way to a layer of brick and mortar rubble, which was designated zone 3 level 1 in last year's unit. This was relatively shallow, and the underlying yellow–orange mortary sand was designated zone 3 level 2. This soil deposit continued to the base of the excavations, 2.5 feet below the top of feature 31. This was an almost sterile builders sand, containing some architectural rubble and a fragment of stoneware sewer pipe. At 2.6 feet below surface a dark linear area of sand was noted along the interior of the brick wall on the west and south. These soils contained no artifacts and proved to be shallow lenses of sand on top of a brick ledge for the wall foundation.

At this point a second unit adjacent to the east was excavated. This allowed more complete access to the interior of the structure. All of zones 1 and 2 were discarded from this unit. The rubble of zone 3 level 1 was deeper in this unit, and deepest in the southeast corner. Though the artifacts were earlier, cartographic information and artifacts retrieved from zone 3 in N200.5E121 suggest an 1890s date of demolition. As noted on the building exterior of the previous unit, the stepped portion of the foundation continued for several courses below this point. The yellow sand fill continued as well. Artifacts were very sparse, but they support the documented "filling and planking" of a privy in 1861.

Due to the encroaching water table, excavations were halted 4.1' below surface. Probing indicated that the yellow sand fill continued for another 2 feet, followed by a dark grey sand. Thus the grey sand may be the same soil as feature 32 in the more southerly unit, or it may be the sought–after privy refuse beneath the sand fill. In either case, the water table made further excavation impossible during a testing phase.

The excavations did expose the entire southern wall of the room, a portion of the east wall (which was the stable wall), and the bulk of the west wall. This verified the existence and the footprint of these buildings for architectural research purposes. The room was clearly an addition to the stable, and the extremely deep foundation supports the interpretation as a privy. The upper portion of the foundation was not quite "square" with the lower portion, and the center of the west wall foundation was "breached" in an irregular, unfinished arched hole. Mapping and probing indicates that the room measured 6 feet by 6 feet (figure 26).

Figure 26: N205.5E121, N205.5E126
a) interior south wall of feature 30
b) interior west wall of feature 30, showing gap in foundation



OCR dating

In addition to the traditional interpretive dating techniques applied universally to historic sites, a new absolute dating technique was applied to twelve selected proveniences. This procedure, developed by Douglas Frink of the Archaeology Consulting Team (Essex Junction, Vermont), dates soil samples based on the biochemical degradation of organic carbon. This procedure, termed the "Oxidizable Carbon Ratio", or OCR, produces age estimates comparable to those of 14C. Frink (1994) reports that the interdependent dynamics of climate, biota, relief, parent material and time affects the evolution of soils and archaeological materials within the soils. Chemical analyses of archaeological charcoal deposits demonstrate that charcoal is subject to environmental degradation and changes through time. The OCR procedure describes this change by simple chemical carbon analyses to detemine the ratio of total carbon to readily oxidizable carbon, and the environmental factors influencing the rate of biochemical degradation. The procedure accounts for site–specific environmental factors, as well. The principal assumption is that the phenomena being measured are oxygen–dependent biochemical processes that cause a change in the relative oxidizability of the charcoal carbon. Deep deposits subject to fluctuating water tables and environmental barriers to oxygen diffusion in the soil (such as pavement), and barriers to solar radiation and rainfall have a presently incalculable effect on the rate of biochemical change (Frink 1994).

The relative precision of the OCR date is statistically linear. Thus the precision of the OCR procedure with recent (less than 500 years) samples makes the procedure more appropriate than radiocarbon dating for all European American sites. Though a relatively new procedure, Dr. Frink has found strong correlation with expected age estimates based on documented events, temporally diagnostic artifacts, and the resulting OCR date. Thus, the OCR offers accuracy and precision in results, significant cost savings relative to 14C, and meaningful age estimates for postmedieval sites.

The Russell house was the first complex, urban historic site submitted to Dr. Frink for analysis. As such, its complexity was a major issue in the interpretation of the OCR data. Of central concern was the precise origin of organic material within a given soil matrix. Is it an in situ deposit, contemporary with the depositional event, or is it present as a result of redeposition of earlier materials in a subsequently dug provenience? To ameliorate this situation, a large number and variety of samples were submitted for analysis. Particularly problematic, unfortunately, are the "mixed" soils characteristic of builders trenches, where the 19th century laborer has dug through a contemporary topsoil into an earlier soil deposit, and refilled the hole with this mixed dirt (and organics). To avoid this, a careful attempt was made to select samples which stratigraphically "sandwiched" the event of interest, but were composed of highly organic, presumably primary refuse.

The results were mixed, but encouraging as well as intriguing. Seven of the twelve OCR dates correspond to proposed dates of deposition. These are each discussed separately. The

discussion includes reasons for selection of the particular sample, anticipated date based on stratigraphy and TPQ, actual date, and possible interpretations of this date.

FS 14: Zone 3 in unit N150E135 was a dark grey–brown soil with dense architectural and artifactural debris. White porcelain provided a TPQ of 1850 and suggested a date of deposition in the mid–19th century. The OCRdate for this provenience was **1855**, in close agreement with the interpreted date.

FS 58: Feature 13 in unit N200.4E297 was the builders trench for the main house, and was a mottled grey, yellow and orange sand. The documented date of construction suggests this provenience was deposited in 1808; no datable artifacts were recovered. This provenience yielded an OCR date of **1640**, suggesting that the mottled sterile fill was dated instead.

FS 62: The grey–tan sandy soil designated zone 4 level 1 in unit N111E190 covered the brick rubble associated with the demolition of the tenement. The soil contained annular pearlware, and a date of deposition of c.1808–1810 was interpreted. The OCR date for this provenience was **1808.**

FS 64: Because builders trench soils were problematic, as seen in FS 58, soils from an adjacent provenience were selected from unit N150E100, in attempt to date the brick wall. Zone 4 was a narrow band of medium grey soil mottled with some yellow sand. It was immediately above a shallow, but well defined builders trench for the wall, which contained undecorated pearlware. Zone 4 contained blue hand painted pearlware, and a post– 1810 date of deposition was interpreted. Zone 4 yielded an OCR date of **1830.**

FS 124: Two soil samples were selected and compared in an attempt to date construction of the small room at the rear of the stable. Feature 32 was a large feature of homogenous dark grey sand in N200.5E121; it appeared to be a large trash pit that pre–dated constuction of the room. Excavation yielded transfer printed pearlware, suggesting an early 19th century date of depostion. These organic soils yielded an OCR date of **1808.**

FS 125: Feature 33 was a large feature of dark grey sand mottled with yellow sand. It initiated at the same level as feature 32 in N200.5E121, and after careful observation appeared to intrude into feature 32 and thus post–date it. Artifact content in the two features was identical. Feature 33 appears to be the builders trench for the small room, and its fill combines sterile subsoil and dirt from feature 32. While the date of deposition must be the same, the obtained OCR date was **1759**, providing a good example of the skewed date obtained from mottled, or mixed, soil deposits.

FS 138: Unit N235E295 in the driveway contained complex stratigraphy. Zone 5 was a narrow band of coal and shell filled dark soil that continued beneath the border bed; this provenience would thus help date construction of those beds. Excavation revealed fragments of flow blue whiteware and white porcelain, suggesting an 1850s date of construction. The

provenience yielded an OCR date of **1847**, in close agreement with the interpreted date.

FS 188: Unit N235E205 was excavated adjacent to the kitchen/infill interface, and was designed to date construction of the infill. Feature 48 was a well defined posthole and postmold that intruded into the earliest builders trench. Given the difficulties in obtaining an accurate date from builders trench soils, it was anticipated that a date for feature 48 would provide a bracket date for the builders trench. The postmold fill was selected for its homogeneity; however, this sample yielded an OCR date of **1635**, irrelevant to the question at hand.

FS 241: Zone 4a was a dark band of coal–laden soil located in N130E328. This thin zone clearly continued beneath the foundation of the south property wall, and thus should provide a TPQ date for wall construction. The provenience contained no datable artifacts, but stratigraphy suggested a date of deposition between 1780 and 1810. The provenience yielded an OCR date of **1785**.

FS 260: Feature 60 was a small trash pit underlying the builders trench for the infill structure in N213E210; thus it was critical for dating construction of the infill. The upper level of the feature contained paneled transfer printed whiteware, suggesting an 1840s date of construction, while the lower levels contained creamware. The homogenous grey sand of feature 60 yielded an OCR date of **1848**.

FS 282: Zone 4 level 1 in unit N190E158 was a mostly grey sand with some yellow mottling, and a concentration of architectural material. It appeared from the presence of red transfer–printed whiteware that the zone was deposited in the 1830s. However, this zone yielded an OCR date of **1790**.

FS 285: Zone 6 in unit N130E328 was the dark organic soil with oyster that appears to be creek fill. Artifacts suggest a terminal fill date of 1730s; the OCR date was **1712**. This may correspond with the beginning of the filling episode; the length of depositional time is a difficult calculation and this process may be refined with the aid of the OCR dating technique.

The above data suggests that the OCR dating method has some problems, but holds great promise for the study of urban sites. Some of the key proveniences yielded clearly erroneous dates, but more than half yielded dates in close agreement with the interpreted date of deposition, and two yielded dates exactly corresponding with key site events. Additional samples from well documented sites should help refine provenience dating, and will help identify problem areas and factors affecting the decay of organic carbon. The key to success of this process, however, remains in careful site excavation. Proveniences must be isolated, identified, and excavated correctly, and placed in proper historical context for the dates to carry meaning. Dr. Frink's report appears as Appendix III.

Table 1

Provenience Guide

FS#	Provenience	TPQ	Date of Dep.
130	N235E295, trench 2 backfill	white porcelain	20th cent.
131	N235E295, trench 2 zone 1	undec. creamware	20th cent.
132	N235E295, zone 2	styrofoam	20th cent.
133	N235E295, zone 1 north	undec ww	20th cent.
134	N235E295, zone 2 north	annular whiteware	late 19th cent.
135	N235E295, zone 3 north	glass	1870s
136	N235E295, fea 35 builders trench	yellow ware	1860s
137	N235E295, zone 4 north	transfer print ww	1860s
138	N235E295, zone 5 north	undec. ww	1850s
139	N235E295, zone 6	undec. creamware	1800s
140	N235E295, wall clean	jackfield	
141	N235E295, fea 36	undec. ww	1900s
142	N235E295, zone 4 inside f. 35	crown bottle cap	1900s
143	N236E2665, collected	insulated wire	1990
144	N235E295, zone 5 inside f. 35	white porcelain	1860s
145	N235E295, zone 5/6 inside f. 35	flow blue ww	1850s
146	N235E295, zone 6 inside f. 35	undec creamware	1800s
147	N235E295, fea 37	colono ware	1800s
148	N235E295, fea 37 lev 2	undec creamware	1800s
149	N235E295, fea 38	slipware	1800s
150	N236E266.5, collected	white porcelain	
151	N235E295, zone 7	creamware	late 18th cent.
152	N235E205, zone 1 collected	sprigged ww	20th cent.
153	N235E205, n/s pipe trench	undec. whiteware	20th cent.
154	N235E205, fea 40 sw	undec. whiteware	1860s
155	N235E205, fea 40 nw	white porcelain	1860s
156	N235E205, fea 40 ne	white porcelain	1860s
157	N235E295, fea 39	white saltglazed st.	1770s
158	N235E205, fea 42 interior	plastic tag	20th cent.
159	N235E295, fea 38 lev 2	jackfield	1800s
161	N244.5E205, zone 1 collected	whiteware	
162	N235E205, zone 5	white porcelain	1850s
163	N244.5E205, conduit ditch	19th cent. stoneware	20th cent.
164	N244.5E205, conduit ditch	gilded white porcl	20th cent.
165	N235E205, fea 41	gilded white porc	1860s
166	N244.5E205, zone 2	undec. whiteware	1890s
167	N244.5E205, zone 3	lustered staffordshire	1840s
168	N235E205, fea 41 disturbed	undec whiteware	1860s

169	N244.5E205, zone 4	spode porcelain	1850s
170	N235E205, fea 43	blue tr. pr. ww	1840s
171	N235E205, fea 41/43 disturbed	white porcelain	
172	N235E205, fea 44	undec whiteware	1830s
173	N244.5E205, fea 36	annular whiteware	1860s
174	N235E205, fea 45	Canton porcelain	1800s
175	N235E295, zone 6 lev 2	white saltglazed st.	late 18th cent.
176	N235E295, zone 6 clay	undec. creamware	late 18th cent.
177	N244.5E205, zone 5 inside fea 35	white porcelain	1850s
178	N235E205, fea 44 lev 2	undec creamware	1800s
179	N235E205, fea 45 lev 2	undec creamware	1800s
180	N235E295, fea 47	bottle glass	1800s
181	N235E295, fill on fea 47	tr. pr. pw	1800s
182	N235E205, fea 45 lev 3	delft	1800s
183	N244.5E205, fea 41 inside f.35	sprigged ww	1850s
184	N235E205, fea 45 lev 3	undec creamware	1800s
185	N235E295, fea 38/fea 47	creamware	1800s
186	N235E205, fea 44 lev 3	blue hp. pw.	1800s
187	N235E205, fea 45 lev 4	white sgs	1800s
188	N235E205, fea 48 postmold	slipware	1800s
189	N235E205, fea 48 posthole	undec creamware	1800s
190	N235E205, wall clean	delft tile	
191	N244.5E205, mortar sample		
192	N244.5E205, fea 36 lev 2	transfer printed pw	1850s
194	N130E188, zone 1 lev 1	manganese glass	20th cent.
195	N185E215, zone 1	manganese glass	20th cent
196	N130E328, zone 1 collected		
197	N134.8E328, backdirt		
198	N130E328, zone 1 lev 2	plastic	20th cent.
199	N130E188, zone 1 lev 2	milk glass	1880s
200	N130E328, zone 2 lev 1	iron car wheels	1900s
201	N185E215, zone 2 lev 1	manganese glass	1880s
202	N130E328, zone 2 lev 2	1891 penny	1890s
203	N130E188, zone 2 lev 1	gilded white porc.	1880s
204	N130E328, floor and wall clean	milk glass	1870s
205	N130E328, zone 3 lev 1	emeraldite glass	1890s
206	N130E328, zone 3 lev 2	undec ww	1840s
207	N130E188, area A	whiteware	1880s
208	N130E188, zone 2 lev 2	tr pr ww	1850s
209	N130E328, zone 3 lev 3	milk glass	1840s
210	N185E215, zone 3 lev 1	gilded porcelain	1880s
211	N185E215, floor and wall clean	tr. pr. pw	1880s
212	N130E188, zone 3 lev 1	flow black ware	1850s

213	N130E328, floor clean, zone 3 lev3	hand paint pw	1830s
214	N185E215, fea 49, west side	creamware	1820s
215	N185E215, fea 49, south half	undec pw	1820s
216	N185E215, fea 52	modern wire	20th cent.
217	N130E328, fea 54	slipware	1810s
218	N185E215, fea 49 east, south half	yellow ware	1820s
219	N185E215, fea 49 east, north half	porcelain button	1820s
220	N130E328, fea 53	undec pearlware	1830s
221	N130E328, fea 54	slipware	1830s
222	N130E328, zone 3 lev 4	1781 coin	1820s
223	N185E215, fea 51	pearlware	1820s
224	N185E215, fea 50 interior	tr pr ww	1850s
225	N130E188, zone 4 lev 2	hand paint pw	1810s
226	N190E158, zone 1 lev 2	whiteware	20th cent.
227	N130E328, floor clean, zone 3 lev 4	1781 coin	
228	N130E188, brown sand, zone 4 lev 2	polychrome pw	1810s
229	N130E328, zone 4 lev 1	19th cent. stoneware	1810s
230	N130E188, zone 2–3, north side	tr pr ww	1880s
231	N130E188, zone 4	tr pr ww	1850s
232	N185E215, fea 50 interior	tr pr ww	1850s
233	N130E188, yellow sand, north side	white porcelain	1850s
234	N130E188, wall clean		
235	N130E328, zone 4 lev 2	hand paint pw	1810s
236	N190E158, zone 1 lev 3	gilded white porc	20th cent.
237	N130E328, zone 4 lev 3	creamware	1810s
238	N190E158, zone 2 lev 1	milk glass	1880s
239	N130E328, fea 55 west	glass	1800s
240	N130E328, fea 55 east	celadon porcelain	1800s
241	N130E328, zone 4a	slipware	1790s
242	N190E158, area A	pressed glass	1880s
243	N205.5E121, zone 1		
244	N213E210, zone 1	1888 penny	1890s
245	N130E328, mottled tan in zone 4a	glass	1790s
246	N213E210, concrete pad		
247	N130E328, wall clean, zone 4a		
248	N213E210, zone 2	white porc	1850s
249	N205.5E121, zone 1 lev 2	coca cola bottle	1960s
250	N205.5E121, zone 1 lev 3	glass bottle stopper	20th cent.
251	N213E210, fea 60/63 lev 1	tr pr ww	1840s–50s
252	N205.5E121, fea 29	porc wire insulator	20th cent.
253	N130E328, fea 56	delft	1780s
254	N130E328, fea 57	glass	1780s
255	N130E328, fea 58	white saltglaze	1780s
256	N130E328, fea 59		

257	N130E328, fea 61	bone	1780s
258	N130E328, fea 62	porcelain	1780s
259	N130E328, zone 5	mottled ware	1770s
260	N213E210, fea 60 lev 2	creamware	1850s
261	N213E210, fea 63 lev 2	whieldon ware	1850s?
262	N205.5E121, zone 2 lev 1	pressed glass	1870s
263	N213E210, wall cleaning		
264	N130E328, zone 5 lev 2	mottled ware	1770s
265	N205.5E121, zone 2 lev 2	molded bottle	1870s
266	N2.5.5E121, zone 2 lev 3	lettered bottle	1870s
267	N130E328, floor and wall clean		
268	N213E210, fea 60 under fea 63	colono ware	1850s
269	N190E158, zone 2 lev 2	white porcelain	1860s
270	N205.5E121, fea 29/ zone 2	bottle glass	1870s
271	N190E158, zone 3 lev 1	white porcelain	1850s
272	N205.5E121, zone 2 lev 4	tr pr ww	1870s
273	N205.5E121, zone 2 lev 5	flow black ware	1870s
274	N190E158, wall clean, zone 3 lev 1		
275	N205.5E121, wall interior	glass marble	1870s
276	N205.5E121, soil top of fea 31	overglaze porc.	1870s
277	N190E158, floor clean, zone 3 lev 1		
278	N130E328, feature 26	westerwald	1710–30s
279	N221E174, zone 1	decaled porcelain	1890s
280	N221E174, architectural sample		
281	N190E158, fea 65	glass	1840s
282	N190E158, zone 4 lev 1	tr pr ww, red	1830s
283	N190E158, architectural sample		
284	N205.5E121, zone 2 lev 1 interior	milk glass	1870s
285	N130E328, zone 6	astbury	1730s
286	N205.5E121, wall cleaning		
287	N205.5E121 zone 3 lev 1 interior	creamware	1860s
288	N130E328, zone 7	westerwald	1730s
289	N130E328, zone 6 mortar sample		
290	N205.5E121, zone 3 lev 2 interior	tr pr pw	1860s
291	N221E174, zone 2, north half	creamware	1850s
292	N190E158, zone 5, northeast cor.	tr pr pw	1810s
293	N221E174, zone 3 architectural sample		
294	N190E158, feature 66	shell edge pw	1820s
295	N205.5E121, fea 31 builders trench	--	1860s
296	N221E174, wall cleaning		
297	N190E158, feature 67	delft	1820s
298	N221E174, zone 4 lev 1	sprig ware	1840s
299	N205.5E121, fea 31 builders trench	__	1860s
300	N190E158, zone 5 lev 1	tr pr pw	1810s

301	N205.5E121, zone 3 lev 3 interior	bw porcelain	1860s
302	N205.5E121, zone 3 lev 4 interior	olive green glass	1860s
303	N205.5E121, zone 3 lev 5 interior	sewer pipe	1860s
304	N190E158, floor clean		
305	N205.5E121, zone 3 lev 6 interior	--	1860s
306	N221E174, zone 4 lev 2	canton porcelain	1840s
307	N221E174, zone 5	portobello ware	1830s
308	N205.5E121, zone 2 lev 6	bakelite button	1860s
309	N100E100, zone 1 lev 2	plastic	20th cent.
310	N221E174, zone 5 lev 2	canton porcelain	1830s
311	N205.5E121, zone 2 lev 7 int.	milk glass	1860s
312	N100E100, zone 2 lev 1	emeraldite lamp glass	20th cent.
313	N221E174, zone 5 lev 2	canton porcelain	1830s
314	N100E100, fea 69	letter bottle	1880s
315	N100E100, zone 2 lev 2	gilt whiteware	1880s
316	N221E174, north, west wall		
317	N221E174, floor clean		
318	N205.5E126, zone 3 lev 1 int.	brass bell pull	1860s
319	N221E174, zone 5 lev 3	canton porcelain	1820s
320	N100E100, wall clean, zone 2 lev 2		
321	N100E100, zone 3	torpedo bottle	1880s
322	N221E174, zone 6	annular pearlware	1810s
323	N100E100, zone 3 lev 2	lettered panel bottle	1880s
324	N172E270, zone 1	glass marble	20th cent.
325	N205.5E126, zone 3 lev 2	19th cent stoneware	1860s
326	N100E100, fea 70	gilded white porc	1890s
327	N100E100, fea 69 lev 2	eagle soda bottle	1870s
328	N100E100, zone 4 lev 1	agate ware knob	1870s
329	N205.5E126, zone 3 lev 3	undec ww	1860s
330	N205.5E126, zone 3 lev 4	19th cent. stoneware	1860s
331	N100E100, zone 4 lev 2	milk glass	1870s
332	N100E100, zone 5 lev 1	milk glass	1870s
333	N205.5E126, soil, bottom ledge	green glass	1860s
334	N205.5E126, zone 3 lev 5	19th cent stoneware	1860s
335	N100E100, zone 5 lev 2	gilded porcelain	1870s
336	N205.5E121, zone 2 lev 4 ext.	white porcelain	1860s
337	N100E100, wall clean		
338	N172E270, zone 2	manganese glass	1890s
339	N172E270, fea 71	undec ww	1840s
340	N100E100, fea 72	undec ww	1830s
341	N100E100, fea 78	tr pr pw	1810s
342	N100E100, fea 78a	--	1810s
343	N100E100, fea 78b	olive green glass	1810s
344	N172E270, floor and wall		

345	N172E270, fea 71 lev 2	tr pr pw	1830s
346	N172E270, fea 73	colono ware	1850s
347	N172E270, fea 73a	window glass	1850s
348	N172E270, fea 73b	window glass	1850s
349	N172E270, fea 74	tr pr ww	1830s
350	N172E270, fea 75	tr pr pw	1830s
351	N172E270, south half, zone 2	shell edge ww	1830s
352	N172E270, south half, zone 3	annular pw	1830s
353	N172E270, fea 76	annular ww	1830s
354	N172E270, zone 3, se cor	whiteware	1830s
355	N172E270, zone 4 lev 1	hand paint pw	1810s
356	N172E270, zone 4 lev 2, south	canton porcelain	1810s
357	N172E270, zone 4 lev 2, north	undec pw	1830s
358	N172E270, wall and floor		
359	N172E270, fea 77	tr pr ww	1830s
360	N172E270, zone 4 lev 3	annular pw	1810s
361	N172E270, zone 3, north half	porcelain	1840s
362	N130E188, zone 3 lev 1	tr pr ww, red	1850s

Table 2

Feature Guide

Fea. #	Unit	Description	Association
1	N197.9E210	pipe trench for sprinkler	20th century
2	N197.7E210	pipe trench for ironstone pipe	early 20th cent.
3	N197.9E210	square postmold	Russell
4	N197.9E200	irregular square area	late 18th cent.
5	N150E135	concentration of building rubble	Allston
6	N200.4E297	posthole	Sisters
7	N200.4E297	amorphous soil stain	Sisters
8	N200.4E297	amorphous soil stain	Sisters
9	N200.4E297	possible post hole	Russell
10	N200.4E297	small pit w/ building rubble	Russell
11	N150E100	trash pit	Allston
12	N111E190	foundation, garden fence	Russell?
13	N200.4E297	builders trench for house	Russell
14	N150E100	trash pit	Allston
15	N150E100	builders trench to property wall	late 18th cent.?
16	N150E100	small irregular area	late 18th cent.
17	N150E100	small irregular area	late 18th cent.
18	N135E245	small pit w/ building rubble	Russell
19	N135E245	possible well construction pit	late 18th cent?
20	N134.8E328	poss. builders trench to fea 22	Russell
21	N134.8E328	front brick property wall	20th cent.
22	N134.8E328	brick property wall	Russell
23	N134.8E328	brick house foundation	late 18th cent.
24	N134.8E328	irregular soil stain	late 18th cent.
25	N134.8E328	irregular soil stain	late 18th cent.
26	N134.8E328	poss. builders trench to fea. 23	mid 18th cent,?
27	N237E103	brick foundation to privy?	Sisters?
28	N200.5E121	rectangular brick pier, unknown association	20th cent.
29	N200.5E121	pipe trench, sewer pipe	20th cent.
30	N200.5E121	brick foundation, small room	Russell
31	N200.5E121	builders trench to fea 28	20th cent.
32	N200.5E121	large trash pit?	late 18th cent.?
33	N200.5E121	builders trench to fea 30	Russell
35	N235E295	brick flower bed border	Allston
36	N235E296	topsoil inside fea 35	Allston–20th cent.

37	N235E295	builders trench to property wall	Russell
38	N235E295	builders trench for drain, fea 46	Russell
39	N235E295	large pit, possible post	late 18th cent.
40	N235E205	poss. trash pit; disturbed	Allston
41	N235E205	pad of mortar; driveway paving	Allston
42	N235E205	brick flower bed border, matches f. 35	Allston
43	N235E205	later builders trench for hyphen	Russell
44	N235E205	builders trench for kitchen	Russell
45	N235E205	builders trench for hyphen	Russell
46	N235E205	brick drain	Russell
47	N235E205	lower level, builders trench for f. 46	Russell
48	N235E205	postmold in posthole	Russell
49a	N244.5E205	later builders trench for wall	Russell
49	N185E215	builders trench for fea. 50	Russell
50	N185E215	brick garden drain	Russell
51	N185E215	small pit; poss. planting hole	Russell
52	N185E215	planting hole	20th cent.
53	N130E328	poss. builders trench to f. 22	Russell
54	N130E328	poss builders trench, south wall	Russell
55	N130E328	builders trench to south wall	Russell
56	N130E328	unknown, base zone 4a	late 18th cent.
57	N130E328	unknown, base zone 4a	late 18th cent.
58	N130E328	unknown, base zone 4a	late 18th cent.
59	N130E328	unknown, base zone 4a	late 18th cent.
60	N213E210	builders trench to hyphen	Russell
61	N130E328	unknown, base zone 4a	late 18th cent.
62	N130E328	unknown, base zone 4a	late 18th cent.
63	N213E210	small trash pit	Russell
64	N205.5E121	small brick foundation	20th cent.
65	N190E158	poss. planting hole	Russell
66	N190E158	poss. planting hole	Russell
67	N190E158	poss. planting hole	Russell
68	N205.5E121	poss. builders trench, interior f. 31	Allston?
69	N100E100	later builders trench, south wall	Sisters, 20th cent.
70	N100E100	later builders trench, west wall	Sisters
71	N172E270	poss. garden feature	Russell
72	N100E100	middle builders trench, south wall	Russell
73	N172E270	possible planting hole	Russell
74	N172E270	irregular trash–filled pit	Russell
75	N172E270	irregular trash–filled pit	Russell
76	N172E270	rectangular garden bed	Russell
77	N172E270	same as fea. 76	Russell
78	N100E100	orig. builders trench to south wall	Russell

CHAPTER IV

Analysis of Recovered Artifacts

Laboratory Methods

Following excavation, all materials were removed to The Charleston Museum where they were washed, sorted, and analyzed. Conservation procedures included reconstruction of ceramic and glass vessels, where possible, and stabilization of metal artifacts. Ceramic and glass vessels were restored with conservator's glue, B–72 soluble in acetone. Ferrous materials were separated during washing and stabilized by placing them in successive baths of distilled water to remove chlorides; they will then be oven–dried and bagged separately. Stabilization of iron from downtown Charleston sites usually requires at least one year of soaking. Several ferrous and all non–ferrous metal items were selected for further treatment through electrolytic reduction. The ferrous items were placed in electrolysis in a weak sodium carbonate solution with a current of six ampheres. Upon completion of electrolysis, ranging from a few weeks to a few months, they were placed in successive baths of distilled water to remove chlorides and dried in ethanol. Finally, the materials were coated with a solution of tannic acid and phosphoric acid, and dipped in microcrystalline wax to protect the surfaces. Non–ferrous artifacts were also placed in electrolytic reduction, in a more concentrated solution with a current of 12 ampheres. Electrolytic reduction of these artifacts was usually accomplished in one to two days. They were then placed in distilled water baths to remove surface chlorides, dried in ethanol, and gently polished before being coated with Incralac to protect the surfaces.

Faunal materials were washed, separated from other materials, and weighed by provenience. They were then shipped to Dr. Betsy Reitz of the University of Georgia for analysis. Her report appears as Appendix I. Soil samples were inventoried, and portions of select samples from the 1994 and 1995 projects were rebagged for shipment to Dr. Karl Reinhard of the University of Nebraska for pollen analysis. His study appears as Appendix II. Other selected soil samples were air–dried and shipped to Dr. Douglas Frink of Archaeology Consulting Team for OCR dates. His analysis appears as Appendix III. The remainder of the soil samples were double bagged and boxed for permanent curation.

Historic Charleston Foundation decided that permanent curation of the collection at The Charleston Museum was appropriate, and donated the collection to the Museum. The Russell house materials from 1982, 1991, and 1994 received the accession number 1994.053. Materials from the driveway excavation and the summer project are accessioned under number 1995.036. All excavated materials are curated in The Charleston Museum's storage facility according to museum collection policy. Artifacts are packed by provenience in standard low–acid boxes, labelled, and stored in a climate controlled environment. Field records and photographs are curated in the Museum's archive in acid–free containers in the security section. Archivally stable copies are available in the general research section of the library.

Analysis

The first step in the analysis of materials was the identification of the artifacts. The Museum's type collection, Noel Hume (1969), Stone (1974), Brown (1982), Ferguson (1992) and Deagan (1987) were the primary sources used. Other references were consulted for specific artifacts. Lorrain (1968), Huggins (1971), Kechum (1975), and Switzer (1974) were used to identify bottle glass. Epstein (1968) and Luscomb (1967), as well as South (1964) were used in button identification, and Fontana and Greenleaf (1962) were consulted for nails and tin can fragments. Other specific reference books include Noel Hume (1974, 1978), Ray (1973), Fisher (1965), and a series of the Shire Albums from Great Britain.

For basic descriptive purposes, the Russell house temporal assemblages were sorted into functional categories, based on South's (1977) model for the Carolina Artifact Pattern. South's methodology has been widely adopted by historical archaeologists, allowing for direct intersite comparison; all of the Charleston data have been organized in this manner. For nearly twenty years, archaeologists have attempted to classify the artifacts they recover by function, or how they were used in the everyday life of their owners. Artifacts are quantified in relative proportion to each other within eight broad categories. Broad regularities, or patterns, in these proportions prescribe the average retinue of activities on British colonial sites. While some have criticized this methodology as being too broad, it has been widely adopted by historical archaeologists working in the eastern United States. In Charleston, it is used as an initial organizing tool.

Following this exercise, the relative proportions of a variety of artifact types are examined, based on the work of King (1990, 1992) and many others in the mid-Atlantic. This recent exercise (Zierden 1993, 1994) has provided more details on proportions of consumer goods and how they were used by Charlestonians. These proportions will be described below, and further analyzed in Chapter V.

Over 16,500 artifacts were recovered from 126 proveniences during the 1994 fieldwork. The driveway excavations yielded 1805 artifacts from 62 proveniences, and the 1995 work yielded 16,929 artifacts from 162 proveniences. They are fairly evenly divided among the five temporal assemblages described below (this distribution is described in table 3.) These are shown in comparison to each other, to Charleston averages, and to South's Carolina Artifact Pattern in table 5. Each subassemblage will be described separately, in order of functional category, with the exception of the 20th century assemblage. Because this assemblage is principally the result of redeposition, it is not discussed in detail. All artifact illustrations and tables are grouped at the end of Chapter 4 for convenient use; references to the various illustrations are found throughout the text. Additional artifact illustrations are found in Chapter V.

Late 18th Century Assemblage

The 1994 excavations produced 15 proveniences and 1,338 artifacts which predated construction of the Russell house. The driveway excavations yielded only two proveniences and 38 artifacts. The summer 1995 excavations yielded 429 artifacts from 13 proveniences. These are from the deeper deposits in N130E328. The two proveniences in the driveway are located beneath the current brick wall.

Kitchen materials comprised 68.5% of the summer assemblage and 47.3% of the driveway assemblage (a note here: for all of the temporal periods of the driveway assemblage, the kitchen group was proprtionately smaller and the architectural group proportionately larger than in the garden and the work yard. This suggests different refuse disposal practices in the two areas. For the duration of this chapter, the proportions for the two projects are enumerated separately, but emphasis is placed on the yard excavations, due to the larger sample size.) The kitchen group was rather evenly divided between ceramic and glass artifacts. Creamware (1762) was the latest ceramic in the driveway proveniences, and white saltglazed stoneware (1740) was the latest for the summer proveniences. Table and teawares (referred to simply as tablewares) comprised one third of the ceramics.

Underglaze blue Chinese porcelain comprised 24% of the ceramics, followed by delft (5%) and white saltglazed stoneware (2.5%). Chinese porcelain was the most expensive and the most desired of all ceramics. It was relatively scarce in the 17th century and thus indicative of wealth. By the second half of the 18th century, Chinese porcelain had become more readily available in the colonies, particularly in major ports such as Charleston. The earliest English table ware in the assemblage was delft, a tin–enamelled coarse earthenware. Delft came in undecorated vessels, or featured hand painted designs in blue or a palette of colors, classified by archaeologists as polychrome. The tin enamelled wares were not very durable, and rapidly declined in popularity in the second half of the 18th century. Delft was produced in a variety of tea and table wares.

One of the most distinctive ceramic products of the 18th century was white saltglazed stoneware. These molded wares were durable and attractive, but expensive. Dipped wares, first manufactured about 1720, are distinguished by the band of brown slip around the rim. The elaborately molded white table and tea wares were first developed in 1740. These were manufactured into the 1770s, when they were rapidly replaced with refined earthenwares (Martin 1987).

The most distinctive table ceramic recovered was a teapot lid of Astbury ware, c. 1725. This is a fine redware paste with a clear lead glaze, and a decorative stripe around the rim (figure 27). This particular artifact provided the TPQ for the zone 6 creek deposits. John Astbury, for whom the ware is named, was actually just one of many potters producing this hard red–bodied ware in the second quarter of the 18th century (Noel Hume 1980:123).

Utilitarian ceramics comprised 66% of the 18th century ceramics, and included earthenwares and stonewares. The earliest ceramic was North Devon gravel tempered ware. This

ware exhibits a thick, but smooth clay body, tempered with quartz gravel. The interior of the vessel is glazed with an olive green lead glaze of uneven thickness. The reconstructable base of a cream pan (used to separate cream from milk) was recovered from zone 6 (figure 27). This deposit also produced a fragment of sgraffitto slipware, from the same factories.

The most common utilitarian ceramic was Westerwald stoneware, a grey–bodied ware decorated in blue. This ware comprised 26% of the ceramics. These were manufactured in the Germanic region and dominated the stoneware market in the 17th and 18th centuries; they were declining in popularity by the 1760s. Westerwald stonewares of the 18th century were typically jugs or chamber pots, and this is reflected in the present assemblage. The bulk of the fragments were from a reed–necked cylindrical jar, featuring elaborate combed or scratched decorations painted in blue. A similar jug in Noel Hume (1969:284) is dated 1714–1730. Only a portion of the central medallion was recovered but it most likely featured the "GR" initials (figure 28). Other fragments were from chamber pots or tankards.

Combed and trailed slipwares from the Staffordshire potteries comprised 12% of the ceramics. Manufactured from the late 17th through the 18th centuries, these wares feature a clear to yellow glaze over a variety of clay slips applied to a buff–colored paste. Vessel forms include hollow wares such as mugs and cups; these are often glazed on both the interior and exterior, and the exterior is decorated with brown dots and trailed designs. The large, shallow bowls and plates have a thicker paste, are glazed only on the interior, and feature combed and trailed slips in a variety of brown and yellow hues. Other European earthenwares include manganese mottled ware, which exhibits the speckled, buff colored paste typical of Staffordshire earthenwares. The vessel is glazed in a thick dark brown, and manganese inclusions give it a speckled appearance. The glaze is often thin near the lip and puddles in the bottom of hollow wares. Tankards and mugs in a variety of sizes are the only vessel forms recovered in Charleston to date. Buckley earthenware is a thick crockery of red and yellow swirled clay, with a thick black lead glaze; two sherds were recovered. Southern European ware is the name given to a distinctive earthenware with sandy salmon and grey paste and an apple–green glaze.

The final ceramic types were Colono wares, the unglazed low–fired earthenwares of local manufacture. These ceramics have long been of interest to South Carolina archaeologists, as they are found in great quantity on Lowcountry sites of the 18th century. Most scholars believe that the bulk of these wares were manufactured on plantations by enslaved African Americans (Ferguson 1992). Some of the wares may be the product of itinerant Catawba Indian traders. The manufacture and distribution network of these wares is poorly understood and is currently receiving some attention (Crane 1993). Colono wares form a major component of 18th century lowcountry plantation sites above Charleston (as much as 50%) and to a lesser degree planter sites. They seem to be far less common on plantations south of Charleston (Steen 1996). They are also consistently present on Charleston sites, averaging 5% of the ceramics. They are often more numerous in the early 18th century, and decline rapidly after the turn of the 19th century. Three subtypes, as defined by Ron Anthony (1986) are recognized in the Charleston collection. Yaughan is the coarsest, and features a porous, crudely smoothed or unsmoothed surface with a grainy texture, bot inside and out. The most commen is Lesesne lustered, with a lustrous, well smoothed

surface that often has a waxy feel. The finely made River Burnished wares are thinner and harder fired, and the clay is often micacious. In Charleston, these wares often exhibit surface painting in red or black, presumably from sealing wax. The late 18th century assemblage contained one fragment of Yaughan and 22 fragments of Lesesne Lustered ware, comprising 14.8% of the ceramics. Of particular interest was a well-made bowl from the zone 6 deposits (figure 88). This vessel featured a rounded bottom and more or less vertical sides, with a rounded lip. About 2/3 of the vessel was reconstructed.

The remaining 52% of the kitchen group was composed of glass artifacts. Most numerous were fragments from olive green bottles, used most often for alcoholic beverages. These hand-blown bottles evolved from squat, "onion" bottles in the 17th century to tall, cylindrical bottles in the early 19th century. Fragments of these containers litter every colonial site. 125 fragments of green glass were recovered from 18th century proveniences, including bases, necks, and a reconstructable bottle from the zone 6 deposit (figure 38). This vessel is relatively short and wide, but does exhibit the straight sides which appear in the 1720s. Far less common, but present in small amounts, was clear bottle glass. Six fragments could be positively identified as pharmaceutical vials. The final category was table glass, fragments from hand blown tumblers and goblets. Table glass comprised 1% of the kitchen group.

Architectural materials comprised 39% of the driveway assemblage and 22.3% of the 1995 assemblage. Window glass and nails were the principal components of this group; the brick and mortar rubble from the proveniences was sampled and discarded, and thus is not included in the tabulations. All of the window glass was light aqua in color, typical of colonial period glass. The majority of the nails were too corroded for positive identification, but a number of hand wrought nails could be discerned. The final architectural artifact type was delft tile fragments. A larger number of these were recovered from Russell-era proveniences, so they will be described there. Nonetheless, the style of decoration on the tiles suggests that they date to the 3rd quarter of the 18th century, and thus must predate the Russell house (figure 46).

No Arms or Personal materials were recovered from either excavations. Only two clothing items were recovered from each excavation, comprising 5.2% and .46% of the assemblages. These included a glass bead and a buckle. The bead was a small blue wire wound one. The buckle was only a fragment, but appeared to be a small clothing buckle. The remaining two artifacts were one-hole bone buttons. Two Furniture artifacts were recovered from the '95 excavations, for .46% of the assemblage. One was an upholstery tack. The other was a well preserved brass candle sconce, designed as a wall hanging. The well-made artifact featured a champfered stem in a baroque style. The bowl of the candle held a very small (1/2 inch) taper (figure 58).

Kaolin pipe fragments comprised 5.2% of the driveway assemblage and 2.8% of the 95 assemblage. Activities items comprised 2.6% from the driveway and 5.8% of the 95 assemblage. Iron barrel strap fragments were the majority of the Activities items; the other was a single fragment of a red clay flower pot.

Russell Period Assemblage

The Russell family left a far greater imprint on the archaeological record than did the 18th century inhabitants. The 1994 excavations revealed 5175 artifacts from 37 proveniences. The driveway yielded 704 artifacts from 23 proveniences, and the '95 excavations revealed 5749 artifacts from 73 proveniences. Contained within this assemblage, however, are several proveniences which are evidently associated with demolition of the earlier house. Their TPQ, and the interpreted sequence of events, suggests that Nathaniel Russell was indeed responsible for these soil deposits; however, much of their artifact content must be materials discarded by previous occupants, redeposited during early 19th century demolition. This suspected redeposition is reflected in a number of distinct artifact types found in both the late 18th century and Russell period assemblages, particularly the delft tile fragments and the George III half pennies.

Kitchen materials comprised 48.3% of the driveway proveniences and 58.6% of the '95 assemblage; these groups consist of 64% ceramics and the remainder of glass. Table and tea wares comprised at least 78% of the ceramics. The most expensive ceramics, Oriental porcelain, comprised 13% of the ceramics. Most common were fragments of the blue on white underglaze porcelain manufactured throughout the 18th century. Some of these fragments may be redeposited from earlier proveniences, but the majority appear to have been used, broken and discarded by the Russells; 75% of the porcelains were of this type. The Russells appear to have also purchased a set of the Canton–style blue on white porcelain, which appears after 1800. Twenty eight fragments of this ware were recovered from Russell–era proveniences (figure 74).

Overglazed Oriental porcelains from the 18th century comprise 10% of the porcelains. Numerous fragments from different styles and vessels are present, but the most distinctive are a series of large fragments of a set which features a red and gold dart motif around the border and the edge of the marley. Recovered fragments suggest a sparse floral motif elsewhere on the vessels (figure 75). A large quantity of fragments from this set were recovered beneath the kitchen, and all of these are from flatware forms (plates and platters) but other matching fragments were found throughout the garden area. Fred Andrus also recovered a number of fragments from this set in his 1990 work. This style dates to ca. 1770; it is tempting to suggest that this was an inherited set of dinnerware, perhaps brought to the house by Mrs. Russell. It is important to remember that the Russells were married in 1789 and had been sharing a household for 20 years before they moved to Meeting Street. The evidence is clear that this porcelain was manufactured before the house was built, but used and discarded during the Russells' tenure. The porcelain group also included some rare English wares. In particular were three fragments of a soft paste porcelain decorated on gold leaf, areas of blue underglaze, and some floral motifs. This may be a Spode product, and dates to c. 1810 (Ottilie Bentz, personal communication, 1995) (figure 30). The unit beneath the kitchen also contained fragments of a sprig decorated stoneware, with cream colored cherubs and other figures on a light blue background. Ottilie Bentz has dated this ware to c. 1840 (figure 34). The latest porcelain was the plain white porcelain mass produced in America after 1850.

As would be expected for an early 19th century assemblage, refined earthenwares dominate

the ceramic assemblage. Creamwares comprised 25.3% of the ceramics, pearlwares 27.5% and whitewares, developed after 1820, 5.6%. A revolution occurred in earthenware manufacture in the 1740s to 50s, when Josiah Wedgwood developed a refined earthenware with a cream colored glaze which he called cream coloured ware, or creamware. Perfected in the 1760s, creamware rapidly became immensely popular due to its durability, affordability, and availability in a wide variety of vessel forms and matched sets. Wedgwood matched his potting abilities with marketing savvy; by the 1770s creamware was "the rage" and could be found in every corner of the world (Martin 1994). According to Ann Smart Martin, Wedgwood managed to compress the cycle of luxury–to–common consumption into a very short time period. By continually introducing new styles, Wedgwood satisfied both the middle class consumer eager to display knowledge of manners and the fashionably wealthy who sought to distance themselves from the nouveau. In the 18th century, the upper class often chose creamware for an everyday china. After 1820, it was relegated to large, utilitarian forms such as bowls and chamber pots and was considered the least expensive ceramic.

Creamwares comprise 25% of the Russell's ceramics. This group includes four fragments of the green or clouded glazed earthenware called Whieldon wares, first manufactured in 1740 (figure 32). Far more interesting was the group of 13 overglaze decorated creamwares. Four of these featured a black transfer printed decoration, of a type produced in English factories through the remainder of the 18th century. Two pearlware sherds exhibited shell edge–style hand painting over the glaze; these appeared to be from special service vessels (figure 33). The remaining fragments were flatware forms with a variety of decorations. Most distinctive were two fragments from royal pattern creamware plates. They featured a brown stripe around the rim, and a swag pattern of black and brown swirls. Several fragments of this distinctive ceramic were recovered in 1990, and two more in 1994 (figure 78). It is possible that these were painted by a local ceramic painter, such as Mr. Lessley who advertised in 1770 that he "also paints on china and the cream colored ware Gentlemen's Coats of Arms, or any patterns they might choose" (South Carolina Gazette, October 13, 1770) Again, manufacture of this ceramic may predate construction of the Russell house, but the ware appears to have been used and discarded by the Russells.

Josiah Wedgwood continued to experiment with production of whiter ceramics; in 1779 he introduced "pearl white" china. By adding cobalt to the lead glaze to negate its natural yellow tint, the vessel took on a bluish–white cast. A variety of decorative motifs – hand painting in blue or polychrome, shell edging in blue or green – were introduced in 1780. Still others – transfer printing, annular designs – were introduced in 1795. Thus the presence or absence of various creamware and pearlware types are important in dating archaeological deposits. Some of these decorative motifs are associated with specific vessel forms and relative costs (Miller 1980; 1991; Otto 1979). Transfer printed wares came in a range of hollow and flat forms, and in complete sets for table or tea; these were the most expensive. Annular ware, with its variety of stripes, were always unmatched bowls and mugs. Designed for casual dining and one–pot meals, these were the least expensive decorated wares. The hand painted wares were most often tea wares, and the handleless cups, saucers, cream pots, and small pitchers come in a large, but finite, number of floral and geometric designs. The shell edged wares were predominantly flatware (soup bowls and plates in various sizes). These were moderately priced (Miller 1980, 1991). Pearlwares

comprise 27.5% of the Russell's ceramics, and include blue hand painted, polychrome hand painted, shell edged, annular, and transfer printed designs in comparable amounts. Two new styles of polychrome hand painted pearlware were recovered in the unit under the kitchen. The more complete of the two featured bright flowers with orange/rust and yellow petals, lavender leaves, and stylized orange/rust leaves. The second featured a series of stripes, dots, and scallops in rust, yellow, brown and blue (figure 29). These particular designs were not recovered in Charleston prior to the present project. Nearly 45% of the pearlware fragments were undecorated; however, completely plain pearlware forms are rare, and most of these sherds are probably from the undecorated portions of other styles.

Wedgwood and others continued to work with the pearlware glaze formula, still striving for a white ceramic. By about 1820 this was achieved, and all refined earthenwares after that period are classified as whitewares. The same decorative techniques were used on whiteware, though the color palette changed from the earthen tones of the late 18th century (rust, golden yellow, sage green, cobalt blue, brown) to brighter primary colors, such as black, purple, mulberry red, forest green, and light blue. Transfer printing in colors other than blue became popular after 1830. By mid-century, vessel style changes from the thin delicate wares characteristic of the Georgian period to thicker, angular or octagonal vessels, often undecorated. Whitewares comprise 5.6% of the Russell's ceramics. The majority of these are undecorated, a style which peaked in popularity in the 1850s, followed by blue transfer printed wares, also popular through the mid-19th century. Two fragments of Flow Blue transfer printed ware were also part of this assemblage. This special technique allowed the blue design to bleed or "flow" beyond the transfer stencil, giving a rich, deep color to the somewhat blurred transfer printed designs. Flow Blue ware (which also comes in black, mulberry, and other colors) was developed after 1840 and is most often seen on the thicker, paneled vessels popular in mid-century.

Other table and tea wares of the Russell assemblage include a number of stoneware styles from the 18th century. Four fragments of Elers ware and one fragment of Black Basalte ware were recovered. Elers ware was an elegant unglazed red stoneware, principally a tea ware. It was first manufactured in 1763 and remained popular until c. 1775. The black variety, known as Black Basalte ware, was developed around the same time but remained popular into the 1820s. Seventeen fragments of Nottingham stoneware were recovered. This ceramic features a grey stoneware body and a lustrous brown glaze over a white slip. The vessels often feature distinctive incised decorations. Nottingham was first developed in 1700 and manufactured until 1810. White saltglazed stoneware preceded the refined earthenware as a molded white ceramic for dinner and tea. Developed in 1740, it was relatively expensive and its popularity plummeted after the development of creamware. White saltglazed stoneware comprised 1.5% of the Russell's ceramics.

In addition to these stonewares, a few examples of the "fine" coarse earthenwares were recovered. Included in this group are sherds of Astbury ware, Agate ware, and Jackfield ware, from the mid to late 18th century, and Portobello ware, from the early 19th century. Astbury ware is a thin redware with a clear lead glaze, often decorated with sprigs or trailings of white clay. Jackfield exhibits a thin red or dark grey paste and a very fine, almost oily black lead glaze. Agate ware exhibits a paste of swirled red and yellow clay with a clear lead glaze producing an agate-like

appearance. The final ceramic was a teapot fragment of fine red clay with a dark lead glazed exterior and a white slipped interior, reminiscent of the Portobello wares. Manufactured in Scotland by the Scott brothers from 1796 to 1825, Portobello ware exhibits these attributes, plus an overglaze transfer printed design in yellow (Lindsay 1962). Sherds are routinely recovered in Charleston which feature all of the characteristics minus the transfer printing; these are descriptively classified as "Portobello-like" (Lindsay 1962).

The final ceramics classified as table wares were fragments of delft, which comprise 4% of the ceramics. As the period of popularity for delft had passed many years prior, it seems that the majority of these ceramics must be present due to redeposition. The most common wares were undecorated or hand painted in blue.

Utilitarian wares comprised 23% of the ceramics, comparable to the 1994 assemblage. Most numerous were fragments of combed and trailed slipware, comprising 7.2% of the ceramics. Red-bodied slipwares from colonial potteries are also present; ten sherds were recovered. These slipwares feature an orange clay paste and simpler white slipped designs, sometimes with additional spatters of green glaze. Another product of colonial potters were small bowls of lead glazed redware. The interior of these vessels is often covered in a white slip to which spatters of darker glaze is applied in a variety of patterns. The exterior is usually a plain brown lead glaze. Other vessels, some with handles, have a plain lead glaze on the interior, as well. The foot ring of these vessels is always unglazed. Made by a number of potters from Virginia to Massachusetts, these wares are consistently recovered on Charleston sites. In absence of information on these regional potters, they are lumped as "mid-Atlantic Earthenwares" (Steen 1989). Five fragments were recovered from the Russell proveniences. The Russell assemblage also included a number of lead glazed earthenware fragments, mostly from smaller cooking and storage vessels. These comprised 3% of the ceramics. The final category of utilitarian earthenwares was Spanish olive jar; eight fragments were recovered. These wares were ubiquitous in the Spanish colonial world. The thick vessels feature a sandy salmon-colored paste with a whitish wash and heavy finger ridges on the exterior of the vessel. The interior, also finger-ridged, may be lead glazed, often in green, or other colors. The vessels feature a pointed, not flat, bottom; wide, high shoulders, and a narrow neck with rounded rim, suitable for securing a string around and underneath it (Deagan 1987). Two additional wares were recovered in fragmentary form, from proveniences in N221E174 and N213E210. The first is a buff-colored storage jar with a thin, cream colored tin enamel decorated with green splotches. The second is a sandy redware with a red film (figure 36).

Utilitarian stonewares included brown saltglazed stonewares, principally in jugs and crocks, and Westerwald stonewares, principally jugs and chamber pots. These wares comprised 1.6% of the ceramics. Finally, Colono wares comprised 5.6% of the Russell ceramics. The Lesesne lustered variety was the most common, followed by Yaughan. Eleven sherds of River Burnished ware were also recovered.

Glass fragments comprised the remainder of the kitchen group, 36%. Fragments of olive green bottle glass were the most common, followed by clear container glass. Container glass in aqua, brown, and blue was present in smaller amounts. These glass colors increase in frequency

as the 19th century progresses; at the same time, hand blown bottles were replaced with mold–blown bottles. At least some of the olive green glass fragments may be molded but it was not always possible to determine this. Blue bottle glass is most often associated with mineral or soda water, which became popular by mid–century. Brown bottles were most often for beer. Two fragments of milk glass, developed after 1850, were present. Thirty three fragments of pharmaceutical vials were present. These were either entirely hand blown or blown into a mold; they were square or round, and ranged from clear to light green to dark green (figure 41). Table glass comprised 2.5% of the kitchen group, and featured fragments of tumblers, goblets, and decanters (figure 40). A faceted cruet stopper was the most distinctive artifact. Also recovered were 4 fragments of cobalt blue glass, possibly from a finger bowl. These were recovered from beneath the kitchen (figures 80 and 81).

Other kitchen artifacts included six fragments of tin cans, developed in the mid–century, and iron kettle fragments. Finally, six cutlery artifacts were recovered, including bone knife or fork handles, an iron knife blade, and a pewter spoon bowl (figure 42).

Architectural materials comprised 48.7% of the materials from the driveway excavations and 37.3% of the materials from the 1995 project. Nails and window glass comprised the great majority of items from this group, and almost all of the nails were unidentifiable due to advanced corrosion. No wire nails, manufactured after 1850, were identified in this group; a total of 65 hand wrought and 16 machine cut nails were rcognized. Window glass was dominated by clear fragments (567), but the earlier light aqua glass was also present in a significant amount. So too were clear fragments exhibiting a frosty white patina, possibly suggesting leaded, or higher quality, glass. The driveway excavations yielded several fragments of glass that exhibited names scratched into the surface. These eight fragments mended to reveal a flourish, followed by "Mifs H.." and "Mifs Bell.." The fact that they are girl's names would suggest that the writing occurred during the eras of the schools; however, the fragments were recovered from zone 6, a provenience deposited during the Russell's tenure (figure 43).

Other architectural items included nine fragments of delft tiles, including an almost complete, reconstructable tile. Like the other smaller examples, this tile featured flowers in the corners, then an octagonal border of stripes, with a dot–in–square motif, and a central figure, in this case a milk maid (figure 46). Six spikes were recovered; they were distinguished from large framing nails by the diameter of the shank, and their function is unknown. The five copper nails were from a slate roof. Other hardware included a fireplace hook and a door lock plate.

Arms materials comprised .05% of the assemblage and consisted of three items, a lead flint grip and two lead shot. Another shot was recovered from the driveway excavations. The clothing group was larger and more varied, and included 40 items, for .66% of the assemblage. The driveway revealed a brass button and a straight pin. The summer excavation revealed 13 one–holed bone buttons, a four holed bone button, and nine brass buttons. Five beads were recovered, along with two buckles and four straight pins. Other items included a cuff link, a shoe grommet, and two sections of brass chain (figure 49).

Personal items comprised .22% of the summer assemblage and included 13 items. (No personal items were recovered from the driveway.) These included six coins, either Spanish reales or British half–pennies (figure 53). Other items included a fragment of a clay wig curler, a jewelry fob, two umbrella or parasol struts, and the end of a brass ruler, stamped 24 (figure 45). Two slate pencils completed the group. Furniture items comprised an additional .22% of the assemblage, and this group was also quite varied. Five additional furniture items were recovered from the driveway. Upholstery tacks were the most numerous; all of these exhibit a domed head and square shank typical of the 19th century. Three small brass curtain rings were also recovered. Other furniture hardware included two brass disc surrounds, and a heavy drawer pull. The final artifact were three identifiable fragments of lamp glass (see figure 57, figure 84).

Kaolin tobacco pipes comprised 1.87% of the Russell assemblage, and Activities items comprised .99%. The later group was dominated by fragments of red clay flower pots and children's toys, particularly marbles (figure 55). Other items included unidentified scrap lead, scrap brass, and iron barrel straps. The final item were two lead bale seals.

Allston Assemblage

The Allston era (1857–1870) assemblage consisted of 839 artifacts from 15 proveniences in the driveway, with an additional 1990 artifacts from 104 proveniences excavated last summer. This smaller assemblage and somewhat shorter period of site occupation nonetheless covers a pivotal period in the history of the house and the city in general. Kitchen materials comprise 43.4% of the driveway assembage and 49.6% of the summer assemblage. Ceramics comprised 47% of the kitchen group, and porcelains comprised 18.4% of the ceramics.

Allston era proveniences contained the most notable porcelain of the project; fragments of a very fine two–handled urn of Chinese export porcelain. The vessel, of pure white porcelain, probably stood about two feet high. Seven fragments of this vessel were recovered in 1994 from N150E100. The largest sherd exhibited a narrow neck and high shoulder; beneath the shoulder was a central medallion. This medallion was outlined in bands of blue underglaze and red and gold overglazed decoration which were exceptionally well executed. The principal decoration around the medallion featured gold grapes and grape leaves. The small portion of the center of the medallion suggests that it was filled with a delicate floral design in blue and gold. Medallions on either side of the vessel were connected by swags of raised husks (separate applications of clay), decorated in blue and gold. The vessel dates to circa 1800, and was adapted from late 18th century designs by Josiah Wedgwood (Schiffer et al. 1980; Robert Leath, personal communication). An additional fragment of this ceramic vessel was recovered in 1995 from unit N100E100 (figure 31). This suggests that the entire vessel may be discarded in refuse deposits along the back wall, and the temptation to excavate this entire area is difficult to resist.

Canton porcelain, manufactured after 1800, is the most common porcelain in the Allston assemblage, followed blue on white underglazed examples from the 18th century. Overglazed

porcelains were far less common in the Allston assemblage. A large number of American white porcelain fragments, manufactured after 1850, were recovered as well.

Refined earthenwares alone comprise 66% of the ceramics. Creamwares comprise 19.8%, pearlwares, 27% and whitewares, 19%. The increase in relative proportion of whitewares to the earlier creamwares and pearlwares is reflective of the mid-19th century date of deposition, while the overall quantity of these wares relative to other ceramics reflects the increased availability of such wares during the industrial era. The majority of the whitewares were undecorated, as is typical for the mid-19th century. Also present were two fragments of flow blue ware, manufactured after 1840; a third fragment was a more unusual "flow black" transfer printed ware.

Three other early 19th century table wares were present in the Allston assemblage. They included Portobello ware, manufactured from 1796-1825, and Canary ware, made from 1810-1825. The latter is a refined earthenware with a white paste and a bright yellow glaze, hence the name. It is often decorated with an overglaze transfer print, usually in red. The most common vessel form is children's cups. Also recovered from the driveway were two fragments of a Jasper-type ware. This featured a blue ceramic body with white sprigged designs, and a clear glaze (figure 34).

In addition to these, a moderate number of 18th century ceramics were present, including white saltglazed stoneware, Nottingham stoneware, and jackfield ware. These may be redeposited from earlier strata, or discarded after decades of use. At the present time, there is no method for determining the actual source of such ceramics. Delft wares accounted for an additional 1.6% of the ceramics. In addition to these, some or all of the creamwares and pearlwares may be present as a result of redeposition.

Utilitarian wares comprised only 12% of the Allston ceramics. These included 19th century albany-slipped stoneware and yellow ware, the refined earthenware everyone remembers as their grandmother's mixing bowl. Eighteenth century earthenwares such as Combed and Trailed slipware and lead glazed redwares were present in small numbers, as were stonewares such as Westerwald and brown and grey saltglazed ware. Colono wares comprised 2.8% of the ceramics.

Glass artifacts comprised 53% of the kitchen group. Olive green bottle glass continued to dominate the glass group; green glass was four times as common as clear container glass. Moderate amounts of aqua glass was recovered, followed by blue and brown glass. Three fragments of milk glass were also recovered. No identifiable pharmaceutical glass was recovered. Table glass comprised 3.7% of the kitchen group.

Architectural materials comprised 54.5% of the driveway assemblage and 47.6% of the 95 assemblage. Again, nails and window glass dominated the group. A single wire nail was identified, and the remainder were unidentifiable, but appeared to be square in cross-section. The window glass group was dominated by clear fragments (349), followed by the earlier aqua fragments (187). Only four fragments of the window glass with the frosty white patina were recovered. Nine copper nails, for slate roofs, were recovered, and four spikes were recovered.

A single Arms artifact was recovered from the driveway excavations, and none were recovered in the 95 project. This was a small lead shot. Clothing items comprised .95% of the driveway assemblage and .7% of the summer assemblage. This group included bone one–hole buttons, bone 4–hole buttons, porcelain buttons, and brass buttons. The other distinctive artifact was a glass button or cuff link setting. The driveway excavations yielded four straight pins and a clothing hook (figures 47 and 50). The personal group comprised .3% of the summer group, and consisted entirely of slate pencils. Furniture comprised .23% of the driveway assemblage and .3% of the summer assemblage. This group included three upholstery tacks, three curtain rings, a chandelier crystal, and an unusual brass eye on a pointed base, designed to be driven into wood (figure 57).

Kaolin tobacco pipes comprised .23% of the driveway assemblage and .65% of the summer group. Activities items comprised .59% of the driveway materials and .75% of the summer group. The most common materials in the activities groups were flower pot fragments, reflecting gardening activities, and marbles, reflecting the presence of children. A single lead bale seal was recovered. The remainder of the group consisted of fragments of brass, lead, and iron fragments.

Sisters of Charity Assemblage

The late 19th century occupation by the Sisters of Charity left a surprisingly substantial mark on the archaeological record. First, it was presumed that the relative poverty of the Sisters in particular, and of all Charlestonians in general during this era would be reflected in a reduction in discarded materials. Secondly, off–site refuse disposal was in place for at least some of Charleston by this time. Therefore, both the quantity and diversity of archaeological proveniences, and the density of their contents is somewhat surprising. It may be that the Sisters worked to keep the site clean during this period, and initiated much general refuse disposal, coupled with a lack of access to off–site disposal. In any case, 9 proveniences and 242 artifacts were identified from the driveway excavations, and 6,662 artifacts from 40 proveniences were identified during the summer project.

Unlike the 1994 project, the proportion of ceramics to glass artifacts for the Sisters assemblage remained comparable to that of the earlier assemblages. Ceramic and glass materials each comprised 50% of the kitchen group. The overwhelming majority of the ceramics were tablewares, nearly 84%. Chinese porcelains remained an important part of the assemblage, comprising 15% of the ceramics. The white porcelain developed in 1850 increased in frequency, while the imported Canton porcelain decreased relative to earlier assemblages. Blue on white porcelain from the 18th century remained a large part of the recovered porcelains. Some of the white porcelains exhibited gold hand painted designs; gilt decorations are a hallmark of the 1880s–90s. Creamware and pearlware continued to be a major component of the Sisters' ceramic assemblage; creamwares comprised 16.7% of the ceramics and pearlwares were 15%. The majority of these were blue transfer printed wares. Whiteware increased dramatically in importance, and comprise 31% of the ceramics. Undecorated fragments are by far the most common, followed by blue transfer printed and annular wares. Redeposited 18th century tablewares, particularly delft

and white saltglazed stoneware, accounted for the remainder of the tablewares, and comprised 5% of the ceramics. Rockingham ware was also an important component of the Sisters assemblage. This refined earthenware features a yellow paste and a blotched or speckled glaze in brown and yellow. The most common vessel form are paneled pitchers in various sizes, often featuring the figure of "Rebecca at the well" in molded relief. Rockingham spans the entire 19th century, and was manufactured in northeastern potteries from 1818 to 1900. Two reconstructable pitchers in this style were recovered from the dense refuse deposits in N100E100. A larger pitcher of this same style was recovered in 1990 (figure 37).

Utilitarian wares comprised 16% of the ceramics, and consisted of various stoneware jugs and crocks, lead glazed earthenwares, and slipwares. Yellow ware preparation and storage vessels comprised 1.3% of the ceramics; lead glazed earthenware vessels comprised 3.3%. Colono wares declined to 1.6% of the ceramics; however, the presumedly later River Burnished wares increased in proportion to the other types.

Glass materials comprised 50% of the kitchen group. Olive green glass again dominated the glass group, and the majority of these were from hand blown bottles. Clear bottle glass increased in popularity during this time, and 494 fragments were recovered. Twenty fragments of brown bottle glass, for beer, were recovered. A significant number of blue glass fragments were recovered (16). Blue glass bottles of the late 19th century usually held bottled soda or mineral water, which became popular due to a lack of good drinking water in most cities. Forty nine fragments of aqua glass were recovered; most of these are likely from pharmaceutical glass, but they were too fragmentary for positive identification. 84 fragments were positively identified as from medicinal bottles. Fourteen fragments of milk glass, developed after 1870, were recovered; some of these were from decorative or table wares, others from cosmetic containers.

In addition to these numerous fragments, 33 whole or identifiable bottles were recovered from late 19th century proveniences. The majority came from the dense refuse deposits in the rear corner of the property, unit N100E100 (figure 39). These bottle types included the rounded bottom "torpedo" bottles for carbonated water, small paneled medicine bottles, oblong bottles for medicines, domed ink bottles, carmine ink bottles, conical ink bottles, and nickel cologne bottles. Like the numerous slate pencils, the ink bottles may reflect the function of the site as a school during this period. In addition to glass, numerous fragments of tin cans were recovered (107). Also recovered were three fragments of iron kettles. Two spoons and a bone knife handle were also recovered.

Architectural materials comprised 45.5% of the driveway assemblage and 43.5% of the summer assemblage. Nails and window glass dominated the assemblage, and all but 16 of the recovered nails were too corroded for complete identification. The unidentifiable nails did all appear square in cross-section, however, suggesting that they were wrought or cut. Four wrought and sixteen machine cut nails were positively identified; two wire nails were recognized. Broken window glass dominated the architecture group; a total of 1879 fragments were recovered. Clear glass was twice as common as the earlier light aqua glass, and a significant amount of the glass with a frosted patina was also present (254 fragments).

Several interesting architectural artifacts were recovered from the demolition layer in the small rear room (Units N205.5E126, etc.) Several fragments of decorated window glass were recovered. These featured a border decoration of frosted glass with clear flourishes. Such a window style was popular in the late 19th century and would be found in a door surround or transom window (figure 43). Also recovered from the same deposit were two brass artifacts, currently unidentified. One may be the mechanism for a bell pull. Other hardware items include a decorative door hook, a hinge, and an agate ware door knob. Eighteen copper nails, for slate roofs, were recovered. Two fragments of delft tile, clearly redeposited from late 18th century proveniences, completed the group.

Eleven Arms artifacts were recovered from the 1995 proveniences, for .16% of the assemblage; none were recovered from the driveway. Most of these were unspent bullets, recovered from N100E100. The reason for their presence is unknown. Due to their unstable nature, they were cataloged and discarded. Clothing materials comprised .41% of the driveway assemblage and .82% of the 95 assemblage. Four hole bone buttons and porcelain buttons were the most common artifact; these are traditionally used on undergarments or everyday ware of the 19th century. Brass buttons and mother-of-pearl buttons were also recovered. Sewing implements included a thimble and two straight pins (figure 50). Eight clothing or shoe buckles completed the group.

The personal group comprised .55% of the assemblage, and included artifacts directly reflective of the late 19th century site occupants. Dominating this group were 23 slate pencil fragments, reflecting the role of the site as a school. Four bone tooth brushes were also recovered, as were two hard rubber hair combs (figure 54). The three recovered coins included Liberty pennies from 1883 and 1891, and an illegible British coin (figure 53). Two religious artifacts were also recovered. The first was a tiny heart-shaped medallion with the entire Lord's Prayer embossed on its surface. The second were three small white glass beads joined with links of brass wire; these appear to be a section of rosary beads (figure 51). These are the first artifacts clearly reflecting the Catholic presence on the site.

Furniture materials comprised 1.2% of the driveway assemblage and .31% of the 95 group. This group included nine upholstery tacks, four curtain rings, three wood screws, and a small hinge, a match for one recovered in 1994 (figure 57). Another unidentified artifact was a fragment of some type of small, complex hinge. Two fragments of mirrored glass were recovered. Two kerosene lamp works completed the group (figure 56).

Kaolin tobacco pipes comprised .41% of the driveway assemblage and .97% of the '95 project. Activities items comprised 3.3% of the driveway and 1.7% of the summer group. The activities group was dominated by fragments of red clay flower pots (52). Fragments of iron barrel straps were also common. Three marbles from the yard and four marbles from the driveway and porcelain doll fragments completed the toy group, while a bone domino reflected games. A thin brass horse shoe appears to be a decorative item, probably for a child. A large lead bale seal was recovered from N130E188, and this unit also contained the most dramatic equestrian artifact, a decorated brass spur, in a style typical of the 19th century (Noel Hume 1969) (figure 58). A

fence staple and brass rivet were miscellaneous consruction items. Brass wire, iron and lead scraps completed the activities group.

20th century Assemblage

The 20th century assemblage consisted of 13 proveniences and 453 artifacts from the driveway, and 17 proveniences and 2099 artifacts from the '95 project. Each of these proveniences contained a single, or very few, twentieth century artifacts associated with their recent deposition, and a host of 18th and 19th century materials that were redeposited in the 20th century activites (such as the early 20th century sewer pipe in the parking area and the large conduit trench in the driveway). Because these materials do not reflect activities of their period of deposition, the assemblage will not be discussed in detail here. Data relating to this assemblage can be found in the various tables in this section.

A few notable artifacts were recovered from 20th century proveniences and bear mentioning. Most unusual was the strip of slave tag, clearly cut. The shape of the artifact is unmistakable, and a portion of "Charleston" is visible. Absent from the recovered fragment are any evidence of the occupation or date. Though in a 20th century provenience, it was most likely discarded shortly after emancipation, and is considered in discussions of 19th century site activities.

Table 3

Guide to Temporal Subdivision
(by FS#)

Late 18th	Russell	Allston	Sisters	20th cent.
151	139 225 339	136	132 314	130
157	146 227 340	137	134 315	131
245	147 228 341	138	135 321	133
253	148 229 343	142	141 323	140
254	149 231 344	144	158 326	143
255	159 232 345	145	166 327	150
256	170 233 346	154	167 328	152
257	171 234 347	155	173 331	153
258	172 235 348	156	192 332	161
259	174 237 349	162	194 335	163
264	175 239 350	165	199 336	164
267	176 240 351	168	201 338	177
278	178 241 352	169	202	190
285	179 251 353	177	203	195
288	180 260 354	183	204	196
	181 261 355	238	207	197
	182 263 356	242	208	198
	184 267 357	248	210	200
	185 268 358	269	211	216
	186 281 359	271	212	226
	187 282 360	277	230	236
	188 291 361	279	244	249
	189 292 362	287	246	250
	205 294	290	247	252
	206 296	301	262	309
	209 297	302	265	310
	213 298	303	266	312
	214 300	305	270	320
	215 304	318	273	324
	217 306	325	274	337
	218 307	329	275	
	219 313	330	276	
	220 316	333	284	
	222 317	334	286	
	223 319		308	
	224 322		311	
	225		314	

Table 4

Quantification of the Assemblages

Item	late 18th	Russell	Allston	Sisters
(Kitchen)				
porcelain, b/w	38	237	18	136
porcelain, o/g	1	25	5	22
porcelain, Canton		34	21	65
porcelain, white		5	16	105
porcelain, gilt white				12
porcelain, soft paste		1		2
porcelain, mazarin blue		1		1
Sprigged ware		10	2	
Parian ware				2
Jasper ware				2
Porcelain urn				1
stoneware, 19th cent.		21	19	34
Edgefield stoneware				12
Brown saltglaze stoneware	1	16		9
Westerwald stoneware	41	23	1	19
Elers ware		4		3
Black basalte ware		1		2
Nottingham stoneware		18	1	1
White saltglaze stoneware	4	36		26
Slip dipped wsgs		2		
Scratch blue stoneware				
Astbury ware	3	4		4
Agate ware		2		2
Jackfield ware		1	1	2
Whieldon ware	5	2	3	
Creamware, hand painted		7		2
Creamware, transfer printed		4		
Shell edge pearlware, overglazed		2		
Creamware		583	100	325
Pearlware, undecorated		288	51	103
Pearlware, blue hand paint		62	8	22
Pearlware, poly hand paint		87	1	15
Pearlware, shell edge		57	8	21
Pearlware, annular		69	20	36
Pearlware, transfer print		92	62	106

Whiteware, undecorated		40	37	384
Whiteware, hand painted		5	4	12
Whiteware, shell edged		3	1	4
Whiteware, annular		6	10	51
Whiteware, blue tr. pr.		77	20	122
Whiteware, tr.pr., other		2	2	18
Flow blue ware		2	2	4
Yellow ware		4		25
Rockingham		1	1	9
Canary ware			1	2
Portobello ware		1	1	2
Luster ware				1
Slipware, Combed and Tr.	19	172	21	81
Slipware, American		10		7
Buckley	2	5		1
Mid Atlantic earthenware		5		2
Mottled ware	4	2		4
Southern European ware	1	1		
Lead glazed coarse earth.		44	2	36
Black lead glazed c.earth.		28	5	17
"red gritty ware"		6	8	
"Spanish tin enameled ware"		15		
unglazed coarse earth.	1	7	2	10
Delft, undecorated	6	57	4	35
Delft, b/w	1	42	1	20
Delft, polychrome		6		1
Colono ware, Yaughan	1	25	4	9
Colono ware, Lesesne lust.	22	77	3	13
Colono ware, River burnished		11	3	8
Olive Jar		8		1
N. Devon Gravel Tempered	8	3		
Sgraffitto slipware	1			
Olive green glass	127	855	356	863
lt. olive glass		16	4	36
aqua glass		33	33	83
blue glass		7	2	17
brown glass		7	7	31
clear glass	21	239	77	558
manganese glass				9
milk glass		2	3	14
table glass	3	98	37	76
pharmaceutical glass	6	33		84
cutlery		6		3

tin can		6		107
whole bottles				33
(architecture)				
nail fragment	20	424	282	623
nail, unidentified	51	488	106	516
nail, wrought	31	72	1	3
nail, cut		19	1	15
nail, wire		6	1	3
window glass, aqua	27	449	187	786
window glass, clear	5	567	349	993
leaded flat glass		443	4	383
delft tile	1	9		2
misc hardware		2	6	6
brass nail		5	9	19
spike		6	4	2
(arms)				
flint grip		1		
shot		2		3
shell				9
(clothing)				
bone button, one hole	1	13	4	
bone button, 4 hole		1	2	11
porcelain button				19
brass button		10	1	4
iron button			1	
hook & eye				3
bead	1	5		2
shoe buckle	1	2	1	8
jewel setting			1	
thimble				1
lace bobbin			1	
straight pin		5	1	2
shell button			1	6
grommet			1	
shoe heel			2	
(personal)				
tooth brush				2
coin		6		3
slate pencil		2	4	3
umbrella strut		2		

hard rubber comb				1
wig curler		1		
ruler fragment		1		
jewelry fob		1		
domino				1
religious				2
(furniture)				
upholstery tack	1	9	1	10
decorative hardware		2		5
drawer pull		2		
furniture surround		2		
curtain ring		3		5
wood screw				3
candle sconce	1			
lamp chimney				1
mirror			2	
chandelier prism			1	
(tobacco)				
bowl	4	28	3	23
stem	9	93	9	44
(activities)				
flower pot	1	37	5	57
marble		1	2	7
misc. toy		1		2
barrel strap	21	5	2	30
tool				
whetstone				
bale seal		2	1	1

Temporal Changes in Artifact Patterning

In 1977, Stanley South published the seminal work *Method and Theory in Historical Archaeology*. In this work, South proposed an analytical method which classified artifacts by function. The seven functional groups – kitchen, architecture, arms, clothing, personal, furniture, pipes, and activities – covered the range of domestic activities at British colonial sites. South went on to note that there were broad regularities in the relative proportions of these artifact groups across colonial, and possibly Federal, America, reflecting the "typical" range of activities on domestic sites. He termed this regularity the Carolina Artifact Pattern. Any deviation from the pattern should reflect different activities at the site.

Since 1977, South's pattern recognition approach has been widely used, and in some cases abused, by historical archaeologists. South himself (1988) has argued that pattern recognition should be simply a first step in studying cultural processes responsible for behavior reflected in artifact patterning. Subsequent researchers have suggested changes in the placement of certain artifact types (Garrow 1982). Others have named a variety of patterns, designed to elucidate variation in the material culture on rice plantations, cotton plantations, yeoman farm sites, urban, public, and industrial sites (see Jackson in Zierden, Drucker and Calhoun 1986).

South's methodology has always been used as an organizing tool for the Charleston artifact assemblages, allowing for direct intersite comparison. In the past decade, it has become apparent that a variety of factors influence artifact patterning, ranging from human behavior to the physical site formation processes to technological developments and marketing trends in the material culture itself. Julia King (1990) has proposed a different classification scheme for the analysis of intersite spatial patterning at colonial sites in the Chesapeake region; she has recently applied this technique to a lowcountry plantation site (King 1992). This technique considers domestic artifacts and architectural materials separately. Following her example, various classes and types within the kitchen and architecture group are considered separately.

Throughout the past decade, the material culture of Charleston sites have been subdivided temporally for sites occupied throughout the city's 300 year history. These temporal subdivisions are based on specific site events and general trends in Charleston's development. Charleston proveniences and their materials have generally been separated into three temporal subdivisions: 1670 to 1750, 1750 to 1830, and 1830 to 1900. The early period corresponds to Charleston's role as a frontier outpost and emerging port city. The second marks Charleston's "golden years" as a leading seaport and center of wealth, and the third corresponds with Charleston's economic decline and stagnation. These periods also correspond to changes in ceramic and glass technology. The early period is that of relatively scarce and expensive material culture; the second corresponds to the rise of the British pottery industry and the development of refined earthenwares, and the third to a decline in new ceramic types and the ascendancy of mass–produced glassware.

These temporal subdivisions are more or less comparable for a number of Charleston sites. Development of baseline data for this analysis began with excavations at the Heyward–

Washington house in 1991 (Zierden 1993). At that point, five to six assemblages were available for each of the three temporal periods. In each case, the majority of the samples were from elite townhouse sites, but at least two were from other types of sites: middle class residential, mixed residential/commercial, or public. That analysis will be recapped here, and comparisons made with the Russell house data. Though the dates do not correspond exactly, the late 18th century and Russell assemblages will be compared to the 1750–1830 data, and the Allston and Sisters assemblages will be compared to the 1830–1900 data. The latter group is particularly important, for the Russell site produced rather substantial assemblages for this period, a situation that has not been true for other Charleston sites. This will provide an opportunity to more closely examine the material culture of this period.

Organization of the data begins with the broad categories proposed by South. The relative proportions of these categories remain more or less consistent through time, and remarkably similar to the Carolina Pattern, supporting South's original contention that this pattern reflects typical behavior on a domestic site. The Carolina Pattern does not appear to be particularly sensitive to variables such as status and ethnicity; the relative proportions are instead affected by site formation processes and technological changes.

Kitchen artifacts dominate the assemblages and remain rather consistent through time, although relative proportions of various artifact types change. Kitchen materials average 50% of the assemblage, and tend to drop in relative proportions in the post–1830 period. This is not true for the Russell house assemblages, as the kitchen group fluctuates through time between 50% and 59% of the assemblage. Architectural materials, the other major category, demonstrates a consistent increase through time on most Charleston sites, no doubt reflecting the accumulation of architectural debris as lots were rebuilt upon and standing structures renovated, repaired, enlarged, or demolished. Architectural materials average 25% of Charleston assemblages in the early 18th century, and increase to 33% in the late 18th century and 41% in the 19th century. This assemblage, of course, does not include the volumes of brick, mortar, and slate rubble recovered on Charleston sites. This significant increase through time suggests that factors other than the activities of daily life affect the relative presence of architectural material. The Russell house materials generally follow this trend. They average 31.3% of the late 18th asemblage, mirroring the average Charleston proportion for this period. Architectural materials rise slightly to 36.6% in the Russell period, and increase further during the Allston tenure to 40.5%. Architectural materials again increase in proportion in the late 19th century, rising to 44%, reflecting demolition by intent or by neglect of some of the service structures.

Arms and furniture materials comprise relatively minor components of the artifact assemblages, and remain consistent through time. The arms items average .3% through time; this suggests that the use of arms remained relatively consistent through the study period. Likewise, furniture artifacts comprise about .2% over the two hundred year period, suggesting little variation in the accumulation and loss of furniture (bearing in mind that very little furniture would be cycled into the archaeological record.) The Russell assemblages are remarkable for their consistent lack of arms materials in all the periods. They are most common in the late 18th century assemblage, and here represent only .05% of the assemblage. Furniture items are slightly more common; they

are nearly .1% of the 18th century and Russell assemblages, and jump to .44% during the Allston era. This may reflect discard of pieces damaged during the War. Furniture then declines to .2% in the late 19th century.

Clothing and personal items also form minor components of the assemblage, but these increase in number through time. This suggests that such items are increasingly available, and perhaps that the Charleston populace was increasingly able to afford them through time. Clothing items increase from .6% in the early 18th century to 1.2% in the late 18th and 1.8% in the 19th century. Personal items also increase from .2% to .5% These two groups also increase in variety during the study period. These trends are mirrored at the Russell house. Personal items increase from .11% in the late 18th century to .46% in the Allston period; they further increase to .52% in the late 19th century. Clothing items are generally fewer in number at Russell, but they also gradually increase through time, from .51% to 1.16% in the Allston period. They then decline precipitously in the late 19th century to .7%.

The greatest variation occurs in the pipe group, suggesting dramatic changes in tobacco smoking habits and popularity, or at least in the acoutrements. The ubiquitous white clay pipes comprise 15% of the early 18th century component for the city, but decline precipitously by the late 18th century, dropping to 5%. Though white clay pipes were manufactured throughout the 19th century, the further decline in popularity to 1.6% in the mid−19th century. Though fewer in number for all periods, the Russell house pipes present a similar trend. They comprise 2% of the late 18th century assemblage, remain the same for the Russell period, and decline to 1.2% and 1.2%, respectively, as the 19th century continues.

Finally, there is a slight decline in popularity of artifacts related to activities. Such artifacts comprise 4% in the early 18th century and about 1.5% in the late 18th and 19th century assemblages. This general trend would suggest a greater segregation of home and work place as the study period progresses, or at least a narrowing of the range of activities conducted on domestic sites. It must be noted, however, that the average of 4% for the early 18th century masks a tremendous range among the sites of this period, from .4% to 16%. It may be that the percentage of activities is generally consistent through time, but highly variable from site to site. The activities group remains relatively consistent through time at Russell, averaging 2% of the assemblage.

Specific artifact types and groups provide a more detailed picture of the archaeological signature for different temporal periods. A variety of artifact types and classes in the kitchen group were compared and contrasted. The relative percentage of ceramics to glass remains consistent through the 18th century (ceramics are 62% and 57% of the kitchen group), but declines rapidly after 1820 to 38%; during the 19th century, technological innovations led to mass production, and thus discard, of glass containers. This is mirrored in the glass category itself, where olive green bottle glass gradually declines in popularity (29% to 26% to 16%) and clear bottle glass, the hallmark of machine made glass, increases from 6% to 7% in the 18th century, and then to 20% of the kitchen group in the 19th century. These trends were mirrored in the Russell assemblage. Ceramics are 49% of the late 18th century assemblage, and 54% of the Russell assemblage, 48%

of the Allston assemblage, and 42% of the Sisters group; glass artifacts rise proportionately, from 50% of the kitchen items to 58%. Olive green glass is 38% of the kitchen group in the 18th century, and declines to 20.3% in the late 19th century; clear bottle glass increases from 5.6% to 19.2%

Specific aspects of the ceramics group are temporally sensitive, as well. Tablewares gradually increase through time, relative to most utilitarian wares. This is no doubt due to mass production of refined earthenwares, most of which were tablewares, and the mass production of glass containers, which partially replaced utilitarian ceramics. One problem with this particular analysis is that some of the refined earthenwares of the 19th century were utilitarian – large bowls, chamber wares – that are difficult to discern in fragmentary form and so are counted with the tablewares. Nonetheless, the types counted as tablewares comprise 61% of the ceramics in the early 18th century, 80% in the late 18th century, and 91% in the 19th century. This trend follows for the Russell house, as well. Tablewares are 67% of the late 18th century ceramics; they jump to 82.8% of the Russell assemblage, fall to 78% of the Allston, and jump to 96% of the Sisters assemblage.

The relative percentage of specific ceramic types were also examined for temporal variation. Some of these are temporal markers anyway; the percentages were calculated as a baseline for additional work, in hopes that such a profile may aid in dating proveniences for the future. The first type was colono ware. Previous researchers have associated this ware primarily with the 18th century (Ferguson 1992; Anthony 1986) and the Charleston data support this. Further, scholars have noted variation in the amount of colono ware relative to the distance from Charleston (Anthony 1989). Colono ware sometimes comprises over 50% of the ceramics on outlying plantation sites; closer to the city, the ware can be as little as 10%. In early 18th century Charleston, colono wares average 17% of the ceramics. By the late 18th century they are only 5%, and by the 19th century only .7%. In fact, the bulk of the 19th century examples are believed to be the result of redeposition. The Russell data mirror this trend, but in generally colono wares are more common at Russell. They are 14.4% of the late 18th century ceramics, 4.3% of the early 19th century, 2.6% in the mid–century, and still 1.4% of the late 19th century ceramics.

Chinese porcelain has been considered a marker of elite socioeconomic status, particularly for the 17th and 18th centuries, and the Charleston data appear to support this suggestion. Porcelain jumps from 10% in the early 18th century to 18% in the late 18th, a period encompassing Charleston's economic apex. This proportion declines only slightly, to 14% in the 19th century, suggesting some continuation of this ceramic as a popular item in elite households. Somewhat surprisingly, porcelain is not as common at the Russell house. It comprises 17% of the late 18th century, to 12.2% for the Russell period, reflected primarily by the large number of Canton blue china fragments. Porcelain declines to 9.5% in the Allston era and 8.8% in the Sisters era. Nonetheless, the Russell house did yield a large number of fairly unusual porcelain pieces.

What the Russell assemblages do contain in relatively large numbers are creamwares. In

previous studies, the relative percentage of two temporally sensitive ceramics were calculated for baseline data. Creamware was developed in the 1750s and by the 1770s had become the most popular type of tableware. By the 1820s the ware had declined somewhat in popularity, the delicate tablewares replaced with heavier pieces of a more utilitarian nature. Creamwares comprise nearly 20% of Charleston's late 18th century ceramics and 15% of the 19th century ceramics. At Russell, creamware is only 5% of the late 18th century assemblage, but jumps to nearly 25% for the Russell family era. It remains between 19 and 17% throughout the 19th century. Pearlware, developed in the 1780s and manufactured through the 1820s, comprises 16% of Charleston's late 18th century and 15% of the 19th century components. At Russell, it is 5% of the late 18th century ceramics, and 25% of the Russell family's discards. It remains between 23% and 16% throughout the 19th century.

The final area of comparison was a measure of the relative density of artifacts per provenience for the three periods. This should measure the level of discard activity in the work yard, as ideas about sanitation and the landscape changed through the 19th century. Other archaeologists have noticed that the urban archaeological site "disappears", or at least changes form, as the 19th century progresses; wholesale discard of the refuse of daily life is replaced with off–site municipal trash disposal, and the kitchen sheet midden is replaced by a few toys and pet burials. Relative artifact density , and relative bone density, then, should measure the level of use of the site for the affairs of daily life. A variety of proveniences were available for each of the three periods, including zone deposits of varity depths and features of a variety of sizes and functions. A more accurate measure, artifact density per cubic foot of excavated soil, is only available on a general site level.

Though somewhat arbitrary, the present measure by number of proveniences did reveal some interesting trends. Early 18th century deposits contained 122 artifacts per provenience (67 proveniences) and the late 18th century assemblage contained 159 artifacts per provenience (205 proveniences). Nineteenth century proveniences, in contrast, contain only 22 artifacts per provenience (84 proveniences). This reflects a tremendous shift in refuse disposal practices. The sparse 19th century assemblage suggests that much less refuse was cycled into the individual archaeological site during this era, and was probably deposited more selectively. By the end of the antebellup period, off site refuse disposal appears to be the norm. In contrast, the Charleston yards were intensely utilized for refuse disposal in the late 18th century; moreover, the yard was utilized for a number of purposes, reflected in both the artifact density and the large number of proveniences. The early 18th century yards, in contrast, exhibited less alteration, though refuse disposal might be equally intense.

The Russell site stands in contrast to this trend. The late 18th century proveniences contain 80 artifacts per provenience (22 proveniences); this jumps to 100 per provenience in the early 19th century (110 proveniences), and to 137 and 170, respectively, in the mid to late 19th century. While this presents an excellent opportunity to study these later periods, this relatively dense archaeological record is unexpected at such a grand house. On a general level, bone density compares favorably with other Charleston sites for whom this measure has been calculated. The Russell site contained 34 grams of bone per cubic foot of dirt, in contrast to the Powder Magazine,

which contained 31.8 grams per cubic foot of soil. The relative value of Fred Andrus' kitchen excavation is then reflected in this statistic; his excavations revealed 173 grams of bone per cubic foot of soil.

It is only with the completion of over twenty archaeological projects that the above analysis is possible. This discussion has been decriptive in nature, but it has demonstrated that the archaeological record is temporally sensitive to a variety of technomic, social, and physical phenomena. These statistics are more broadly interpreted in Chapter V.

Table 5

Quantification of Temporal Artifact Assemblages
(in relative percentages)

	18th cent.	Russell	Allston	Sisters	Carolina Pattern
Kitchen	59.04	51.16	57.86	51.60	60.3
Architecture	33.78	35.80	35.36	43.69	23.9
Arms	.07	.05	.03	0	.5
Clothing	.52	.65	1.49	.70	3.0
Personal	.14	.36	.58	.49	.2
Furniture	.14	.17	.54	.07	.2
Pipes	2.01	2.37	1.71	1.19	5.8
Activities	2.91	1.39	2.40	2.21	1.7
no. artifacts/provenience	158	114	134	184	

Charleston Averages

	1760–1830	1830–1880
Kitchen	58.47	43.63
Architecture	33.64	48.32
Arms	.30	.24
Clothing	1.13	3.52
Personal	.45	.61
Furniture	.20	.18
Pipes	4.45	1.39
Activities	1.31	2.05
no. artifacts/provenience	**159**	**22**

Table 6
Temporal Changes in Charleston Artifact Assemblages

	C. 1720–1760 *	C.1760–1830#	C. 1830–1880@
Kitchen, % total	55.81	58.47	43.63
Architecture, % total	26.0	33.64	48.32
Arms, % total	.19	.30	.24
Clothing, % total	.64	1.13	3.52
Personal, % total	.29	.45	.61
Furniture, % total	.25	.20	.18
Pipes, % total	11.25	4.45	1.39
Activities, % total	5.47	1.31	2.05
Ceramics, % kitchen	59.2	58.59	35.68
Glass, % kitchen	41.0	41.46	50.44
Tableware, % ceramics	58.42	81.98	88.09
Utilitarian, % ceramics	41.57	18.01	11.90
Colono ware, % ceramics	22.36	4.97	1.27
Oriental porcelain, % ceramics	6.07	20.38	15.34
Creamware, % ceramics		20.61	11.24
Pearlware, % ceramics		12.99	7.43
Olive green glass, % kitchen	32.52	27.29	18.59
Clear bottle glass, % kitchen	5.46	6.65	22.04
Window glass, % architecture	22.90	39.21	43.92
Total # artifacts/provenience	**122**	**159**	**22**
total # proveniences	67	205	84
total # artifacts	8229	32,746	18,670

* assemblage composed of **six** sites: Heyward–Washington, John Rutledge, Miles Brewton, Beef Market, First Trident, McCrady's Longroom.

assemblage composed of **six** sites: John Rutledge, Miles Brewton, William Gibbes, Beef Market, First Trident, 66 Society St.

@ assemblage composed of **five** sites: Miles Brewton, Aiken–Rhett, John Rutledge, Heyward–Washington, 66 Society.

Table 7
Temporal Changes in Russell House Assemblages

	late 18th	Russell	1760–1830	Allston	Sisters	1830–1880
Kitchen, % total	61.94	58.80	**58.47**	54.41	51.8	**43.63**
Architecture, % total	33.30	36.61	**33.64**	40.51	43.50	**48.32**
Arms, % total	.05	.05	**.30**	.02	.09	**.24**
Clothing, % total	.51	.65	**1.13**	1.16	.77	**3.52**
Personal, % total	.11	.29	**.45**	.46	.52	**.61**
Furniture, % total	.11	.20	**.20**	.44	.20	**.18**
Pipes, % total	2.20	2.11	**4.45**	1.26	1.07	**1.39**
Activities, % total	3.65	1.18	**1.31**	1.71	1.93	**2.05**
Ceramics, % kitchen	49.5	54.8	**58.6**	47.5	42.0	**35.7**
Glass, % kitchen	50.0	44.4	**41.5**	52.0	58.0	**50.5**
Tableware, % ceramic	67.0	82.0	**82.0**	78.4	96.8	**88.0**
Utilitarian, % ceramic	58.0	23.0	**18.0**	30.0	16.3	**11.9**
Colono ware, % ceramic	14.4	4.3	**5.0**	2.6	1.4	**1.27**
C.Porcelain, % ceramic	17.4	12.2	**20.38**	9.5	8.8	**15.34**
Creamware, % ceramic	2.6	24.9	**20.61**	19.0	17.5	**11.24**
Pearlware, % ceramic	6.6	24.8	**12.99**	23.3	16.5	**7.43**
Olive glass, % kitchen	38.2	32.4	**27.29**	31.0	20.33	**18.59**
Clear glass, % kitchen	5.6	5.8	**6.65**	10.4	19.27	**22.04**
Window glass, % arch.	35.0	51.0	**39.21**	51.1	60.75	**43.92**
Table glass, % kitchen	.87	2.8		2.5		
Total Artifacts/prov	80.3	100.8	**159**	137	168	**22**
total proveniences	22	110	**205**	35	71	**84**
total artifacts	1767	11091	32,746	4825	11939	**18,670**
grams bone/prov	161	205		356	186	

Guide to Artifact Illustrations
(figures 21–52)

27. North Devon gravel tempered ware, Astbury ware recovered from N130E328, zone 6.
28. Westerwald jug, c. 1714–1730, recovered from N130E328, zone 6.
29. Hand painted pearlware recovered from Russell proveniences, N221E174.
30. Examples of unusual porcelains; Spode soft paste porcelain, c. 1810; Gold decorated European porcelain; Underglazed blue Chinese porcelain with "devils claw" motif in the clay.
31. Examples of unusual porcelains; Overglaze decorated urn; Mazarin blue punch bowl, Celadon porcelain jar lid.
32. Decorative creamware and Whieldon ware.
33. Overglaze decorated shell–edged pearlware.
34. Examples of early 19th century sprigged whiteware, Jasper ware, Parian ware.
35. Transfer printed whiteware, c. 1850, from Feature 50 fill (N185E215) and Feature 60 (N213E210).
36. Unidentified Spanish ceramics from N221E174 and N213E210.
37. Rockingham pitchers.
38. Olive green bottles, c. 1720.
39. Late 19th century bottles from N100E100.
40. Examples of goblet bases.
41. Examples of pharmaceutical glass.
42. Examples of cutlery; bone–handled knives, pewter spoon, silver–plated spoon, whetstone.
43. Examples of window glass; clear glass with frosty patina, decorated glass from feature 31, early 19th century glass etched with names.
44. Key recovered from 1990 excavations.
45. Gas light hardware recovered from 1990 excavations.
46. Delft tile fragments, late 18th century.
47. Examples of "everyday" and undergarment buttons.
48. Remains of mid–19th century shoe heels, from N150E100.
49. Clothing fasteners, shoe grommets.
50. Sewing implements; thread bobbins, thimbles, straight pins, scissors.
51. Fragment of a brass ruler, fragment of a slave tag, religions medal, rosary beads.
52. Personal cosmetic mirror, chandelier prism, clay wig curler, human incisor with filling.
53. Coins recovered from the site; late 18th century british half pennies, late 19th century American pennies, Spanish reales, 1766–1818.
54. Various brushes and combs.
55. Marbles of glass, clay, pottery; bone domino.
56. Kerosene lamp fixtures, late 19th century.
57. Miscellaneous furniture hardware.
58. Brass candle sconce, c. 1715, brass spur, 19th century; brass saddle fitting.

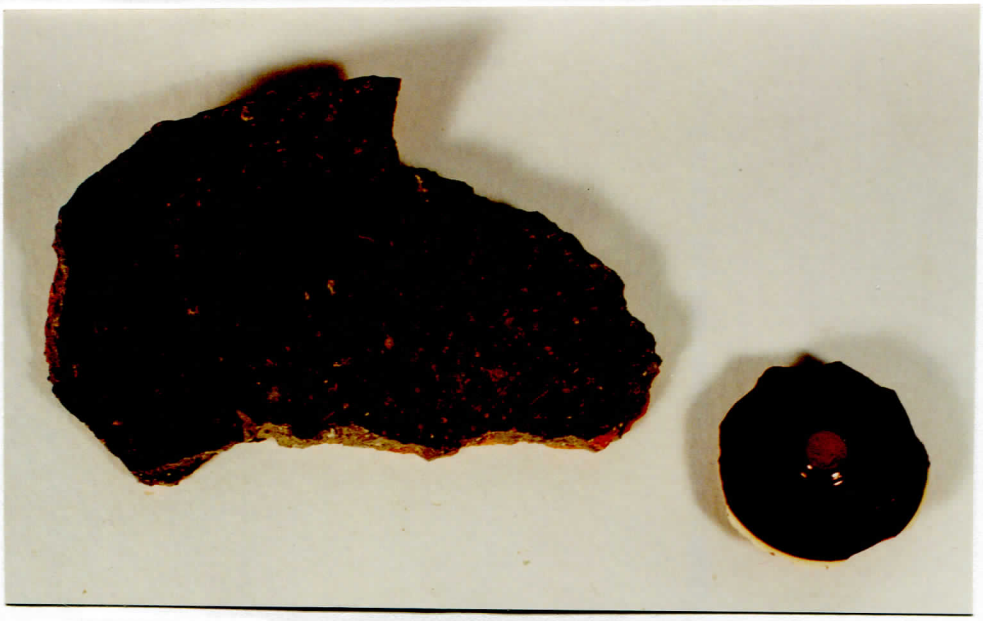


Figure 27

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Figure 29

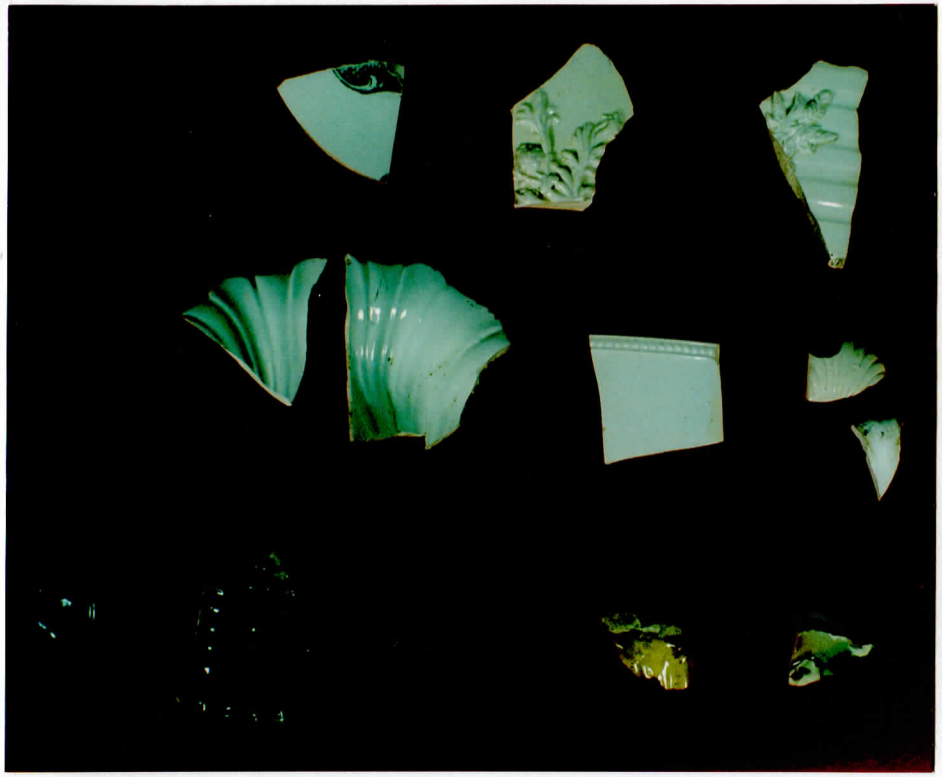

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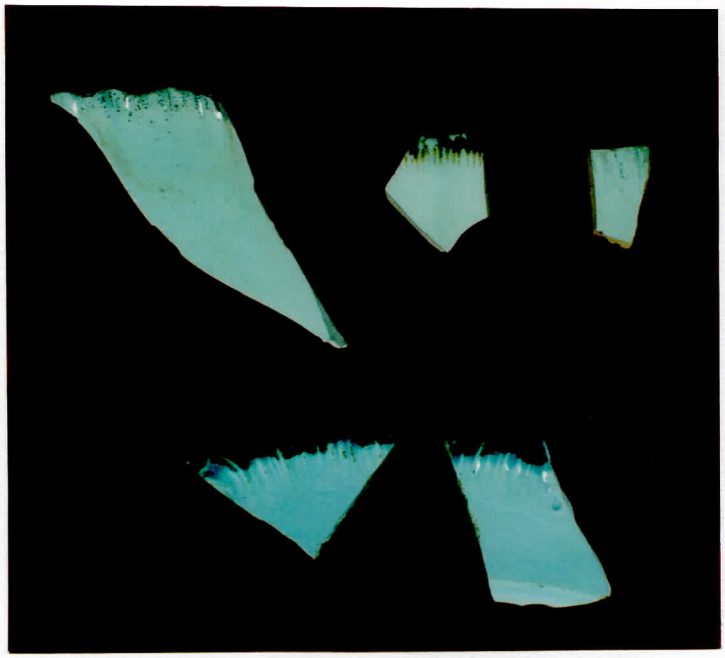
Figure 31

Figure 32



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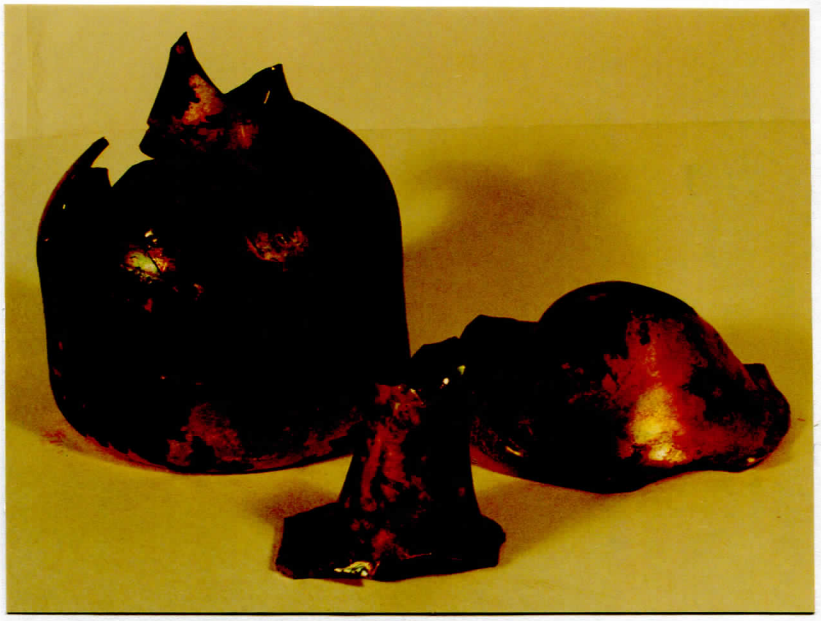

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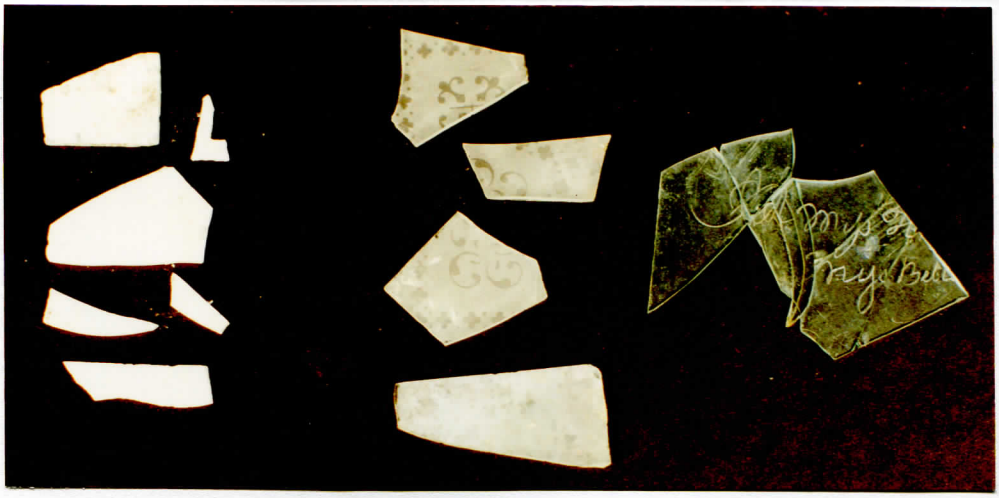

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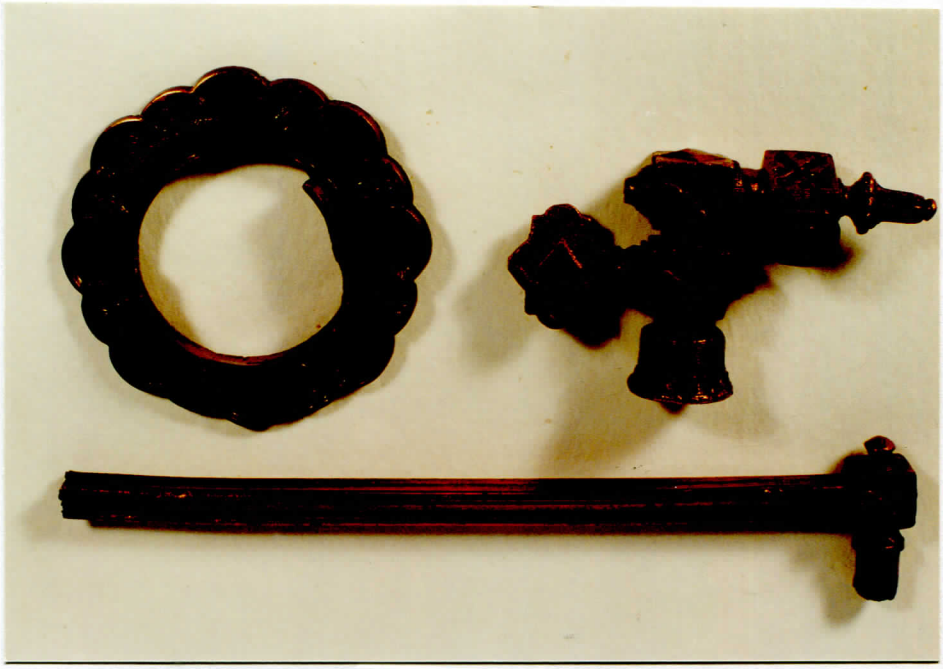

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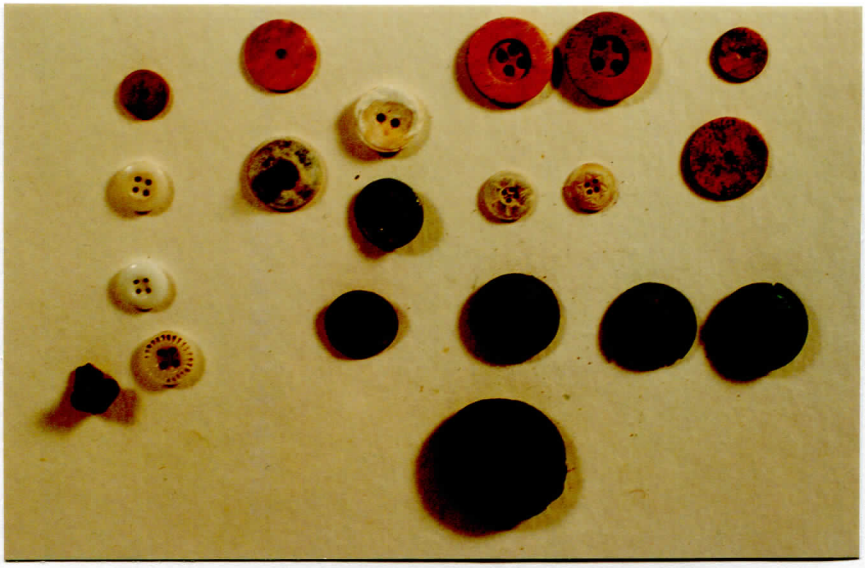

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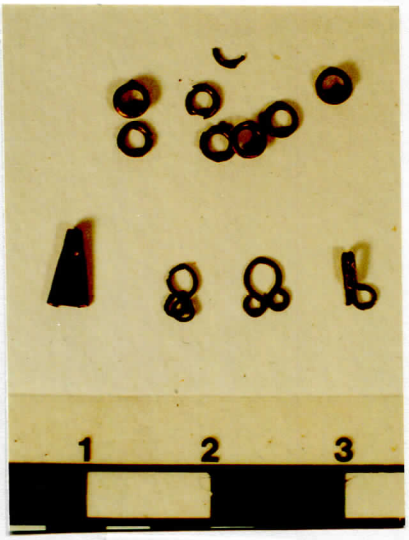

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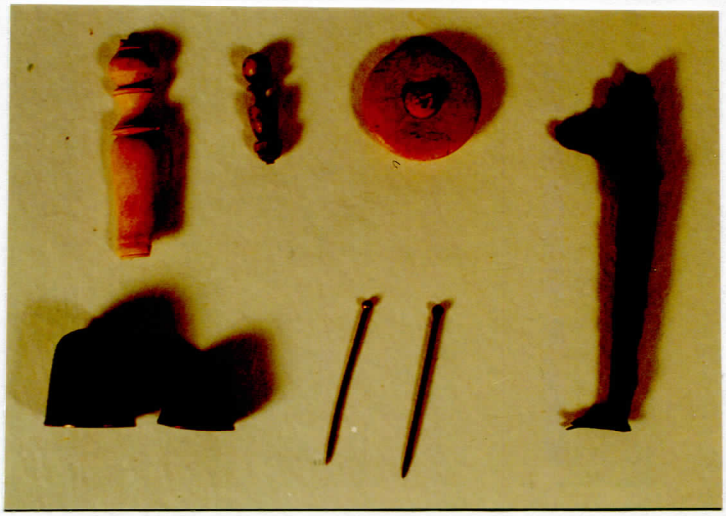

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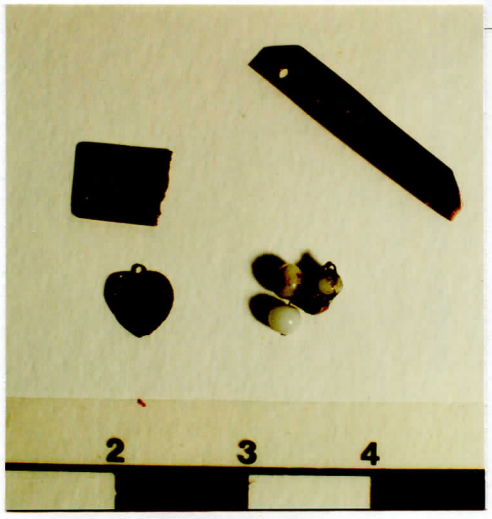

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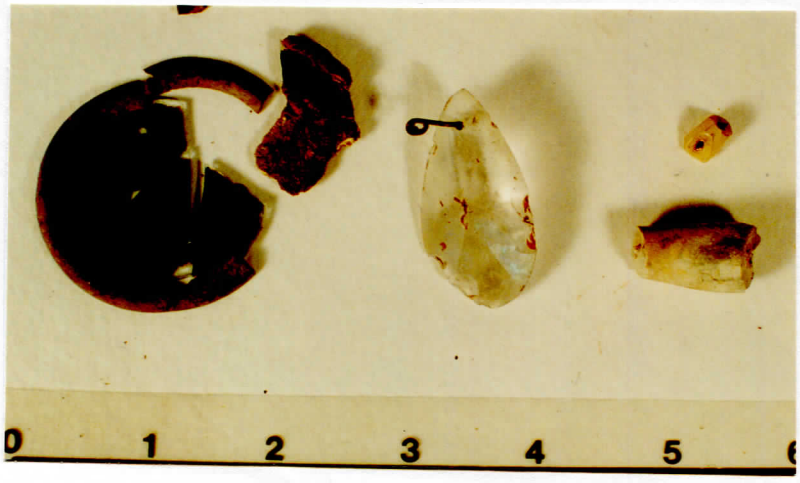

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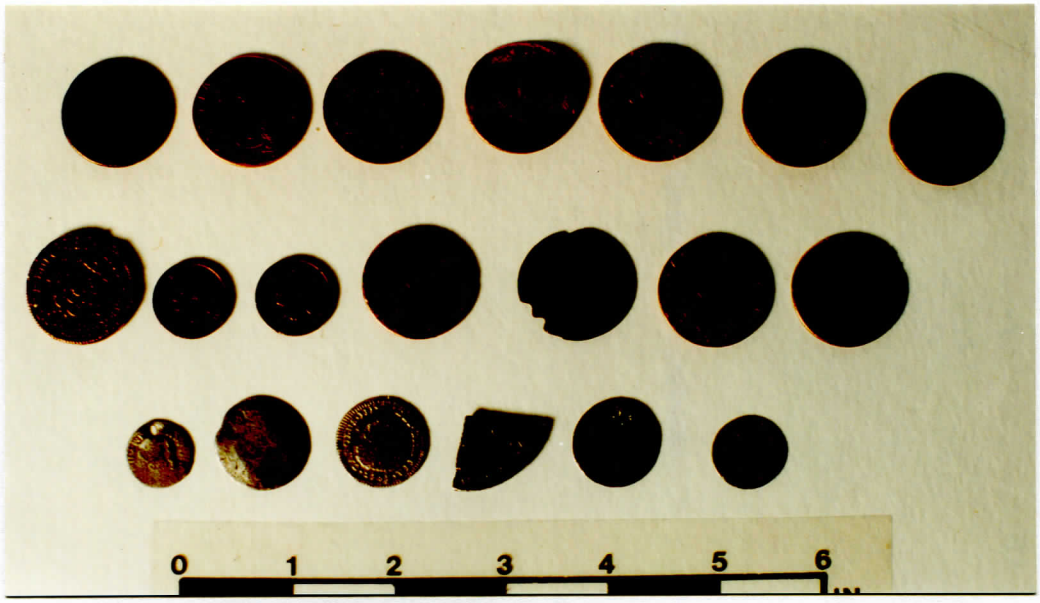

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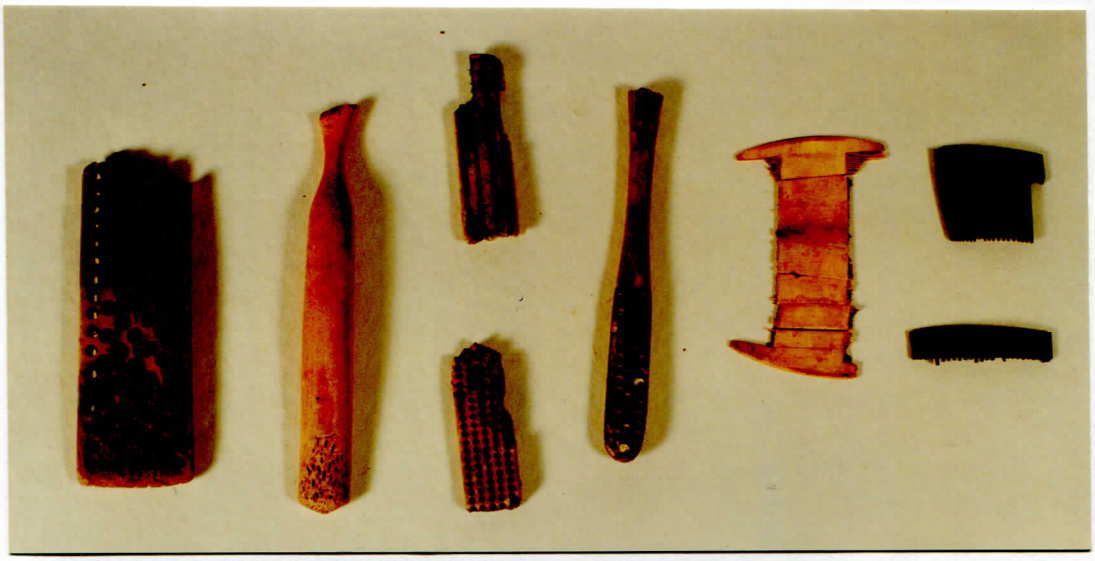

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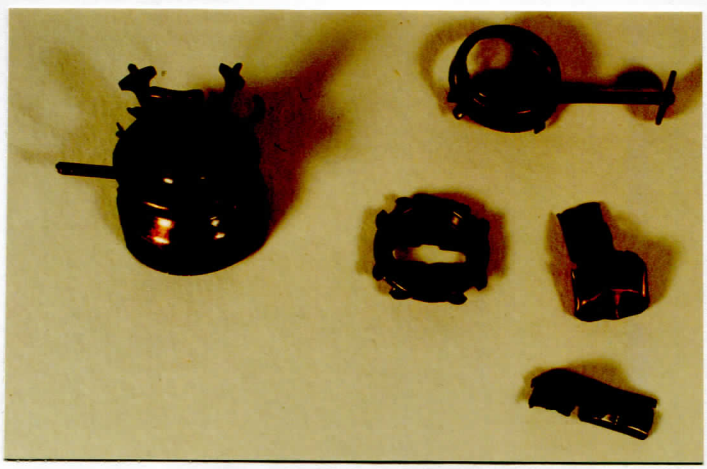

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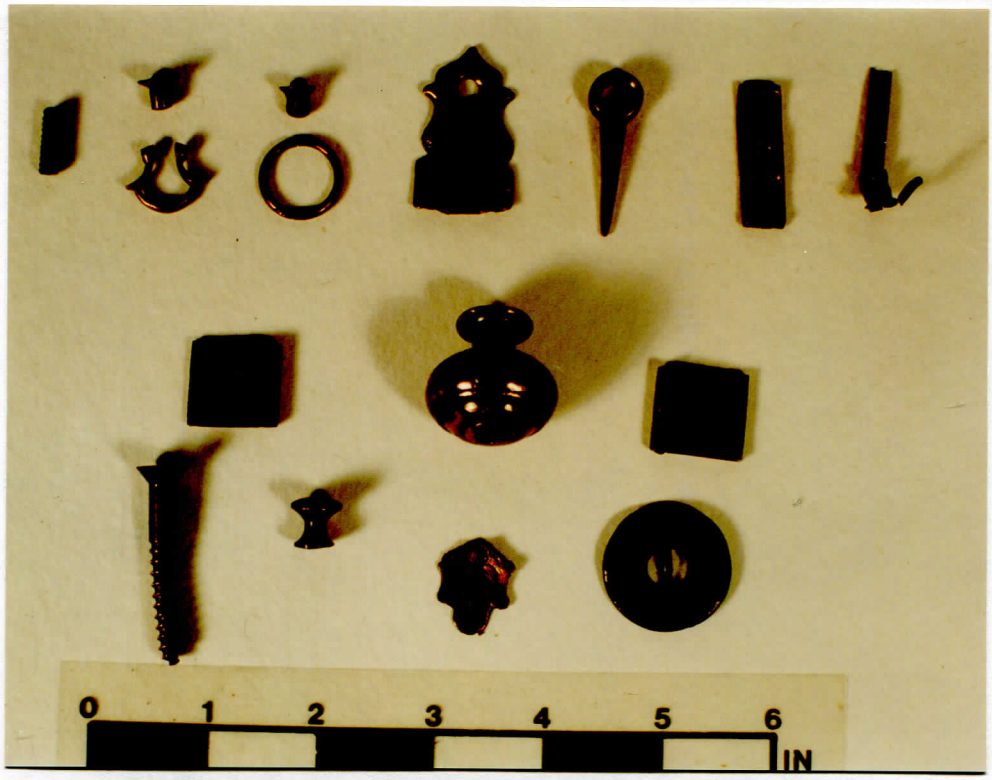

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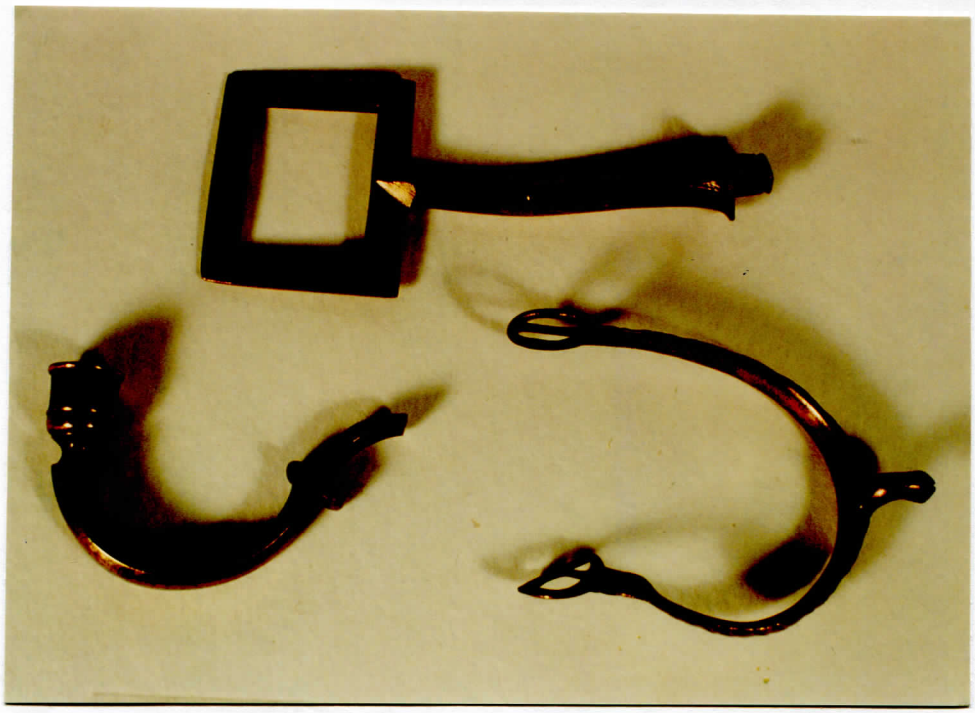


Figure 58

CHAPTER V

Interpretations

Since 1980, archaeological research in Charleston has been guided by a series of long-term research goals. The proposed research topics address a number of issues, both descriptive and processual. Several of these were proposed from archival studies (Rosengarten et al. 1987; Zierden and Calhoun 1984) while others were developed by scholars working in Charleston and other cities (for example, Cressey et al. 1982; Honerkamp and Council 1984; Lewis 1984; Reitz 1986). Data from subsequently excavated sites have been utilized to examine these issues, whenever appropriate. In ensuing years, issues explored throughout the field of historical archaeology have been addressed with data from urban sites. These include such topics as subsistence strategies (Reitz 1986, 1987), refinement (Bushman 1992, Martin 1994), landscape interpretation (Kelso and Most 1990; Stine 1996), and meaning (Leone and Potter 1988).

Research topic selection for individual projects is based on the scale of the project, as well as the temporal and functional affiliation of the site. The unified research approach gives weight to small projects, as each project has a place in the growing comparative data base. Archaeological research in Charleston has been multi-disciplinary, utilizing the knowledge and skills of historians, architects, zooarchaeologists, and palynologists over the years. Each contributing scholar has begun with small samples, which have cumulatively become important data sets in their field. One criticism of the Charleston Museum program over the years, however, has been the spatial limitations of the individual excavation projects (Yentsch 1991; Garrow 1984).

The ongoing archaeological project at the Nathaniel Russell house, then, advances the Charleston research in many ways. First, the project is spatially extensive enough to derive broad interpretations about the site (though the total percentage of site excavation to date would still be considered testing). Secondly, through the inspired efforts of Historic Charleston Foundation, the project was truly interdisciplinary, with opportunity for ongoing dialogue among a host of scholars. The Russell house project, then, stands as an important source of new archaeological interpretations on Charleston's development.

The collective data were used to derive interprations specific to the Russell house and its occupants, and those generally dealing with the development of Charleston. Because of their importance to the general reinterpretive goals of the Russell house project, the site-specific interpretations will be presented in detail, subdivided into discrete, if somewhat overlapping, topics of discussion.

These site-specific interpretations will be incorporated into the broader topics considered for Charleston as a whole. Comparative data from the many previous Charleston projects will be included in these discussions. The principal focus of archaeological research in Charleston for the past several years has been the evolution of the urban landscape. This study encompasses previously discrete research topics, including diet and subsistence strategies, terrain alteration and

site formation processes, health and sanitation, and mental constructs. Archaeological stratigraphy has been the key data source for this discussion; architectural, photographic, cartographic, documentary, botanical, zoological, and ecological data all contribute to this study. More recently, the artifact assemblages themselves, in tandem with the documentary record, have been used for an overarching study of artifact patterning, consumerism, refinement, social stratification, and ideology. The Russell House data contributes significantly to these studies. Finally, the extensive research, both documentary and archaeological, on the Russell family presents an opportunity to begin the exploration of gender identification in the archaeological evidence. Scholars have spent many years searching for ethnic signatures in archaeology, without finding much direct evidence. The result of much of this research has been a reexamination of the complexities of ethnic identification, and the evolution of this, in individuals and groups. More recently, scholars have begun to address the issue of gender identification, as well. In preliminary fashion, data on both ethic and gender indentification from the Russell site will be considered relative to new scholarship in historical archaeology.

The research topics considered for Russell move from general to specific within two broad, if overlapping, categories. The vast archaeological data base for Charleston, in all of its myriad details, may generally be divided into two discrete categories – stratigraphy, the complex layering of discrete soil deposits, and material culture, the artifacts contained within those soil lenses. The consideration of the urban landscape relies principally on the stratigraphic evidence, with the artifacts providing supporting data in terms of dating and function. Research topics for this project that focus on stratigraphy move from general to specific; a study of the Charleston landscape to architectural changes at Russell to a consideration of the garden and work yard. These topics consider the "outdoors"; the grounds surrounding the house and beyond. From here the discussion moves "indoors" to a consideration of the material culture recovered at Russell; this discussion derives meaning in turn from the stratigraphic context of these artifacts, both singly and in groups. This section begins with a general discussion of refinement and the material culture of consumerism. From here there are site–specific discussions of the Russell family and their possessions, men and women's roles, and, finally, the enslaved residents.

The Charleston Data Base

Research at the Nathaniel Russell House derives meaning from comparison with numerous previously studied sites in Charleston, and elsewhere. The twenty archaeological sites considered in this research differ in many respects, but can be grouped into two categories: residential only and dual residential–commercial (figure 2). The latter are located in that portion of the city that has been intensely utilized from at least the early eighteenth century through the present day. The dual residential–commercial sites include retail, craft, and service enterprises (Charleston Place, First Trident, Lodge Alley, 38 State Street, Visitor's Center, McCrady's Longroom and Tavern); public sites containing some residential debris include the Beef Market and two waterfront dumps (Exchange building, Atlantic Wharf), and the 1712 Powder Magazine (Zierden and Hacker 1987; Zierden et al. 1983b; Zierden et al. 1983a; Grimes and Zierden 1988; Zierden et al. 1982; Calhoun et al. 1984; Zierden and Hacker 1986; Zierden n.d.; Zierden 1994c).

The nine residential sites are, with two exceptions, located in what were suburban areas in the late eighteenth or early nineteenth century and contain standing structures dating to those periods. Their continuous use as residential property to the present facilitates study of the domestic evolution of the property. All properties retain their residential landscape characteristics; six were the homes of elite, four the homes of middle class residents. David Smith (1987) has argued that a heavy dependence on trade with Britain and on slaves for every kind of labor from domestic servitude to fine carpentry led to a lack of growth of a sturdy middle class in Charleston. The few successful small properietors employed slaves and invested their earnings into their own land and slaves; most merchants were also planters. Charleston's elite was the richest society in colonial America; Peter Coclanis (1989; see also Jones 1980) has suggested that in 1774 Charleston's wealth per (free) capita was 416 (pounds sterling), compared to 38.2 for New England and 45.2 for mid–Atlantic colonies. Among the present sample, those property owners classified as "wealthy" and "elite" owned their townhouses and at least one plantation. They maintained at least eight slaves in the city, as well as a larger number on their plantation(s), and they held public office at some point in their adult life. In physical terms, the elite are those with houses in excess of 7000 square feet and urban lots larger than 18,000 square feet. The middle class houses averaged 4600 square feet on lots of 6000 square feet. These men often rented these properties, and earned a living elsewhere in the city (Jones 1980).

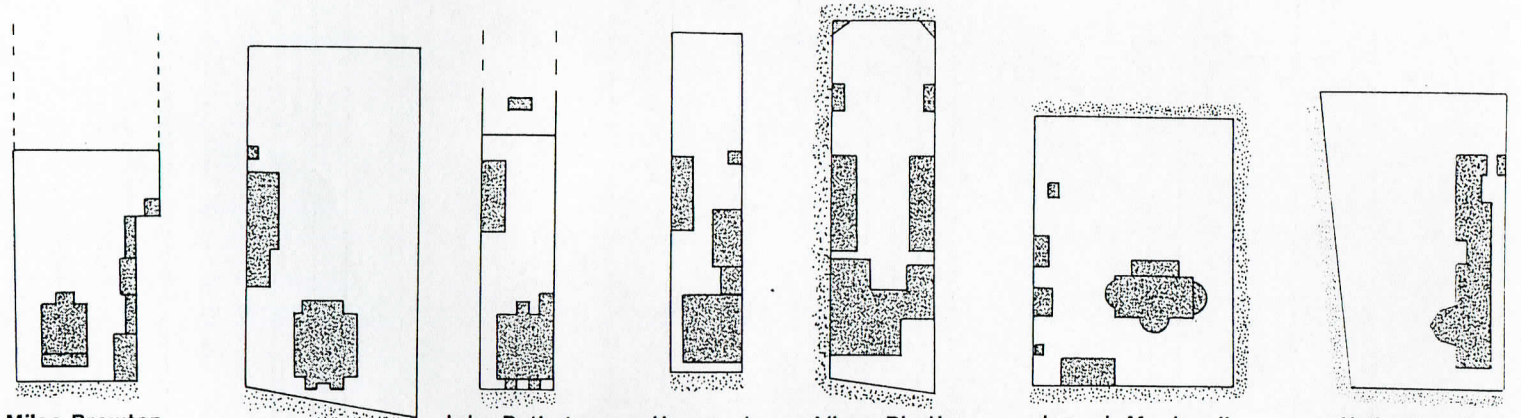
Urban gentry who built homes in the eighteenth and nineteenth century suburbs include William Gibbes (1772), Miles Brewton (1769), John Rutledge (1763), Thomas Heyward (1772), Joseph Manigault (1803), and William Aiken (built by John Robinson in 1817), as well as Nathaniel Russell. Like the Russell house, the Rutledge and Heyward lots were occupied in the early eighteenth century, prior to construction of the present houses. The remainder of the houses were among the first in their respective neighborhoods. The four middle class sites include 66 and 40 Society streets and 72 Anson Street, rebuilt on Ansonborough lots after the 1838 fire, and 70 Nassau Street, built in the Charleston Neck in the 1840s. More extensive and more recent archaeological work has been conducted at the residential sites, and this work has produced the core of information on the Charleston landscape; however, the commercial sites have also informed the interpretations presented here (Zierden et al. 1987; Zierden 1990a; Zierden and Grimes 1989; Zierden 1993a; Zierden 1992; Zierden et al. 1985; Zierden et al. 1988; Zierden 1989; Zierden and Anthony 1993; Zierden 1990b).

Site Formation Processes

Today, archaeologists are concerned with the meaning of archaeological remains; what they meant to the people who made and used them, and what they mean to the people who study and protect them. Since the publication of Leone and Potter's The Recovery of Meaning in 1988, archaeologists have been concerned with discerning the meaning of artifacts to past users, the social and ideological template encoded in the material culture, and how this material culture was used to define and reinforce these social mores to a diverse population in the 18th and 19th centuries.

Relative Lot Size and Structure Distribution

1750 - 1850



Miles Brewton House 1769

William Gibbes House 1772

John Rutledge House 1763

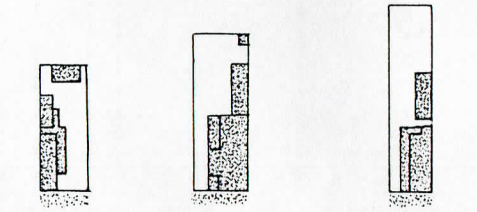
Heyward-Washington House 1772

Aiken-Rhett House 1817

Joseph Manigault House 1803

Nathaniel Russell House 1808

Upper class townhouses



70 Nassau 1840s

66 Society 1839

40 Society 1839

Middle class single houses

At the Nathaniel Russell house, and elsewhere in Charleston, archaeologists are concerned with another type of meaning: what does the presence of these artifacts in the ground mean, in terms of formation and alteration of the landscape? More particularly, how and why did they end up in the particular position and association in which we find them? Thorough consideration of these issues is an essential first step in the endeavor to recover past meaning. Our analysis begins, then, with a consideration of site formation processes, the physical events that form the archaeological record, and then move to issues of redeposition, discerning and dating discrete proveniences, and determining associations.

A basic question guiding archaeological analysis, though one rarely articulated, is, "how did these artifacts get here?" When working with students and volunteers, and in front of the public, this question is asked repeatedly, engaging the archaeologists in a constant struggle to answer this question clearly, and without hesitation. An often unarticulated assumption prefacing most archaeological studies that the artifacts were discarded, or otherwise deposited, by the previous site residents. On an isolated rural site, this is a relatively safe assumption. On urban sites such as the Russell house, however, this is a real monster under the bed, waiting to undermine our reconstruction of the past. For urban residents clearly moved great quantities of earth and their contents. Such earth moving began at Russell with the filling of the marsh to create Price's Alley and continued beyond Governor Allston's purchase of 48 loads of earth for his lot on Meeting Street in 1859. All of the materials recovered at Russell are considered to be deposited by site residents, but this interpretation was reached after careful consideration of site data and was not simply presumed.

Cultural materials enter the archaeological record by four basic methods: discard, loss, destruction, or abandonment (Schiffer 1977). Discard, the throwing away of refuse (discussed in detail in the section on urban landscape development), is the most common form of archaeological site formation. Artifacts and other debris are either broadcast on the ground surface, gradually forming zone deposits, or placed in newly dug (trash pit) or previously existing holes (such as abandoned wells, privy pits, etc.), called features. Items deposited due to loss are usually small, such as buttons, coins, toys, etc. Archaeologists discovser lost items in wells, or soil lenses that collect beneath wooden floors. Abandonment includes destruction of buildings and their contents from fire or storm, or the artifacts left behind or thrown out when tenants vacate a property. In some cases it is possible to distinguish proveniences (the defined archaeological boundaries of single behaviors) resulting from specific depositional processes.

Once in the ground, artifacts can be redistributed or they can be removed (Ascher 1968; Honerkamp and Fairbanks 1984; Schiffer 1983). Usually the archaeological record is a combination of all three events. In the urban situation, where these processes can become very complex, archaeologists are particularly interested in the processes which introduce and redistribute materials.

Urban residents deposited most of their refuse in the back yard or work yard. Crowded

conditions and health considerations also resulted in the deposition of refuse in any convenient space in the city. Open lots, unpaved streets, and alleys were likely candidates (Calhoun et al. 1984; Zierden et al. 1983a; Rosengarten et al. 1987). Quantities of refuse were also dumped into creeks and lowlying marshy areas, creating new real estate (Sapan 1985; Zierden and Calhoun 1986; Zierden et al. 1983b).

Urban archaeological deposits reflect abandonment and loss, as well as discard. Abandonment activities include loss of materials due to fire or storm, and the resulting cleanup activities (Zierden et al. 1983a), and the transfer of a domicile to a new tenant or owner (moving out). The single event filling of large features such as privies sometimes reflect this activity (Lewis and Haskell 1981; Zierden and Hacker 1987). Artifact deposits resulting from loss have been manifested as zones beneath a present or former wooden floor (small items swept through cracks between boards) and in the small artifacts accumulated in drains. Loss and abandoment deposits can often be distinguished from discarded deposits by the artifact profile, as well as by the physical properties of the artifacts.

Another key aspect of the urban site may be disorganization, the result of continuous occupation and the intrusion of later deposits into earlier ones. Additional factors unique to urban sites are private or municipal collection of refuse, which resulted in the redeposition of refuse in a central location far from its place of origin (Dickens and Bowen 1980), and the replacement of private handling by municipal or corporate managment of such basic needs as water procurement and storage, sanitary waste management, and trash disposal (Honerkamp and Council 1984; Zierden and Calhoun 1986).

An additional site formation processs might be described as construction, the moving of earth to build the massive structures such as Charleston's urban townhouses. At Nathaniel Russell, and other sites, when the large extant townhouses represent the first major building episode, (though not necessarily the first use of a property) we see principally yellow sand and orange clay mottled with a few pockets of darker midden sand, sparse artifacts, but large brick and mortar fragments. Such soil was noted in N200.4E297, zone 4, in N190E158, zone 5, N134.8E328, in zone 5 associated with construction of feature 23, and at the base of excavations in N221E174. At Russell, such soil was encountered well beyond the probable limits of a typical "builder's trench" suggesting that the massive reorganization may have impacted a large area of the urban lot. Such deposits have been noted at the Heyward Washington house and the Miles Brewton house, as well. As Russell's mansion was actually the second structure on the lot, these construction soils contain greater than normal density of artifacts.

Likewise, destruction is evident in the archaeological record, as Russell evidently demolished the original building along the south property line after his house was completed. This activity resulted in the zone 4 brick rubble in N134.8E328, and the heavy rubble in N11E190 and N130E188. In each case, it also resulted in 18th century trash being redeposited in and around the rubble, along with a few artifacts dating to the early 19th century. So we have zones that date to Russell's occupation, and analyzed as such, but principally containing earlier artifacts. Destruction zones are also seen in N200.5E121, where the rubble of zone 3 indicated destruction

of a portion of the carriage building, after 1870. Destruction deposits were also noted in N150E100 and N150E135.

The primary site formation process, however, appears to be discard of rubbish. Although many individual artifacts were probably lost, no entire proveniences could be attributed to such. Disposal of refuse, then, is the principal process operating at Russell, but these processes were not uniform across time and space. Analysis of artifact density by unit and temporal association, as well as an overall calculation of Mean Ceramic Dates (South 1972) provides some clues to changing refuse disposal practices at the Russell house.

An important issue to consider when analyzing refuse disposal practices at a site of long-term, evolving occupation such as the Russell house is redeposition. As a mid-19th century resident works and builds on his property, his ground-moving activities disturb earlier deposits, bringing artifacts to the surface and mixing them with later artifacts in their new provenience. Precisely isolating redeposted artifacts is almost impossible, for while we do know when an artifact was manufactured, we cannot say for certain how long it was used and when it was discarded. North Devon gravel tempered earthenware serves as a good example. Manufactured from 1650 to 1775, it is often considered a marker of 17th century Lowcountry sites. Yet when it is recovered in a zone with a TPQ of 1780, is it a 17th century discard redeposited, or a piece manufactured in 1775 and quickly discarded? In absence of clear evidence, each ceramic encountered in Allston proveniences, for example, has been analyzed as Allston material culture. Yet the Mean Ceramic Date for the Allston assemblage is 1760, a century earlier than the documented period of occupation; clearly, all of the discarded ceramics cannot be from the Allston's table.

As we shall see in the following discussion of Russell family possessions, a few of the particular artifact types recovered on site provides a general guide to the purchase-use-discard life span of breakable artifacts. A number of the special types discussed are of a style manufactured in the late 18th century, probably the last quarter of that century. Yet they were discarded at various times in the first half of the 19th century, certainly after 1808. This suggests a twenty to possibly forty year use life for many of the finer, highly curated goods. Though no measure was possible, use life for the less expensive, "everyday" goods is likely shorter. Archaeologists William Adams and Linda Gaw calculated this 'time lag' (the difference between the date of manufacture and the date of deposition) for ceramics and glass on a northwestern site, and concluded that ceramic items remain in use about 22 years before discard (Adams and Gaw 1977).

The above discussion provides some general information on the formation of the archaeological record at Russell, and some underlying assumptions for the analysis that follows. At the same time, it provides some caveats regarding this current state of knowledge and derived analysis. An additional cautionary note must be sounded in regard to refuse disposal at Russell. The basic unit of excavation and analysis is the land or house lot associated with a domestic structure and outbuildings. Although a few artifacts could be lost in the yard by visitors to a house, the vast majority excavated from primary deposits in a yard that is well fenced or otherwise clearly separated are usually assumed to have been deposited by the house residents who controlled

the yard space (Deagan 1982:161; Spencer–Wood 1987:2). The archaeological data associated with one structure usually cannot be divided to correspond with smaller economic or social units that may be housed in that structure. At the Russell house, this means that it is nearly impossible to separate rubbish from the Russell family from that of their slaves. Archaeological analyses represent, then, the combined acquision and deposition behaviors of all residents in a house structure.

The Urban Landscape

Examination of the myriad details of the physical and ideological parameters of the Russell sites serves as a foundation for a broader exploration of Charleston's evolution as an urban center, through the paradigm of landscape studies. The focus of this discussion is an exploration of how Charlestonians changed, and were changed by, their interaction with the land. Following the lead of geographers, a landscape perspective attempts to form linkages among material, social, behavioral, ideological, and natural elements in a region of study (Stine and Zierden 1996).

Of particular importance to the study of Charleston is the concept that land is not 'natural', but modified for human occupation and use; above all, it is a shared space, evolving to serve a community (Jackson 1984:7–8). John Stilgoe (1982:3) defined landscape as "that area comprehended in a single view." Dell Upton (1990) challenged Stilgoe's definition, suggesting that the landscape, particularly that created by the elite, was meant to be experienced dynamically; the visitor passed from one contrived setting to another, and was expected to piece together many partial views and symbols.

Thus Paul Shackel and Barbara Little suggest that cultural landscapes are expressions of ideals, of emulation and assertions of power, used to reinforce hierarchies (1994). Elizabeth Kryder–Reid (1994) further explores the idea that they are three dimensional spaces, entered into and experienced. Further, the same landscape was viewed in different ways by the various groups who used it. The Russell house and gardens may thus be viewed as a single, definable element, simultaneously part of a larger, equally distinct landscape.

Thus the urban landscape is more than just an amalgamation of individual landscapes of the elite, middling, and poor. It also possesses a unique and definable character of its own, simultaneously collective and contradictory; as such it requires a broader level of study, beyond that of individual components. For an urban center was, as Dell Upton has suggested, "a product of large social and economic forces, a pattern reflecting collective action" (1992:51). A material culture study of the city moves beyond individual sites and individual actions to an investigation of reciprocal relationships among selves and human alterations of the physical world.

Upton further suggests tht intentional creation is only one change in the ways humans interact with their surroundings. The urban environment in particular was experienced through all five senses – sight, sound, smell, taste, and touch. While many of these become difficult to

recover through archaeological, or even historical, methods, they were integral to the mental constructs of daily life in cities. Upton suggests that these can be recovered through verbal and visual descriptions, providing linkages between the intangibles of city life and tangible surviving artifacts. For people moved through their environment, interacted with it, and reacted to it in these many ways. Upton suggests that the cultural landscape "fuses the physical fabric of the city and the culture of its residents with the imaginative structures that urbanites used in constructing, explaining, and representing them (Upton 1992:53).

Dell Upton begins his specific discussion of the city with a focus on republicanism as an ideal of the early national period. Religious metaphors of sin and moral responsibility, evolving economic concepts, natural history, and political language were manifested in a broad effort to order and improve urban space. The colonial idea of a gridded city – and Charleston was one – was revised, in a drive to "conquer space." According to Upton, this was accompanied by a mania for filling, and occasionally for leveling, exemplified in Boston's total destruction of Beacon hill, and "for equalizing space through public works that would make every property equally useful. Early republicans thought of regulated space as essential to human society (1992:53–54).

While the current terrain of Charleston appears to be almost completely flat, the colonial peninsula featured more relief (Akin 1809; Roberts and Toms 1739). Alteration of the terrain to better suit the economic and social needs of town residents began almost immediately. Major changes such as the filling of creeks and marshes along the Ashley River and the creation of "made land along the Cooper riverfront began in the late 17th century and continued into the early 20th. Concurrent with this, and noted at the Russell site, was the filling of the numerous fingers of marsh and small creek which cross–cut the peninsular interior. More subtle, and noted primarily through archaeology was the filling of small marshy and low areas to improve individual lots. Originally granted as an irregular lot on the edge of the creek, the Russell site was by the 1780s "improved" with the filling of this low area and the creation of Price's Alley. This created more land and made it more amenable to building construction. Upton also notes that all sorts of noxious debris filled the low areas, including animal carcasses. Betsy Reitz's analysis shows that butchering remains went into the Price's Alley creek in large quantity (Reitz, this volume).

Filling, leveling, and "improving" the Russell lot continued throughout the 19th century, as evidenced by the general archaeological stratigraphy, and by the documented addition of "48 loads of earth" purchased by Governor Allston in 1859. The location and purpose of this dirt is unclear; it may have been carefully selected topsoil for improving the garden, or it may have been large loads of dirt for filling low areas. A third possibility is that the 48 loads of earth is the clay encountered adjacent to the kitchen. Most interesting of all is that this evidently common urban practice is documented at all.

Other excavated sites in Charleston reveal similar instances of filling, leveling, and improving town lots. Both the Aiken–Rhett and Miles Brewton houses and the First Trident site contained evidence of filling in portions of the site known to have been lower at the time of lot layout. Archaeological evidence for terrain alteration has been amplified by the seeds and pollen recovered from the layered earth. Pollen from the Miles Brewton house and the John Rutledge

house revealed a gradual decrease in the plants associated with marshes and lowlands. This was mirrored in the seeds recovered from the First Trident and Beef Market sites (Trinkley in Zierden et al. 1983; Trinkley in Calhoun et al. 1984; Reinhard 1989, 1990). Given this data base, it was disappointing that the pollen at the Russell house was so poorly preserved.

Palynological and ethonobotanical studies have also documented a dramatic deforestation of the Charleston peninsula in the second half of the 18th century. Pollen studies at the Rutledge and Brewton houses show a decrease in the amount of oak and pine during this period, and a dramatic increase in the weed species which colonize open, or disturbed, habitats (Reinhard 1989, 1990). While some of this change through time reflects individual lot clearing for house construction, the pollen spectrum reads a much larger range, and reflects general deforestation of the Charleston environs, ostensibly for lumber and firewood. The documents hint at this deforestation through a dramatic rise in firewood prices during the colonial period (Weir 1983:44). The ethnobotanical samples from the Charleston sites are dominated by weedy plants (Trinkley in Zierden and Grimes 1989). Pollen analysis from 19th century samples at the Powder Magazine (Reinhard 1996) likewise documents a number of weed species, as well as an increase in pine and decrease in hardwoods. In contrast, a mid−18th century midden from the Courthouse site revealed a variety of hardwood species − oak, elm, gum, hickory, pecan, cypress, juniper, and palm − as well as pine, as well as some weed and grass species. Though the analysts suspect some recent contamination to this midden (Joseph and Elliot 1994:94), the pollen profile supports the current model. In their study of Georgian London, Cruikshank and Burton (1990) note that the average house might have two to three fires burning during the day, consuming fuel (principally coal) and producing ash, both of which needed storage. In London, and most likely in Charleston, a basement space was used. Charlestonians used coal as well as wood, and archeological analysis of the charcoal content of dated middens has shown that they used coal in increasing proportions through time (Trinkley in Calhoun et al. 1984). At the Russell house, coal was clearly in use, and stored beneath the kitchen. The 1870 plat (figure 11) indicates storage bins for both.

Gradual changes in the urban landscape received impetus from a series of mid−18th century natural disasters. The fire of 1740 and the hurricane of 1752 cleared major portions of the city for rebuilding (Calhoun 1983; Rogers 1980). At the same time, successes with staple agriculture created an urban gentry composed of merchants and planters whose new status required appropriate homes (see Chaplin 1992). Many grand townhouses and public structures were constructed during this period (Coclanis 1989; Herman 1993). Also constructed were support structures and activity areas which, in conjunction with the main house, formed the urban compound. These included kitchen, slave quarters, stables, carriage house, livestock sheds, privy, well, cistern, drainage system. The maintenance of gardens might require additional features. While variation in the size, content, construction method, arrangement, and specialization of these structures existed, they were present in some form at all sites, not just those of the elite.

The support structures were often aligned along one or both walls to the rear of the house. In larger lots that could afford such spatial segregation, the work yard was separate from formal gardens. Within these large lots, archaeology has consistently underscored the highly specialized and intensively utilized nature of the work yards, that area around, between, and beneath the work

structures. These seemingly spacious yards quickly became cramped as a townhouse owner, his family, a retinue of 10–20 slaves, horses, and other livestock lived and worked within a circumscribed area.

The work yard was the scene of the activities of daily life, including food preparation, livestock maintenance, cleaning and laundering. The archaeological record reflects the butchering and cleaning of fish in these areas, for example. The work yard was also the locus of refuse disposal, one of the most critical problems of urban life and one most visibly reflected archaeologically. Archaeological research at Charleston townhouses has consistently demonstrated that refuse deposited in the yards, either deliberately for disposal or secondarily in fill dirt, was not broadcast across the entire yard but was instead concentrated in particular areas. At the Miles Brewton house, for example, debris was concentrated in the work yard adjacent to the outbuildings from the time of initial occupation of the property in 1769. Over the next 75 years, 2 1/2 feet of refuse accumulated in this area in a series of sheet deposits and small trash pits. A significant portion of the animal bone from these deposits exhibited rodent–gnawing; this indicates that the bones lay on the ground surface for a period following their disposal (Reitz 1989).

The Russell lot varied from this pattern. The area beneath the kitchen was loaded with debris, suggesting that much of the kitchen refuse was deposited here. Betsy Reitz's analysis of the quantities of cow bones excavated here has clearly demonstrated that these are the remains from on–site butchery. Kitchen refuse from the 19th century also was generally scattered across the yard, and concentrated in the south side of it. This may suggest that work activities were dispersed across a relatively large work yard, or simply that refuse was discarded away from the work buildings. The boundary between the garden and work yard appears to bisect the kitchen and continue across the yard in a line 140 feet from the front. Behind this wall, refuse disposal and work yard activities appear to be poorly defined. They may be dispersed across the entire rear yard, but this awaits further study.

The deliberate placement of specialized service buildings, separation of work yards and gardens, and specific locations for refuse disposal were conscious attempts to mold an urban landscape suitable to the social values, as well as the physical needs, of urban residents. The needs and values of Charleston's citizens changed as the 19th century progressed. Archaeology has not only outlined the basic features of mid–18th century urban compounds; it has also documented changes in these features for the next century. Many of the visible changes were attempts to improve sanitation and prevent the spread of disease in an increasingly crowded city (Rosengarten et al. 1987).

Refuse disposal, for example, must have reached critical proportions in the city in the early 1800s. Many of the townhouse workyards evidently were paved in the early 19th century. The Miles Brewton yard serves as a good example. The upper zones of refuse were first covered with irregular lenses of tabby mortar, and then paved with brick and slate. Datable ceramics indicate that the mortar paving occurred after 1800 and the brick paving between 1830 and 1840. Refuse was then evidently disposed of elsewhere, for soil accumulation in the next 150 years amounted to one half foot (compared to 2 1/2 between 1770 and 1830). And, as we have seen, artifact

density was low for this post-paving period. Interestingly, no paved yard areas have been encountered archaeologically at Russell to date, but this may reflect small sample size rather than a lack of paving; a single broken paver was discovered by Graham and Ridout beneath the hyphen (Ridout and Graham 1996).

Another vehicle for a more sanitary yard was a drain system. Such features have been encountered at most of the townhouses excavated to date. While a few are earlier, most are antebellum improvements. While some of them facilitated stormwater runoff, their presence on high lots suggest other functions as well. The accumulation of small artifacts and animal bone, particularly fish scales, suggest that the drains were used primarily for the disposal of waste water. While municipal drains in Charleston and other cities appear about mid-19th century, many houses of the well-to-do had their own drains. Russell's 1808 construction included the large drain in the driveway; somewhat later he added the small drain in the garden. Cruikshank and Burton (1990) suggest that many of the better English houses had some type of drains by the the early 19th century. But even with these "conveniences" there were problems. There was a constant seepage problem and a perennial problem of blockage. While some drained well, others were built with inadequate fall. In dry weather there was no flush, and solid deposits could build up rapidly. For this reason most cities outlawed connections to privies. On properties without drains, "night soil was kept in poisonous pools, of which the inhabitants pump out the contents into open channels in the streets at night."

Wells were the principal source of water, including drinking water, in 17th and 18th century Charleston. Due to the city's low elevation, potable water may be encountered no deeper than ten to twelve feet below surface. Wells in the city were first wood or barrel lined, and then built in brick. Because of their open top and shallow nature, they were subject to contamination. This ranged from stray rats and kittens who fell in to foul substances which seeped in from the sides. Contaminated wells were often abandoned and another constructed in close proximity. Others, particularly public wells, remained open as a source of water for fire fighters. No wells were identified during the present excavation, though there should be several on the property.

Cisterns to collect and store rainwater are another sanitation feature added to Charleston lots. As the 19th century progressed, Charlestonians became increasingly concerned with health problems that plagued the city and began to relate them to poor sanitation and increased population pressure. Specifically, increasingly large numbers of wells and privies resided on increasingly small lots in all-too-close proximity to each other (Honerkamp et al. 1982; Honerkamp and Council 1984). The result was contamination of the groundwater, described in graphic language in 1880s reports by the Public Health officer (Rosengarten et al. 1987). Cisterns, designed to collect rainwater via gutter systems from roofs, provided an alternate source of drinking water. They were first constructed in the early 19th century and became a standard feature by the 1850s. These were newly-constructed rectangular vaults or converted wells whose openings had been narrowed and sealed with a stone slab. Either way, they were designed to be free of contamination; the archaeological signature is often a clean sand fill with no artifactual material. All of the townhouses studied to date have at least one cistern. The Russell cistern appears to be an antebellum construction, in conjuntion with the pantry.

Analysis of the faunal remains recovered from drain fill, trash pits, and other workyard midden proveniences has also provided information on urban sanitation. Zooarchaeologist Elizabeth Reitz has determined that such animals as rats, mice, toads, cats and dogs comprise 4.3% of rural faunal assembages and 10.6% of urban ones, suggesting that vermin were more closely associated with human activity in the city. The urban elite sites contain a lower percentage of vermin, 7.7%, possibly indicating some success in sanitizing the urban environment (Reitz 1986). Reitz has further noted a general increase in the quantity of vermin in the city as the 19th century progresses. Reitz attributes this to the amount of food stored on site, or the amount of waste discarded on the property. In general, maintenance of townhouse lots seems to decline after the economic devastation of the Civil War. The Russell site maintains a relatively high percentage of rats throughout the study period. They are 15% of the MNI in the Russell period and 11% for the Allston/Sisters period. Interestingly, they are only 5.3% of the MNI underneath the kitchen. This large percentage may reflect the large population at the site in the later antebellum period (19 slaves and 15 white occupants in 1850), or it may simply reflect a relaxed attitude toward home maintenance. Clearly rats and other corollaries of refuse were a constant problem. Gina Haney has found reference to the Horlbeck brothers, local contractors, building a brick wall to "keep out the rats" (Gina Haney, personal communication).

The urban townhouse sites evidently needed special cleanup efforts, as the faunal record also indicates that the maintenance and butchering of cattle was commonplace on these properties. This is seen in the distribution of carcass elements recovered at residential sites when compared to those at the market and at sites patronized by the general public. Further, these data suggest that on-site butchery was more common on elite sites than on those of the middle class (Reitz and Zierden 1991; Reitz 1989). The Russell house data strongly support the suggestion of on-site butchery. This is particularly true for the large bone assemblage recovered from N221E174 beneath the kitchen, as well as the adjacent unit excavated by Andrus. Reitz (this volume) has interpreted this data as evidence of primary butchery or discard associated with the kitchen. Documentary sources suggest the maintenance of livestock, particularly cattle, by Charleston residents persisted into the 20th century (Pease and Pease 1986; Rosengarten et al. 1987). William Aiken even constructed an elaborate brick shed for these urban dwellers. Gina Haney's recent research on backbuildings has revealed new, dramatic evidence of the keeping of livestock at townhouses. Plats of Charleston townhouse lots from 1750 to 1850 show a great variety of back buildings, including pigeon houses, poultry houses, cow houses, and, most telling, slaughter houses (Haney 1996:9).

The antebellum period witnessed major changes in the social, economic, and technological systems of the United States. Industrial and railroad development was a key factor, and cities were the center of these changes. This was manifested in fierce competition between cities; in order to capture the burgeoning commerce and industry, cities strove to be modern, clean, and attractive. Civic leaders took control of such services as lighting, disease prevention, drain and street maintenance, and ultimately piped water and sewer systems (Goldfield 1977). Dell Upton has noted that the cacaphony of noises and smells cut across the benign facade of new buildings and grid plans in 19th century cities (Upton 1992:51). Noises included hawkers, carts, tolling bells, drunken brawls, fights and the cracking of the work house whip. While a prosperous city was a

"humming city", it could quickly become the "thundering city." Likewise, urban smells included new industries, decaying food, sewage, animal pens, and ponds of stagnant water, often containing the carcasses of dead animals and quantities of household garbage. Disorderly spaces were unhealthy spaces, and disease festered in crowded, hidden spaces in the city, particularly among the poor. In Upton's words (1992:62), the smell of poverty was literally the smell of disease.

In Charleston, fierce individuality and staunch belief in cotton monoculture by a majority of political leaders dominated attempts by others to attract railroads and new industries. Charleston's leaders remained committed to a volunteer government bolstered by a belief in public service. Historians have suggested that this was "a conscious rejection of modernization already setting new scientific and professional standards, as it was also a reflection that no clear distinction should exist between public and private life" (Pease and Pease 1986). A city that was the home of the first railroad in 1831 was, by the 1850s, bypassed by major railroad lines. After the Civil War, poverty was the main reason for lack of modernization. Despite the pleas of the Commissioner of Public Health, Charleston did not receive a water–bourne sewerage system until the 20th century. Municipal handling of drainage and trash disposal also lagged behind such efforts in more northern cities. Nineteenth century Charlestonians continued their own, highly varied efforts to improve their homesites (Rosengarten et al. 1987).

Architectural Changes to the Russell House

Questions about the evolving built environment at the Russell house cover the physical limits of the property and span two centuries. It must be stressed that archaeological data is just one possible source for answers to these questions, and the archaeological evidence presented below must be weighed against evidence from other sources. Architectural questions posed to the archaeologists were of two types:

1. Presence or absence of suggested buildings not currently extant.
2. Dates of construction and/or demolition of structures and features, extant and dismantled.

Each of the architectural elements on the property will be discussed separately. Each section will present evidence for the presence of features, and data on dates of construction, change, and demolition, as relevant. Evidence for the presence or absence of current or previous features includes four types of archaeological data:

1. intact foundations
2. rubble deposits and their contents.
3. builders trenches, for both extant and preexisting foundations

4. associated and adjacent proveniences and their contents.

Three methods are used to derive a date for architectural features or deposits. They include:

1. Stratigraphy, or the relative layering of soil deposits and the activities they reflect.
2. TPQ, or Terminus Post Quem, the principal that states that proveniences cannot be deposited any earlier than the invention date for the newest artifact contained in it.
3. OCR dates, an absolute dating method related to Carbon−14, in which the radioactive decay of organics in the soil matrix are assigned a date before present.

The remainder of this section will treat each architectural feature separately, outlining all relevant data. This is followed by a discussion of architectural debris deposits and postbellum changes.

The Surrounding Walls

A combination of archaeological and documentary data strongly suggest that all of the surrounding brick walls, or at least their foundations, are contemporary with the Russell house. Some data exist which would support a pre−house construction date, but a more logical interpretation of the TPQ principal is that the walls go up at the same time as the house. All four walls were investigated in a series of seven excavation units. A summary of these units and pertinent provenience information is contained in Table 8. The data will be described below.

The north, or driveway, wall was investigated in February 95 by unit N235E295, a 5−foot trench running from the wall of the main house to the property wall, adjacent to the front corner of the main house. N244.5E205 also revealed a 5−foot section, parallel with the interface of the kitchen and hyphen. N235E295 exposed a builders trench as well as an underlying feature. The builders trench, designated feature 37, contained creamware (1760). The large post or pit beneath it (feature 39) contained earlier ceramics, white saltglazed stoneware (1740). The zones adjacent to these features, zones 6 and 7, also contained creamware. Subsequent zone deposits date to the mid−19th century. Specifically, zone 5 had a TPQ of 1840, from flow blue whiteware. An OCR date from this provenience is 1847 (figure 16).

Excavations were not completed in the second unit, N244.5E205, but those that were completed suggest some rebuilding to this portion of the wall. Excavation of N244.5E205 exposed the previously encountered mid−to late 19th century deposits and revealed a builders trench of dark soil and large brick fragments. There is also architectural evidence for rebuilding at this point, for the brickwork is displaced 1/2 brick width. The configuration was mapped and photographed, and excavations halted at this point. The builders trench appears to be from a rebuilding episode and dates after 1830 (figure 18).

The rear, or west, wall was examined in the southwest corner at N100E100 and in the center of the wall at N150E100. Both units contained quantities of architectural debris and artifacts from the second half of the 19th century. Beneath these deep deposit in N150E100 was a narrow zone deposit, followed by a narrow builder's trench (figure 60). The builder's trench,

feature 15, contained undecorated pearlware (1780). The narrow zone above it, zone 4, contained blue hand painted pearlware (1780), but produced an OCR date of 1830.

Excavation of N100E100 in the southwest corner revealed a series of builder's trenches for this portion of both the south and west walls, suggesting extensive remodeling in this area. The south wall was much deeper than the west wall, and the buttress was clearly a later addition. The back wall had a later builder's trench, feature 70, with a TPQ provided by a blue eagle bottle, possibly for soda water, probably dating to the 1850s. The base of the foundation was encountered here, intruding into clay subsoil.

An even more extensive series of builder's trenches were encountered along the south wall, interspersed with layers of dense rubbish. Feature 69 was first noted at the base of zone 2 level 1 and contained an early tire valve stem, dating it to c. 1900. A second trench, designated as a second level of feature 69, initiated at the base of zone 3 level 1. This construction episode seems to include the buttress, and is contemporary with feature 70 along the west wall. Feature 69 level 2 probably dates to the third quarter of the 19th century, and contained lettered mold–blown bottles.

In between this building episode and sterile subsoil was zone 4, from the 1870s, and zone 5, dating to the 1850s. The deepest builders trench initiated below this at sterile subsoil, and was excavated in 4 layers, first as feature 72 and later as feature 78. These features contained transfer printed pearlware (1795) as the latest artifact. Feature 74 was .4 feet deep, and feature 78 continued for an additional foot to the base of the brick. The brick wall exposed by this sample revealed several seams in the brick at the interface of features 72 and 78, indicating rebuilding episodes. The dense architectural rubble in this unit made feature identification problematic, but the defined trenches appear to be sound (figure 22).

The builder's trench for the Price's Alley wall was not encountered in N111E190, due to a high water table. The deepest zone excavated, zone 4, consisted of medium brown sand over brick rubble, likely from the demolished tenement building. Zone 4 had a TPQ of 1795 (annular pearlware). The same soil had an OCR date of 1808. The brick wall continued beneath these deposits, and thus must predate them, even if only by a few months (figure 61).

Construction sequence for the south wall was further defined in the southeast corner unit, N130E328. Here, three superimposed front walls were exposed, as well as the edge of the south side wall. Here, it appeared that the south wall was a single construction event, built around the corner column. Several soil features were associated with the south walls and provide tentative dates. Zone 4 postdates the wall, and consists of building rubble, probably from demolition of the tenement. The various proveniences of zone 4 in the two adjoining units contained hand painted pearlware, creamware, and transfer printed pearlware, providing a TPQ of 1795. Visible at the base of these deposits was feature 55, an ephemeral builder's trench along the south wall; this feature contained no datable artifacts except a piece of oriental porcelain, identified as a rare shade of celadon, dating to the late 18th century. Below this was a narrow dark band of sand, which clearly continued beneath the brick wall. This deposit, zone 4a, plus a series of small features of

Figure 60: builders trench to back wall, unit N150E100
Figure 61: soil profile N130E100, showing brick rubble from 18th century tenement

the same soil at the base of the zone, contained white saltglazed stoneware (1740) as the latest artifact. This soil yielded an OCRdate of 1784, consistent with a deposit that comes before the construction of the wall and demolition of the tenement (figure 62).

The two contiguous units in the southeast corner, N130E328 and N134.8E328, revealed the front (east) wall to be a series of three distinct foundations, separated by thin soil lenses and datable by these and other soil deposits beside them (figure 62). The first, feature 21, is a 20th century wall foundation which initiates in zone 1. This date is verified through turn-of-the-century photos, which show the previous wall intact, and a documented construction date of 1928. Feature 22 was an intact wall foundation from the 19th century exhibiting a footing and intact column construction, not aligned with the present columns. Zone 4, the tenement rubble, continues beneath this foundation, and thus provides a date of construction (TPQ of annular pearlware, 1795) (figure 63).

The Hyphen

The infill between the main house and the kitchen building posed the greatest dating quandry on site. The archaeological work contributed data to this issue but in the end did not solve the puzzle. Two units were excavated in attempt to answer this question. N213E210 was excavated adjacent to the hyphen on the south side of the structure. This structure revealed shallow and well defined stratigraphy. First step was removal of the brick patio and underlying concrete pad. Beneath this was a dark midden layer from the Sisters era, full of trash and debris. Zone 2 was a mottled light brown and yellow sand with small bits of shell and mortar, very similar in composition to the soil in the builder's trench, feature 63. Zone 2 contained 19th century stoneware and white porcelain, suggesting a mid-19th century date of deposition . Beneath this were two features intruding into sterile soil; the undulating deposit of light brown soil appeared to be a single builder's trench feature, and was designated feature 60. A first level, .4 feet deep, contained creamware and colono ware, and a single large sherd of blue transfer printed whiteware. This sherd was from a paneled plate, dated 1850-60 by Ottilie Bentz. A soil sample from this provenience had an OCRdate of 1847 (figure 21, figure 35).

Beneath this, feature 60 became more clearly defined as two deposits. A linear builder's trench of mottled yellow, orange, and brown sand was re-designated feature 63. Whieldon ware (1740) was the latest object in the provenience. This in turn intruded into the remainder of feature 60, which was a small trash-filled pit of medium brown sand. This pit contained a variety of artifacts, including a large fragment of iron kettle. Creamware was the latest artifact (1760). Excavation of these two features revealed the base of the hyphen foundation, which was quite shallow on this south side.

It remains, then, that the single mid-19th century artifact in these two features was in their top. However, the early date for the overlying zone 2 would negate the possibility that this is contamination from the provenience above. Zone 2 was a mottled light brown and gold sand,

Figure 62
a) superimposed 18th, 19th and 20th century wall foundations on east side
b) relationship of corner column and south wall

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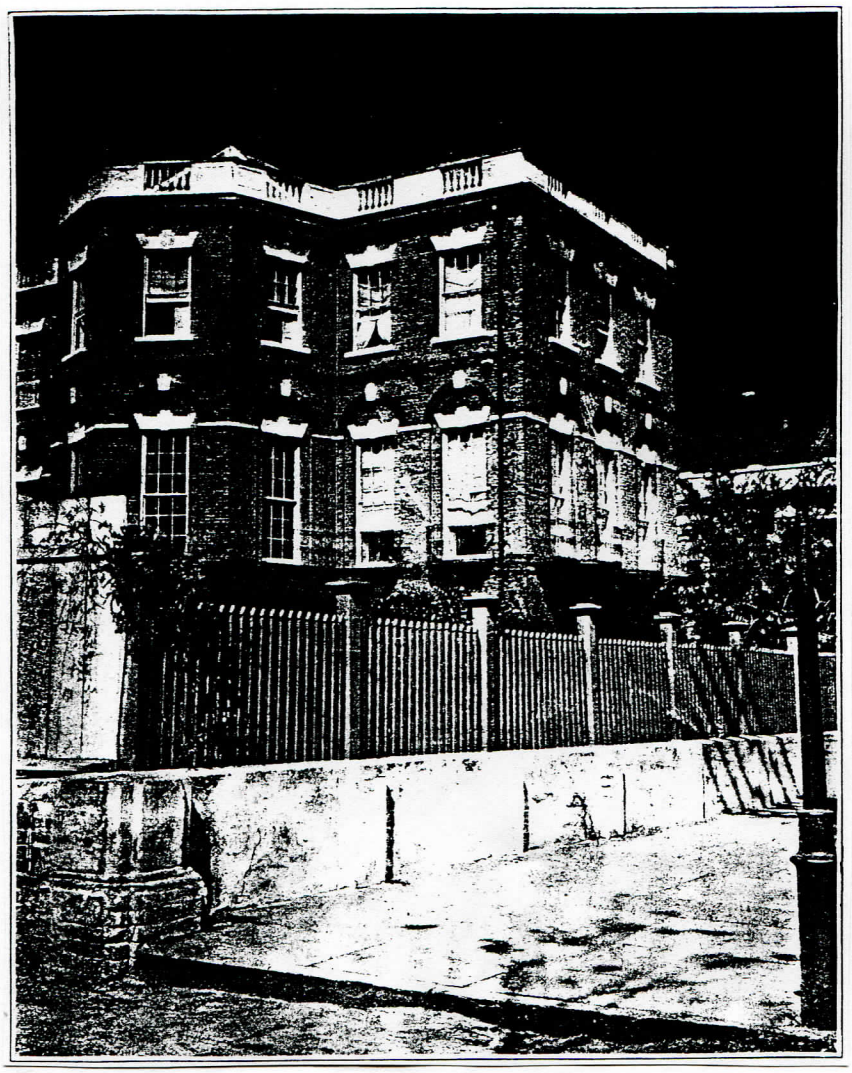


Figure 63

a) 1898 photo showing front wall; foundation probably dates to 1808

b) 1902 photo showing corner column and wooden superstructure on south wall (from "The Georgian Period, being Measured Drawings of Colonial Work", American Architect and Building News Co., 1902.

similar in appearance to feature 63. It is possible that it is part of the builders trench, soil scattered on top of the ground at the time of construction.

Unit N235E205 was excavated in the driveway adjacent to the interface of the kitchen and hyphen on the north side. The upper layers of this unit were very complex and compromised by a series of wires, pipes, and service lines. A series of later building episodes and disturbances (mid to late 19th century) were encountered. Beneath the mid–19th century mortar paving (feature 41) were pockets of loose, dark dirt adjacent to the kitchen, designated feature 43. This feature contained a large amount of slate, blue transfer printed whiteware (1830) and white porcelain (1850). Below this, feature 45 was the builder's trench for the infill and feature 44 was the builder's trench for the kitchen. Both appeared as a series of linear areas of mottled brown and yellow sand; there was not distinct line between the kitchen and hyphen trenches, and feature 44 appeared to have two lines, suggesting separate events. Feature 44 was excavated in three levels, and the base of the foundation was not encountered. These three levels had TPQs of undecorated whiteware (1820), later creamware (1790s), and blue transfer printed pearlware (1795), respectively. Feature 45 was excavated in five levels. Level 1, visible in figure 13, sloped inward toward the foundation (roughly at the same point as the "inner" line in figure 13), and contained Canton porcelain (1800). At the base of this level was a well defined posthole and postmold (feature 48), with a TPQ of creamware. An OCRdate for this postmold was irrelevant at 1634.

Levels 2 through 5 continued adjacent to the infill foundation, to a depth of two feet. These four levels contained, respectively, undecorated creamware and white saltglazed stoneware. The excavations in this unit were done quickly and under adverse weather conditions. This, plus the highly disturbed nature of the later zones and features makes the builder's trench data difficult to interpret. Nonetheless, the many discretely defined trench proveniences could indicate a construction date no later than the 1820s. The disparity in depth between the north and south foundations is also interesting. The south unit (N213E210) initiated at 8.4' msl and the base of the foundation was at 7.0'msl. On the north side, the unit initiated at 9.0'msl and the foundation continued beyond 5.37'msl. Graham and Ridout subsequently documented a cistern in this location, likely explaining the disparity in depth (Ridout and Graham 1996:20–26). Howver, the different construction episodes is still supported by difference in dates for the builders trenches. Current interpretation of these data by Graham and Ridout (1996) is that a privacy wall connected the main house and the kitchen on the north time from the period of house construction (figure 64). At a later date, perhaps as late as the 1840s, a one–story pantry was constructed, incorporating the wall foundation (figure 65). How this space was used prior to pantry construction is unknown.

The Carriage House Complex

Excavations in the rear drive suggest that the 1870 plat which shows the remainder of the carriage house, plus a small room attached to the rear of the carriage house is essentially accurate. A series of three units were excavated (N200.5E121, N205.5E121, and N205.5E126) in the rear

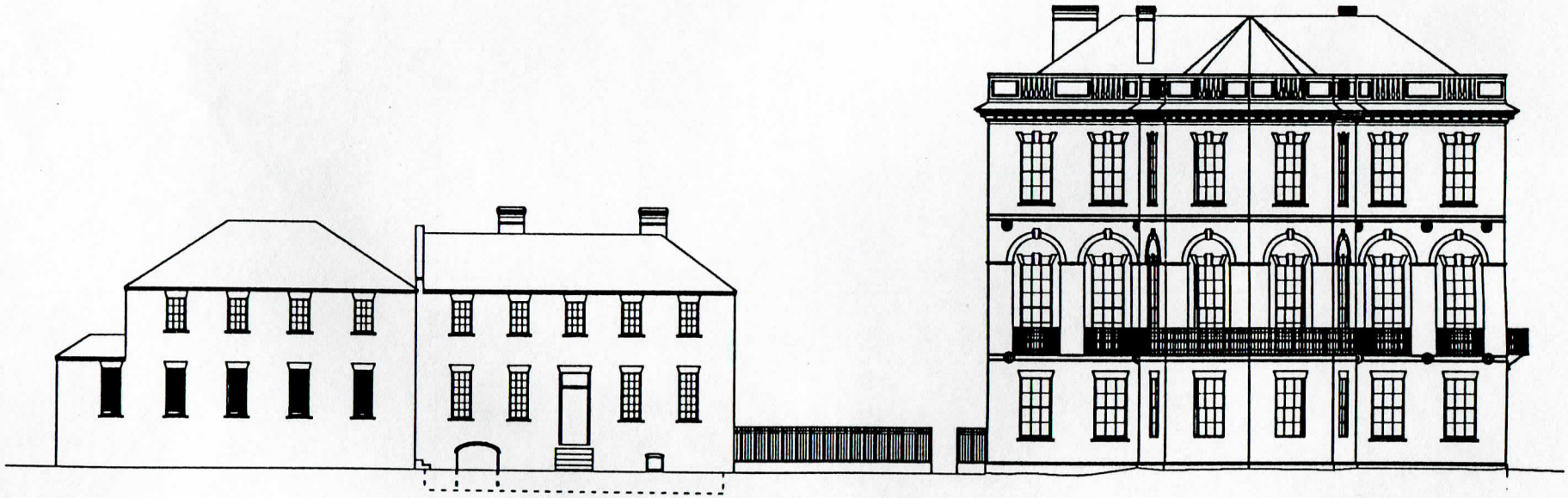


Figure 64
(courtesy, Glenn Keyes Architects)

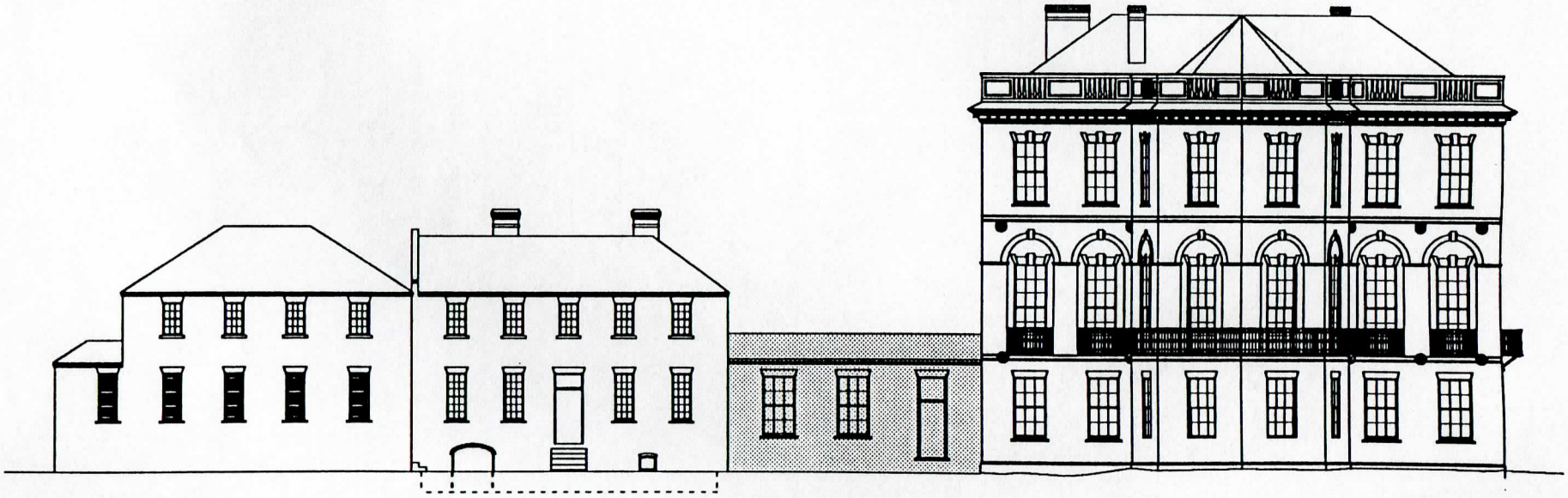


Figure 65
(courtesy, Glenn Keyes Architects)

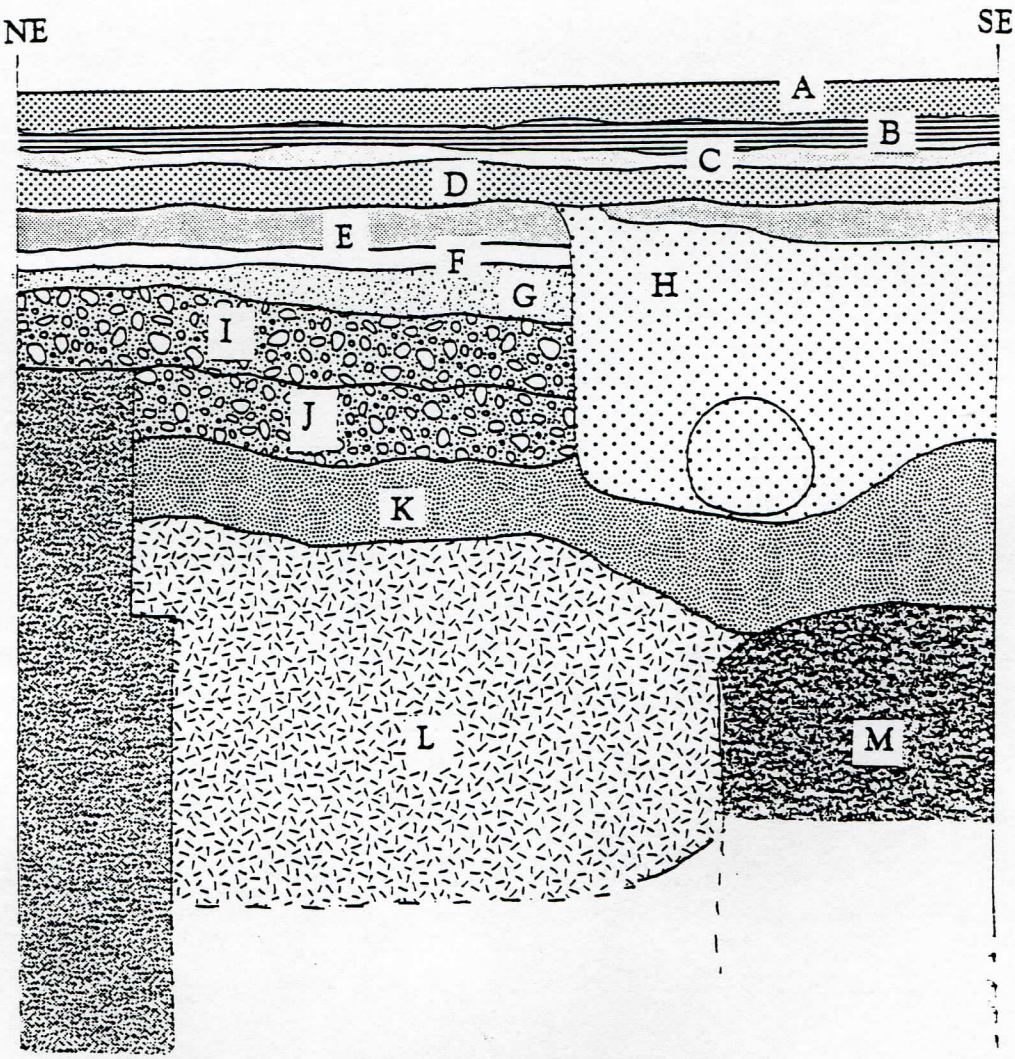
parking area. These units revealed most of the small room, the interior and exterior of its south and west walls (figures 11 and 26).

Unit N200.5E121 revealed the exterior of the south wall, plus its southwest corner. A number of 20th century features were present in this unit, including a sewer pipe which destroyed the upper levels of the building corner. Most significant in this unit were two deep soil deposits which date construction of the room. A wide, deep deposit of mottled grey, orange, and yellow sand was designated feature 33. This contained transfer printed pearlware (1795). The adjacent dark soil deposit, designated feature 32, also contained transfer printed pearlware. It appears that the mottled feature 33 intruded into feature 32 and into sterile, and that feature 32 is the source of the mottled dark soil in feature 33, as the artifact assemblages are identical. Moreover, the dark soil of feature 32 produced an OCRdate of 1807; the mottled dirt of feature 33 produced a date of 1758 (figure 66).

The foundation to the small room (feature 30) was quite deep, suggesting a privy vault, and the water table was encountered before the base of the foundation on both the interior and exterior. The brick foundation initiated at 7.83'msl and continued to at least 4.86'msl. Units 205.5E121 and N205.5E126 explored the interior of the structure. Contained within these units was the complete south wall of the small room, the majority of the west wall, and a portion of the exterior west wall of the stable, which also served as the interior east wall of the small room. The northern wall was not exposed.

Unlike the more southerly unit excavated last year, the soils in N205.5E121 on the exterior of the building were evidently churned and re-dug. The soils defined as zone 3 were actually highly swirled and mixed deposits of red sandy clay and grey sand, to a depth where the water table was encountered. These soils contained transfer printed whiteware (1830).

The interior of the room was filled with clean yellow sand, attributed to an 1861 reference to "filling and planking a privy" by Col. Allston. The sand initiated at the top of the brick, at 8.03'msl and continued to a depth of 5.81'msl, where the water table was encountered. (The water table problem was exacerbated by a downpour – 1 inch in 20 minutes – on the last day of excavation.) Probing indicated that the sand fill continued another two feet to a dark grey sand. The fill contained very few artifacts, the latest being a section or ironstone sewer pipe, supporting the suggested 1860s date of filling. At a depth of 1.3' below the top of the foundation, the interior foundation stepped out 1/2 brick on both sides, and the wall above the step in the south side was not parallel to the bricks below. In the center of the west wall, below the brick step, bricks were absent and the area was instead filled with soil. This area may have been a cleaning vault, although the opening was not finished or well shaped. It seems that this opening would have been too deep to be functional, so its exact purpose remains unknown (figure 26).



Feature 30

N200.5E121, east profile

a) crushed oyster shell
b) hard–packed grey sand
d) pebbles and granular sand
e) mottled grey granular sand
f) hard packed granular white sand

excavated as zone 1

g) medium brown sand mottled with gold and charcoal, zone 2
h) highly mottled brown sand with brick and mortar, feature 29
i) crushed yellow mortar and brick, zone 3
j) yellow mortar and sand, zone 3
k) dark grey sand, zone 4
l) mottled medium grey, orange, and yellow sand, zone 5/feature 33
m) medium grey–brown homogenous sand, feature 32

The Main House

Since the main house is relatively well documented, only one excavation unit was located adjacent to it. N200.4E297 was adjacent to the front (southeast) corner, and was located there principally to encounter any evidence of a fence or wall separating the front entrance from the formal garden. After a series of narrow zones and small features, feature 13 was the typical highly mottled gold, yellow, and tan sand. No distinct borders were discernable for this feature; it evidently continued beyond the limits of the 5 foot square, but the soil remained the same to the base of the foundation. The upper levels of this deposit contained undecorated pearlware (1780), while the lower levels contained very few artifacts at all – green glass and nail fragments. The unit initiated at 8.6'msl, feature 13 at 7.3'msl, and the base of the foundation was encountered at 6.0'msl.

The Kitchen

Little investigation was conducted on the kitchen foundation, except for the excavation in the driveway adjacent to the infill. Of greater interest is the unit under the kitchen and what it says about original grade. At the present time, there is about three feet of clearance between the floor joists and the top of the soil deposits. Excavation of N221E174 revealed coal deposits from the Russell era that are nearly 3 feet deep. The deepest, narrow zone of dark soil contained quantities of slate, with the TPQ artifact as annular pearlware (1795). This suggests that the slate debris and narrow zone date to house construction. Beneath this was orange and yellow mottled sand, which appears to be builder's trench for the kitchen. The water table was too near to excavate further. The data suggest two things: first, the kitchen is contemporary with the main house, and the roof was likely slate. Further, original grade would have allowed nearly 6 feet from ground to rafters, allowing for use of the area as storage, etc. The archaeological data indicate use for coal storage and refuse disposal.

Rubble Deposits and their Dates

In addition to the extant buildings and intact foundations, concentrations of building rubble were found across the site in datable contexts, providing details on architectural changes, alterations, building and rebuilding at the site. Three significant deposits of slate were encountered, two contemporary with construction of the house and a third dating to the 1830s. A fourth, in the driveway, dates to the 1850s or later.

Piles of broken slate were found in the garden in N172E270, in zone 4 (TPQ 1795). Also, slate in large quantities were recovered from beneath the kitchen, in N221E174, in zone 5 level 3 (TPQ 1800) and zone 6 (TPQ 1795). Unit N190E158, on the south side of the carriage house, had quantities of slate, along with a large black glazed roof tile and quantities of plaster. This deposit may be evidence of the re–roofing after the hurricane of 1832.

Terra cotta pantiles, both glazed and unglazed were recovered along with the slate in N190E158, zones 3 and 4. Pantile was also recovered from N130E188, zone 4, in the zone above the heavy brick rubble. This deposit dates from the 1810s, and may be construction rubble from the Russell house or demolition rubble from the tenements. Also predating the house was pantile in N130E328, zone 7, the 1730s creek fill.

Pantile was recovered from a number of postbellum deposits; this may reflect Civil War damage and re-roofing, or earthquake damage. Pantile was recovered from zones 2 and 3 of N130E188, and from N100E100, zones 1 and 2, and feature 69 level 2. Finally, pantile was found in the fill of the privy room (1860s).

Plaster was recovered from the sand fill of the privy room, and from zones 2 and 3 in N130E188. It was also found with slate and pantile in zone 4 of N190E158. Two antebellum proveniences in the garden unit, N172E270, yielded terra cotta paving tiles.

Concentrations of rubble, particularly brick, were noted in N150E135 and in N150E100. The source of rubble in the postbellum deposits in N150E135 remains a mystery; there are no known or suspected structures in this vicinity. The brick rubble in N150E100 may be from the small structure shown on the 1888 Sanborn map, as the excavation unit is just south of the expected location of the structure. It should be noted that the combination of data from N150E100 and N100E100 suggests that the entire rear wall area is littered with architectural and domestic debris from the second half of the 19th century (including the urn!).

Postbellum Changes

The brick rubble deposits described above are not the only evidence of postbellum changes to the property. The excavated data suggest that the small room at the rear of the carriage house was a privy that was "filled and planked" in 1861. The sand fill would also suggest that the privy was cleaned out at this time. The 1870 plat, however, indicates that this building remained extant until at least that date; perhaps it was used for another purpose. The demolition rubble in zone 3 at the top of the foundation suggests that the room was demolished in the 1890s, supported by its presence on the 1888 Sanborn and absence on the 1902 Sanborn (figures 12-13).

The rectangular privy in the northwest corner was evidently constructed by 1870, as it is extant on the Sisters' plat. No builder's trench was encountered during excavation, due to the instability of the unit. The fill on both the interior and exterior dates after 1880. The privy walls conform to the dimensions shown on the 1870 plat. They were of very poor construction, including unmortared and scrap brick, and even paving stone fragments.

Also discovered in the rear driveway area, adjacent to the original privy building, were small brick piers from the late 19th or early 20th century. These were somewhat disturbed by the sewer pipes, and their function and exact date of construction and demolition is unknown. None of the piers match in size, height, or style of construction. They may be evidence of the additional outbuildings shown on the 1902 Sanborn map.

Table 8
List of Proveniences and TPQ dates

South Wall		
N130E328	Zone 4a	white saltglazed stoneware (1740)
		green bottle glass
	Feature 55	green bottle glass
		Celadon porcelain (late 18th Cent)
N100E00	Feature 72	undecorated pearlware (1780)
	Feature 78	transfer print pearlware (1795)
	Feature 78a	bone
	Feature 78b	green bottle glass
Rear Wall		
N150E100	Feature 15	undecorated pearlware (1780)
Front Wall		
N134.8E328	Feature 22 (zone 4)	annular pearlware (1795)
N130E328	zone 4	hand painted pearlware (1780)
North Wall		
N235E295	Feature 37	creamware (1760)
N244.5E205	Feature 49	not excavated
Builders Trench for main house		
N200.4E297	Feature 13	iron
	zone 4	pearlware (1780)
Builders Trench for hyphen		
N234E205	feature 43	transfer print whiteware (1830)
	feature 44	undecorated whiteware (1820)
	f. 44 lev 2	undecorated creamware (1760)
	f. 44 lev 3	blue handpainted pearlware (1780)
	feature 45	slipware (1670)

	f. 45 lev 2	creamware (1760)
	f. 45 lev 2a	blue on white delft (1670)
	f. 45 lev 3	creamware (1760)
	f. 45 lev 4	white saltglazed stoneware (1740)
hyphen, cont.		
N213E210	fea. 60 lev 1	transfer print whiteware (1850)
	fea 60 lev 2	hand painted pearlware (1780)
	fea 63 lev 2	creamware (1760)
Builders trench for stable/privy		
N200.5E121	feature 33	transfer print pearlware (1795)
	fea 33 lev 2	transfer print pearlware
	feature 32	transfer print pearlware
	fea 32 lev 2	transfer print pearlware

Finally, evidence points to some changes to the surrounding walls in the late 19th/early 20th century. The south wall in the west corner was evidently reworked a number of times, based on the superimposed builders trenches. The buttress was added in the late 19th century, and an irregular "fit" in the brick wall itself indicates at least one alteration at historic ground level. We do know that the entire south wall was converted to solid brick some time after 1902. Likewise, the front wall was completely rebuilt after 1928, complete with new foundation. The north wall, or portions of it, witnessed some postbellum and 20th century rebuilding as well.

The Garden and Work Yard

Scholars from a host of disciplines have all focused recent arguments on the necessity to consider an entire property, not just the main house, when studying a site and when interpreting it to the public. The main house, retinue of back buildings, work yard, garden, paths and fences were integrated parts of a whole, each dependent on the other for both function and definition. Archaeological research and interpretation at the Russell house focused on all of these features.

It is clear from the descriptions, anecdotes, and correspondence, as well as the sheer configuration of the property, that Russell's urban seat included a formal garden, for show. But what kind? What size? and Where? These remain the unanswered questions. Archaeological, architectural, and documentary sources have lifted the veil somewhat, but it is certainly premature to plan restoration of the antebellum garden. Alicia Hopton Middleton, a great granddaughter, writes in 1929 that "the garden occupied half a block, and was filled with every imaginable plant and flower" Other twentieth century reminiscences describe formal and informal areas, and divisions between them. In 1939 E.T.H. Shaffer writes,

> "One of the best survivals of the geometrical arrangement, so popular in the 18th century, is met at the old Nathaniel Russell home on Meeting Street, that was for a long time the Convent of the Sisters of Mercy. Here the patterned beds of flowers are separated from the kitchen garden by a thick hedge of Altheas, giving beauty to both" (The sisters reportedly maintained the garden as they inherited it).

Finally, Mrs. Laurence Ladue (1969), recalled the early 20th century appearance of the garden as "divided into three sections, with a formal, parterre garden in the front, a grassy section for children to play in the middle, and a work yard with a cow, pony, and chickens to the rear." This rear third was evidently "divided into smaller thirds" and used as a kitchen garden, and well as for these livestock.

The few, late plats of the property offer no details on the garden. Photographs taken during the Sister's tenure are a bit more revealing. Two aerial views taken about 1898 show large, curving, seemingly circular, paths in the front portion of the garden, with flowers in bloom adjacent to the bay window and a variety of shrubs, flowers, and trellises within a large circular bed.

Barbara Sarudy has suggested that this is in keeping with styles popular in the mid-19th century (figure 67).

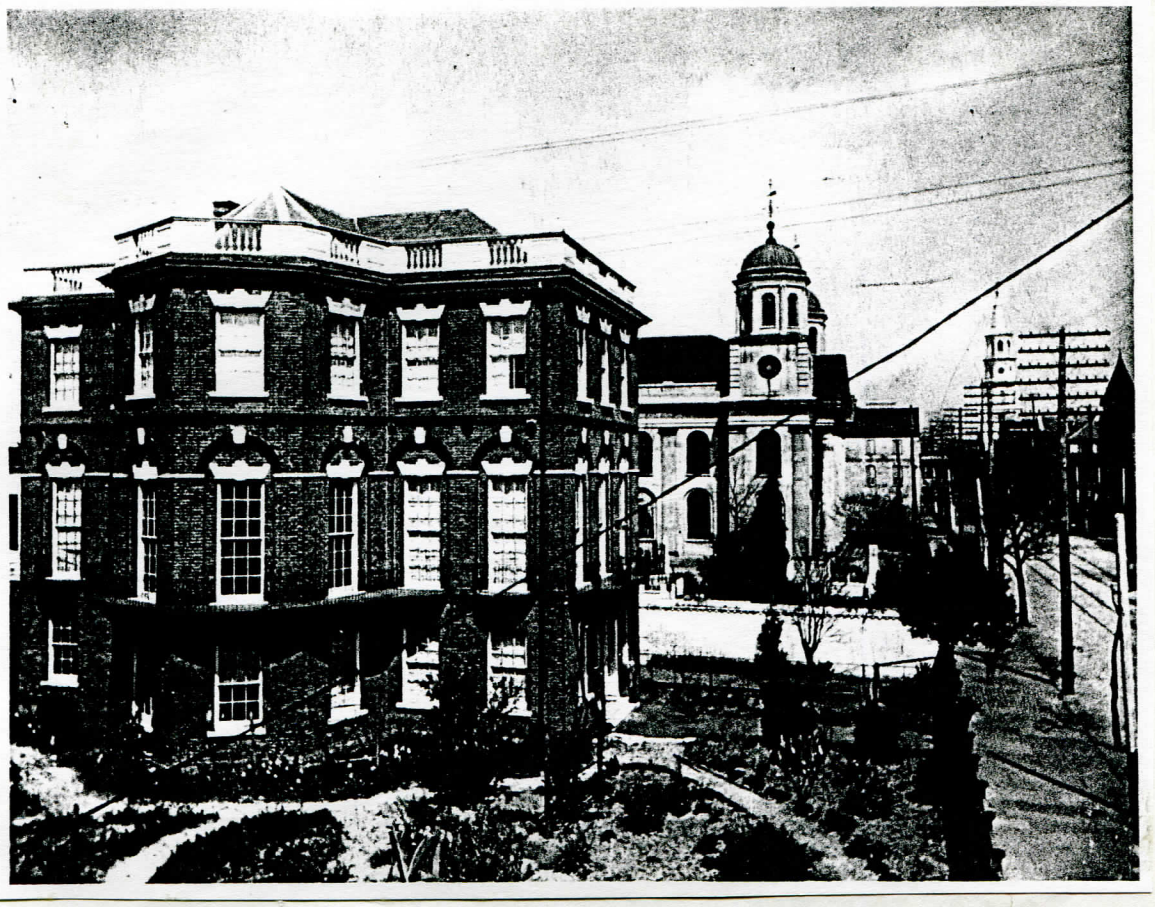
A closer view of Sister Mary Carmel taken adjacent to the bay window on this circular path shows a close-up of flowers in bloom, a trellis, and tall bushes, possibly crape myrtle, next to the bay window. A second aerial view taken from the rear shows the same formal garden arrangement and what may be a hedge of closely-pruned altheas running across the yard from the rear corner of the main house. There are several large bushes and the area behind the hedge appears to be a grassy expanse (figure 68). By the time another photo was taken in front of the house in c. 1930, the garden was gone, replaced by a grass lawn and a few bushes (not shown).

A major goal of the ongoing research project has been to define the size, location, and content of the formal garden. This entailed independent research by Barbara Sarudy, Robert Leath, Orlando Ridout, and the author, as well as spirited discussions among these researchers. Developing ideas, subject to change without notice, guided ongoing excavations, as well as the present interpretation. It should be noted that only a few units were deliberately placed to examine garden features; others located to explore different topics inadvertently revealed evidence of the garden.

The story of garden research begins with the first two units N197.9E200 and N197.9E210, designed to explore the work yard. They were expected to yield layers of midden soil typical of a work yard. They did not. Instead, the units contained shallow stratigraphy, few artifacts, and a hard, red clay floor. Subsequent discussions centered on the possibility that these units were "clean" because they were located within the formal garden.

Of primary interest was the location of the expected division between garden and work yard. A review of historic plats by Barbara Sarudy and Robert Leath suggests that formal gardens were placed in varying location on Charleston house lots, often forced by lot size into seemingly odd juxtaposition with the backbuildings. In the 18th century gardens were normally located in back of, but segregated from the workyard. By the early 19th century, however, ornamental front gardens begin to appear (Robert Leath, personal communication, 1996). Almost all of the plats suggest that the garden was segregated, and protected, by some sort of enclosure. The second important, but also inadvertent, clue to garden location was the discovery of feature 12 in N111E190. Designed to explore and date the south property wall, this unit exposed the small square foundation and associated headers in the lower portion of the extant wall. Artifacts associated with this feature suggest an early 19th century date of construction. Careful examination of the entire south wall failed to locate any other such features (figure 69).

Feature 12 was interpreted as the foundation for a garden wall by both Barbara Sarudy and Orlando Ridout. Barbara further suggested that such a feature would have been oriented perpendicular to the lines of the house. A line was established from feature 12 to a 90 degree intersection with the building complex. This line intersected just in front of the kitchen door. Such a proposed wall would place a portion of the kitchen within the garden; this may account for the relatively sterile fill in the first two units.



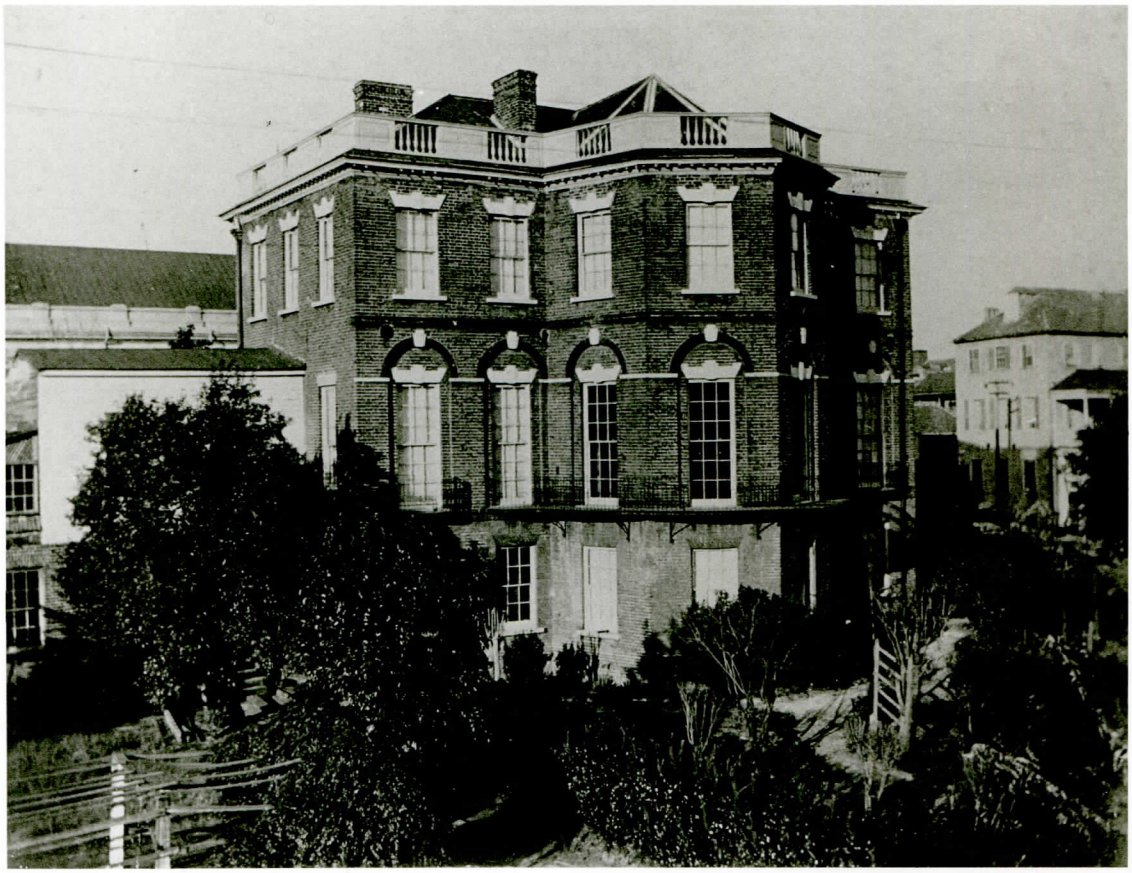


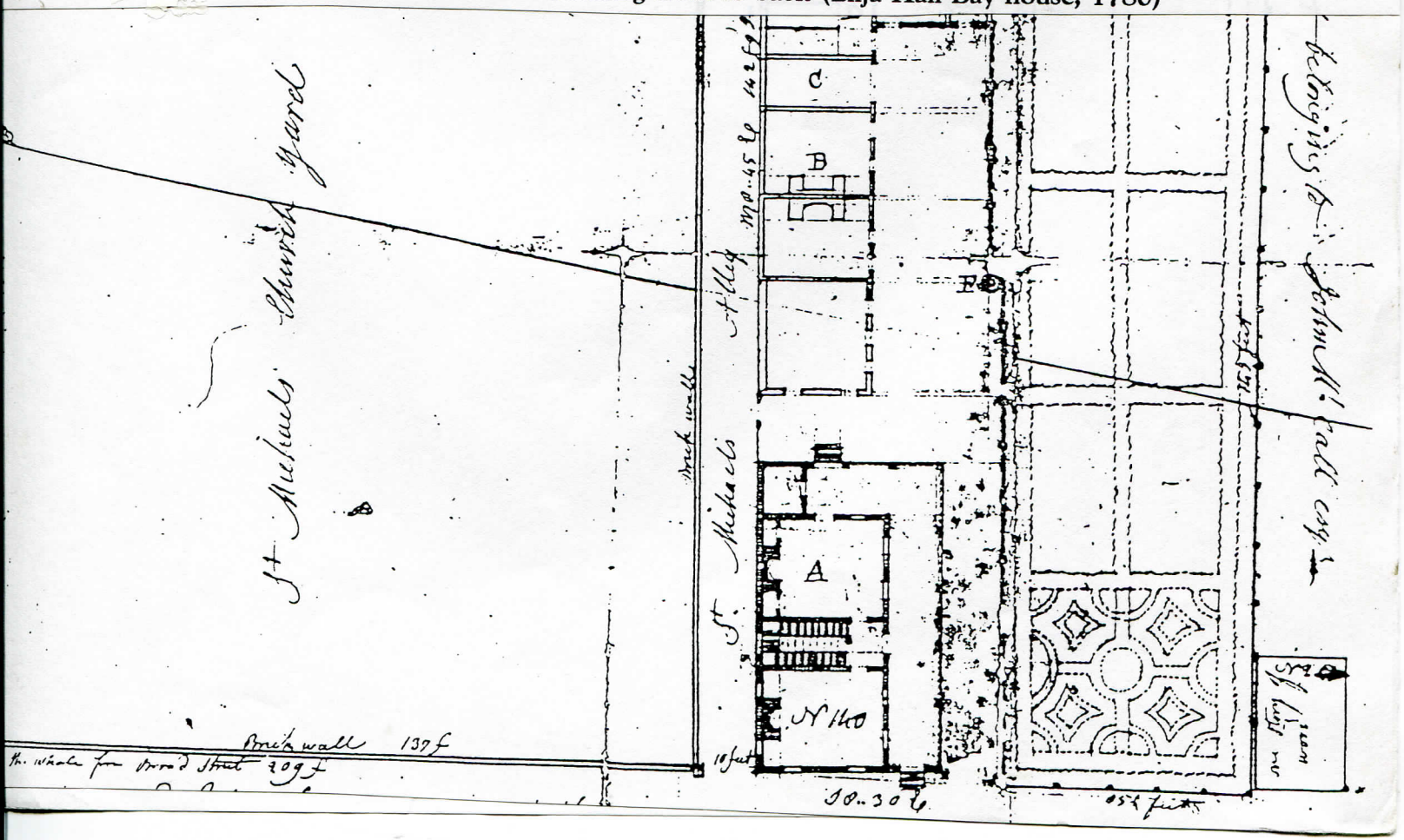
Figure 67
a) Front portion, Russell House garden, before 1898 (MK 9756)
b) Rear portion, Russell House garden, 1898 (MK15395)
Courtesy, The Charleston Museum

Figure 68
Sister Mary Carmel in the Russell House garden, c. 1890s (Courtesy, Historic Charleston Foundation)

Figure 69

a) Feature 12, possible garden wall foundation and seam in south wall

b) Example of late 18th century plat of a Charleston single house, work yard and garden; here the formal garden fronts the street, and continues the entire length of the lot along one side, with a fence running front to back (Elija Hall Bay house, 1780)



Probing along this proposed line encountered several hard surfaces at approximately 18 inches below the ground, even with the level of the top of feature 12. Unit N130E188 was excavated to encounter some of these probed objects, but did not reveal any additional foundations. Instead, the unit contained dense rubble including brick and pantile fragments, at this level, possibly accounting for the positive probes.

Research continued with this model in mind. Unit N185E215 was located within the posited garden delimited by such a wall, and designed to encounter another brick structure noted through probing. This unit again revealed shallow stratigraphy, with the midden zone associated with the late 19th century. Beneath this was the same hard-packed, red clay surface. In contrast, unit N190E158, deliberately located to test an area just outside this proposed boundary revealed radically different stratigraphy, soil deposits typical of those seen in some Charleston work yards (figure 20). Taken together, these data suggest some validity to the proposed boundary in this location.

Archaeological data also suggest that this particular boundary was abandoned by the Sisters' occupation, possibly slightly earlier. Post-Civil War midden deposits are found in N130E188, N185E215, and even N213E210, adjacent to the hyphen. Russell-era debris is not found in profusion in any of these units. Examination of the 1898 photo suggests that the separating hedge is more in line with the rear corner of the main house, suggesting that the boundary was moved forward about thirty feet, perhaps to accommodate a grassed area for children, as suggested in Mrs. Ladue's memoirs (see figure 14, figure 67b).

Additional features were encountered which provide some information on the presence of the garden, its layout and content. The most interesting feature was the possible brick drain, feature 50 (figure 19). Its location, interior fill, and angle of descent suggests that it could have functioned as a drain. (I have heard third-hand that a recent segment of "This Old House" on PBS showed an identical feature and identified it as a drain). The other interesting, and possibly associated, feature is the clay surface noted in units N197.9E200, N197.9E210, and N185E215. It seems to be an artificial surface – the color of the clay does not match that of indigenous subsoil, but appears more typical of the clays found further inland. Samples of this clay were examined by Richard Marks, who noted that the sand particles were rounded and uniform in shape, suggesting the clay was prepared. The clay was quite thick and was excavated to a depth of about .5 feet in one location.

If this clay is a deliberate deposit, then "why" remains an issue. Such a surface would have been slow to drain, which may explain the presence of a brick drain. This feature has been discussed in several public lectures, and at each one at least one audience member has mentioned that "you plant roses in clay". "That's the old way" one audience member mentioned. Current literature suggests that roses need well drained soil, but another rose gardener suggested that roses do well in clay soil, if placed in a planting hole that is well fertilized and highly organic. Such conditions are indicated by parasitological analysis of feature 49, which revealed whipworms and ascarid roundworms bourne by pigs. These parasites were located in another feature at the front

of the house which has been interpreted as a planting hole. Taken together, the drain, the clay surface, and the soil containing fecal fertilizer suggests use of this area as a rose garden. This interpretation was recently posed to Peggy Heinsohn, Chair of consulting rosarians for the Carolinas, American Rose Society. She immediately and unequivocably endorsed this interpretation, including the drain. She suggested that the Russells may have seen a successful rose garden on a visit to an upland plantation, or heard of such, and sought to mimic the conditions.

Other evidence of the garden was encountered in N172E270 (figure 25). As discussed in Chapter III, this unit was placed to encounter one of the sand (or at least light-colored material) paths extant in the late 19th century, based on the position of Sister Mary Carmel in the historic photo (figure 68). No path was encountered, but the excavations did reveal a planting bed from the Russell's occupation, as well as well-preserved, complex stratigraphy and numerous other features. This unit suggests that a Russell period garden is present in this location, and probably intact beneath the current garden. Admittedly, unit N135E265 did not reveal comparable stratigraphy (figure 14). This has previously been attributed to its placement within the proposed footprint of the 18th century tenement building; an alternate explanation is that the garden was less formal, and thus less well-defined, in this vicinity.

A final location to consider in discussion of the garden is unit N200.4E297, located adjacent to the southeast (front) corner of the main house. This unit was designed to explore the issue of a fence or boundary between the front entrance and the garden. Barbara Sarudy suggests that this area would have been open lawn, with little ornamental planting. The excavations did not expose any evidence of fence posts or foundations, but did reveal a possible planting hole from the Russell era. Feature 9, a small round pit of medium brown-grey sand approximately .7 feet in depth also contained the pig-bourne parasites discovered in N185E215. The dispersed presence of these parasites across the front of the property supports its interpreted origin as fertilizer, while the recovery of the parasites in the hole supports the interpretation of feature 9 as a planting hole.

In sum, there is archaeological evidence for use of the front half of the yard as a formal garden; there is no such evidence from the rear half of the property. There is at least circumstantial evidence for a fence, or at least a boundary, across the site 140 feet from the front of the property, a little more than half way (60%) from the front of the lot. Further delineation of the garden and its features awaits extensive future excavation (figure 69).

On the content of the garden, the archaeological record is disappointly silent. Analysis of soil samples by Dr. Karl Rinehard revealed that no pollen survives in the archaeological record at the Russell house. Pollen studies elsewhere in the city (John Rutledge house, Miles Brewton house, Powder Magazine) have revealed at least moderate pollen preservation, and highly informative data. The Russell house study included samples that spanned the temporal, geographic, and functional limits of the site; the pollen was uniformly destroyed, due to high levels of moisture in the ground.

Finally is a discussion of the garden-related artifacts. A large number of flower pots were recovered from Russell house proveniences, from all time periods (figure 70). They are particularly prevalent in the late 19th century. The Russell and the Brewton sites have yielded the largest proportion of flower pots recovered in Charleston (.8% of the assemblage); both are known for large gardens, maintained in varying fashion throughout the history of the site. Interestingly, the proportion of clay pots rises in the late 19th century at both sites (table 9).

At the Russell house, the flower pot fragments are distributed across the site. They are less frequent in the driveway, the back parking area, and in the vicinity of the kitchen, in the "clay bed" units. They are more common on the perimenter of the site, along the west and south walls (figure 71). Some of these concentrations follow the concentrations of late 19th century refuse in general, but the pot fragments in N221E174, under the kitchen, must be Russell's. These pots, then, seem to have been cleaned up and deliberately discarded with refuse, rather than broken in place, as their distribution follows generally from the overall pattern.

Two decorative pots were identified in the collection. The elaborate sprigged, painted, and luster-decorated whiteware container appears to be a jardinier (figure 70). It was dated 1830-1850 by Ottilie Bentz (personal communication, 1995). A fragment of buff-colored earthenware with a ridged exterior and bright green glaze may also be a garden container. Green pots were particularly popular during the early 19th century; Barbara Sarudy has found reference to "pots painted green" (personal communication, 1995). Finally, a piece of heavy clear glass may be a piece of a bell jar, a miniature "green house" for forcing delicate plants (see figure 79).

Interpreting the particulars of the work yard location and layout was equally challenging. The buildings which housed and supported the activities of daily life were either extant or revealed through the excavations - kitchen, slave quarters, stables, carriage house, privy, etc. Less clear, though, were the outdoor locations for food preparation and storage, washing, cleaning, livestock maintenance, butchering, and above all, refuse disposal - usually an indirect archaeological signature of the workyard. Excavations at other Charleston sites have demonstrated a concentration of debris in the vicinity of the outbuildings, found in deep and complex stratigraphy, laden with refuse and animal remains. Extensive excavations at one site (Miles Brewton) and testing at another (John Rutledge) suggests that the work yard activities took place in a circumscribed area, often with a clearly marked boundary; archaeological stratigraphy within and without the work yard has been markedly different.

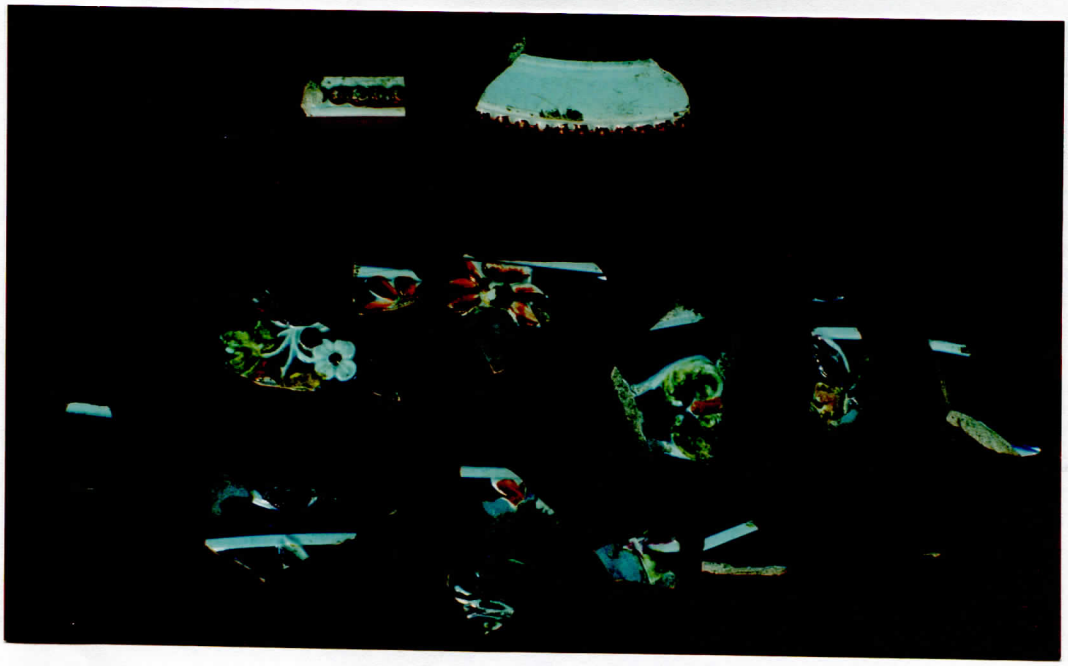
Such a difference is not clearly indicated in the units excavated at the Russell house. Based on visual superimposition of the current Russell house landscape, it is tempting to suggest that the current "back area", the drive and parking lot, was always the defined work yard, but the stratigraphy does not necessarily support this. The soil deposits outside the privy feature contain some layered refuse, but not great quantities. The stratigraphy in N190E158 more closely resembled workyard debris, suggesting that the workyard encompassed both sides of the carriage house and privy (figure 20). While refuse was not especially dense in any of these areas, it was of course extremely dense underneath the kitchen; the only access to this basement area was on the south side of the building. This cumulative data would suggest that the area on the south side

Table 9
Flower Pot fragments, % of total artifacts

Nathaniel Russell House	
late 18th century	.52%
Russell	.57%
Allston	.87%
Sisters	.81%
20th century	.91%
Miles Brewton House	
1760–1840	.14%
* 1840–1880	.89%
William Gibbes House	
1760–1840	.29%
John Rutledge House	0
Aiken–Rhett House **	0
Joseph Manigault House	.24%
Heyward–Washington House	.24%
72 Anson St.	1.2%
66 Society St.	.12%

* The Frost sisters supported themselves partly by selling flowers and bulbs

** The Aiken–Rhett house is documented as no garden



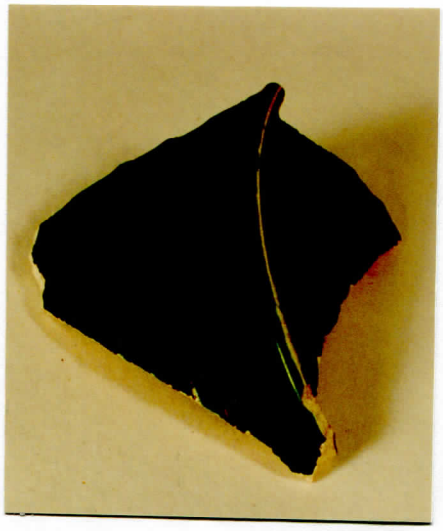
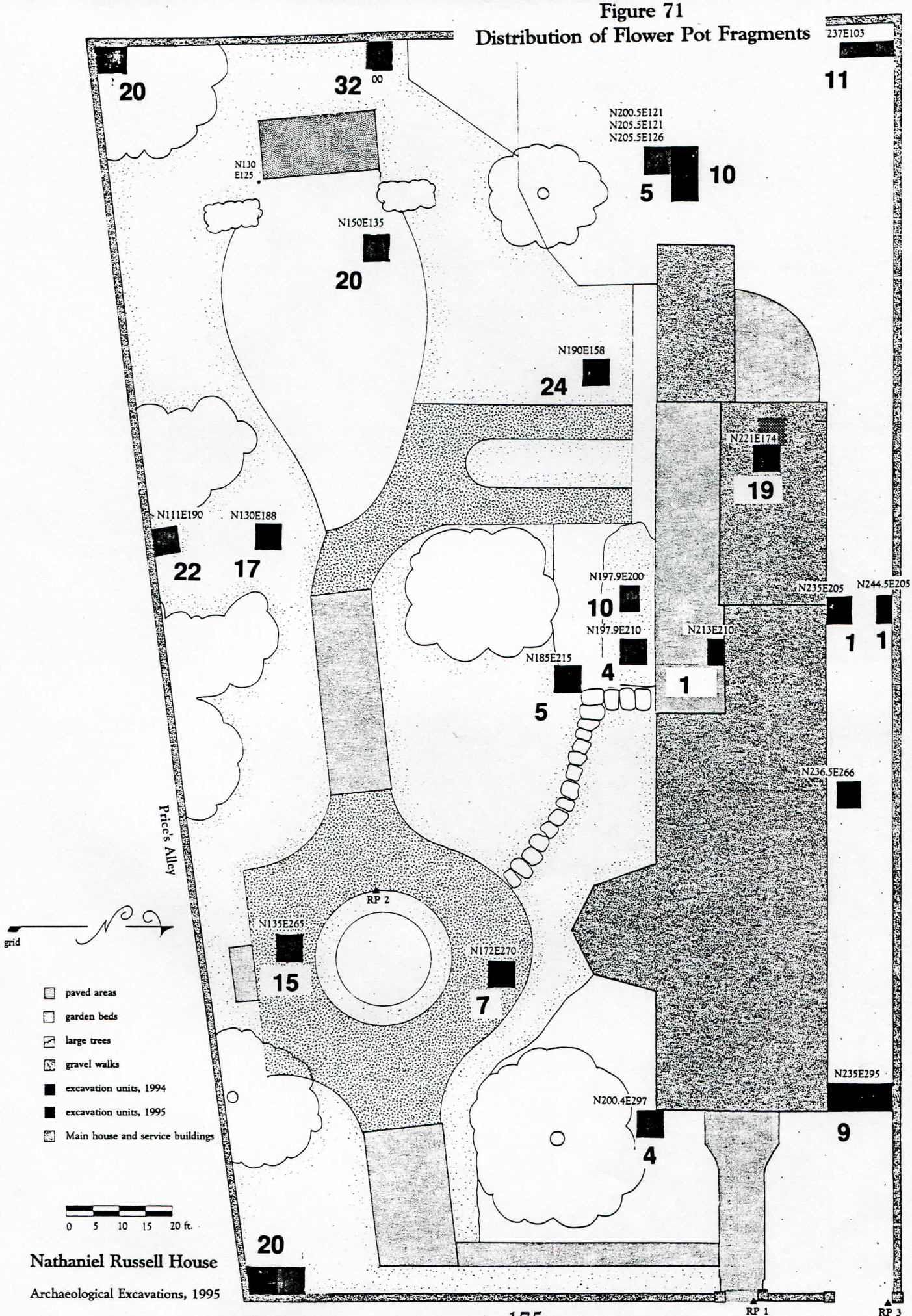


Figure 70
a) clay flower pot fragments
b) fragments of jardinier, lustered and hand–painted Staffordshire ware, c. 1830–1850
c) green–glazed vessel with buff paste, from 1990 project

Figure 71
Distribution of Flower Pot Fragments



Nathaniel Russell House

Archaeological Excavations, 1995

of the rear half of the kitchen and carriage house functioned as work yard during the Russell era. How far south this active work yard extended is unclear; Russell era refuse is also found against the south wall. This may suggest that work activities were dispersed across a relatively large work yard, or simply that refuse was discarded away from the work buildings.

Evidence of additional structures along most of the back wall was found on the late 19th century Sanborn Fire Insurance maps from 1888 through 1902 (figure 12 and 13); this plus Mrs. Ladue's description of a rear third of the yard as kitchen gardens, animal pens, etc. would suggest that by this time the work yard certainly encompassed the entire cross section of yard in this area.

Traffic flow and range of on-site activities remains a key question relating to the layout and use of the work yard. Cart and horse traffic obviously entered the property from the front gate and traversed the driveway; this entire expanse was screened by a brick wall from the south side of the drive. It appears that there was an unbroken brick facade from the date of original construction; erection of the pantry which connected the main house and kitchen was evidently preceded by a brick-based privacy wall (Ridout and Graham 1996), which secured the drive visually and physically (figure 64). According to the 1870 plat, the drive terminated at storage bins for coal and wood in an arched entry (figure 11). From here, Sarudy has suggested that there was little room between the back wall and the buildings for turning around. She suggests the possibility of a second exit point, perhaps onto Price's Alley at the rear of the property. Excavation of N100E100 was designed to test this idea; it revealed numerous changes in the wall foundation at this point, but none that clearly indicated a gate.

Any analysis of the size, layout, and various functions of the workyard, as well as the size and content of the garden, particularly the vegetable/kitchen beds, must consider Russell's ownership and use of Romney Farm. This 8-acre tract was used by Russell as a country seat; his contracted gardener, Phillip Noisette, was also in residence nearby on property rented from Russell (see figure 5). According to an 1840 plat, the property included a house with piazzas on three sides, a formal garden and grove, surrounded by a fence, an area of woods with a pond, and close to half of the tract listed as 'cleared land' (figure 72). Located a few miles up Meeting Street, the farm was only a brief, and direct, carriage ride away. The proximity of this tract may have mediated the need to raise fresh fruits, vegetables and livestock at the Russell townhouse.

But it did not negate them altogether. The descriptions of the garden by Russell's guests enumerate a host of fruits growing in the garden, evidently in the section shown to visitors. William Faux "saw and ate ripe figs, pears, apples, and plums", and described oranges and lemons as well. The faunal remains strongly suggest on-site butchery of cows, despite the proximity of the Romney Street farm. Perhaps cows were brought from Romney 'on the hoof' or perhaps they spent some time in residence on the property before slaughter. Plats and photographs as well as archaeological evidence indicates that cattle were maintained and slaughtered at elite townhouses, despite the presence of a beef market down the street. Pigs, goats, and assorted fowl were also urban dwellers. The photo included here, place and date unknown, shows what is believed to be a typical work yard area – an outbuilding, surrounding brick wall, bare dirt yard, and assorted animals, pens, and shelters (figure 73).

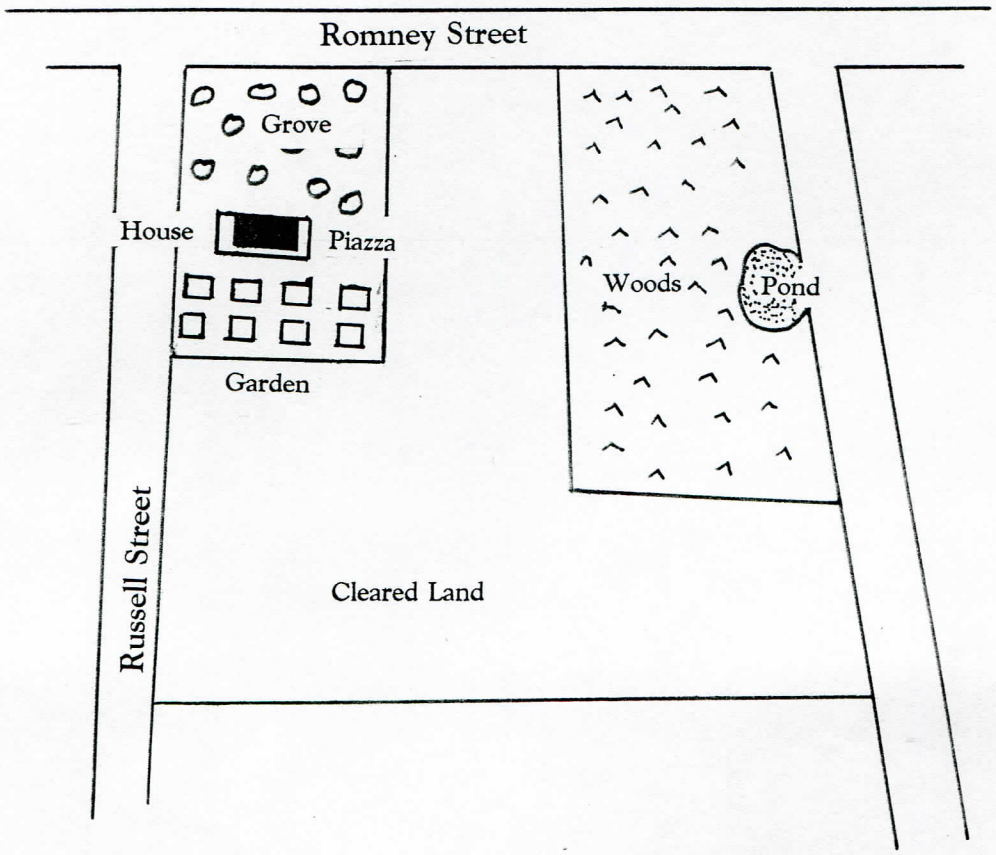


Figure 72

1840 Plat of Russell farm at Romney
Eight Acres Surrounded by Fence

(based on a copy by Robert Leath)

Figure 73: Examples of work yards
a) unknown back yard, late 19th century; the swept yard, animals, and animal shelter are probably typical of small single house lots
b) the cow shed at the Aiken–Rhett house, c. 1830

In addition to a probable role as supplier of fresh food, garden plants, and possibly firewood, the plat of Romney farm suggests that it also served as a country retreat for the Russells. The plat indicates a modest, but not inconsequential, house, a formal garden with rectangular beds, and a grove. According to Barbara Sarudy (1995a), "groves were inviting, shady gathering spots, either occurring naturally and intentionally left in the landscape, or purposefully planted in the pleasure grounds near a dwelling". Romney farm is a type of establishment poorly understood in Lowcountry development. A small tract, it was not the large staple–growing, income–producing plantation so commonly examined. It was instead a country retreat, easily accessible, what George Rogers (1982:18) has called a "suburban villa". Rogers notes that these retreats dotted the Neck above the city of Charleston, lined the Ashley River, and "sprinkled the neighboring sea islands". Rogers called for a study of these tracts, and suggested that Charles Fraser captured a number of them in his water colors. Examination of a 1780s map of the Charleston environs indicates that nearby James Island also contained a number of these retreats.

Charlestonians were not the only ones developing country seats in the late 18th and early 19th century, and such an idea would not have been strange to a 'yankee' like Nathaniel Russell. Elite Americans across the eastern seaboard retired to their carefully contrived country estates to engage in gentlemanly pursuits, which included farming and experimental horticulture. In her study of the Boston elite, Tamara Thornton (1989) describes the rural retreats and the rural pursuits of post–Revolutionary merchants. Country seats were "cultural artifacts of the British social system; as such they were redefined after the Revolution." They became, in Thornton's words, "a powerful means of self–characterization."

Thornton goes on to note that there was not a single image that country seat owners wished to project (1989:21), and that they used these properties and rural living in a number of ways – conversations with friends, companionship with books, gardening and gentleman farming. The scale of manipulation, change, and construction of these properties varied as well. Nathaniel Russell, a product of this northern merchant class, would thus be comfortable with the rural preoccupation of the Lowcountry. The ideas of the country seat were evidently well known and important to Russell. The Hopton family embraced this notion, as well. George Rogers (1982:17) notes that in 1771, Alicia Hopton, wanting to transform her father's Wando River plantation, Starvegut Hall, wrote to her friend John Laurens, asking for "a plan of a rural retreat."

Artifact Patterning and the Refinement of Charleston

The layers of earth on archaeological sites such as the Nathaniel Russell house have produced assemblages of material culture that reflect the purchasing power of Charleston's elite, which was the greatest of any colonial city. The 18th century witnessed Charleston's transformation from a small frontier settlement to a flourishing metropolis, the wealthiest city per capita in the colonies. The material culture recovered from archaeological contexts reflects this transformation, defines the characteristics of daily life in the city, and prescribes a language of

shared beliefs among the planter–merchant elite. At the same time, it presents the somewhat muffled voices of the colony's middling and poor, free and enslaved residents who understood this language of artifacts, even if they did not share its rewards. The Charleston data reflect the "refinement of America" so eloquently argued by Richard Bushman in his 1992 publication.

As a merchant grown wealthy through trade in staples and slaves, Nathaniel Russell understood the symbols of refinement all too well, as he built the grandest of neoclassical mansions, embellished with a wrought iron balcony bearing his monogram. The idea of gentility began in the 1690s, and involved only the elite. Gentility followed from new stylish houses. In the 18th century, it was the visible expression of gentry status, the most sharply defined social class in the colonies. Gentility gave expression to universally acknowledged social divisions. By the end of the 18th century, many middle class folks had acquired some of the aspects of gentility, what Bushman has termed "vernacular gentility." Most germane to the present discussion is the contention that the genteel life depended on the creation of proper environments. Gentility elevated old activities by surrounding them with a beautiful environment. As gentility spread to the middle class, the need for refined objects created an unprecedented mass market for individual items. People wanted carpets, mahogany furniture, tableware, fine fabrics, candlesticks, buckles and buttons, hats, and a host of other signifying objects. Charlestonians' affinity for English goods and English styles has been attributed to several factors by J. Thomas Savage: "the constant arrival of both foreign artisans and imported consumer goods, the availability of imported design books relating to both architecture and furniture, and the experiences of Charlestonians traveling abroad" (1995:4).

The above list reminds the reader that the archaeological record contains only a small fraction of such objects, as the archaeologist deals only with what was discarded, lost, or abandoned. Comparison of archaeological assemblages to the advertisements of Charleston merchants (Calhoun et al. 1982) reaveal such a disparity. "Just Imported" the colonial newspapers chime, "and available at Mr. _____ store." The average ad then lists an extensive range of everyday needs and exotic luxuries. As Ann Smart Martin found in her research on Virginia merchants (1995), fabrics dominate the lists of goods touted by Charleston merchants. Others listed fashion accessories, large and small household furnishings. Tools and building hardware were commonly enumerated, as were exotic foodstuffs, beverages, and spices. Merchants often reminded their customers of their stock of rum, sugars, and teas. No ads contain more exotic imports than one from Nathaniel Russell himself in 1801; he enumerates "South American tallow, dried neat tongues, horse hides, and tiger skins" (Charleston Times, August 4, 1801). Local craftsmen, who advertised their work as "good as any from England" hinted at the desired goods and services of aspiring gentlemen: portraiture, silver, clocks and cabinetry, luxurious dresses, china painted with "gentlemen's coats of arms."

The artifacts that dominate archaeological assemblages, such as ceramic and glass containers, are infrequently mentioned and rarely enumerated. On the other hand, a variety of items mentioned find their way into the archaeological record after use, some of it in by–product form. Nails, building hardware, bits of personal items such as fans, small decorative touches from household furnishings, are there only occasionally, but in consistent enough fashion for meaningful quantification. At the same time, Charleston's archaeological record contains not the

idiosyncracies and personalized objects of specific individuals, but artifacts of a sameness found on sites across eastern North America, from the refined seaport cities to struggling backcountry towns (Faulkner 1993; Zierden 1993b). The ceramics and other artifacts archaeologists excavate were part of a global language of behavior; what was proper, what was not, who owned the required tea service, who did not. These artifacts signify the global connectedness of small frontier towns, bustling colonial seaports, and England's industrial centers, and underscore the role of the world economy.

The ascendancy to gentry status and accumulation of wealth by Charleston's merchants and planters is reflected in Charleston's archaeological record, and in comparison of the three temporal assemblages discussed in Chapter IV. Differences between the early 18th century and the late 18th century, reflecting Charleston's accumulating wealth and its taste for new consumer goods, is perhaps best demonstrated in absolute numbers. For all of the sites occupied from the early 18th century on, there were 118 early proveniences, 251 from the second half of the 18th century, and 84 from the nineteenth century. Moreover, there were 11,028 artifacts from the early period, or 93 artifacts per provenience, and 35,705 from the late 18th century, or 251 artifacts per provenience. Given that these materials are recovered from the same sites and the same excavation units, these figures graphically demonstrate the explosion of goods available to, used by, and discarded by Charlestonians in the latter part of the century. The 19th century proveniences, in contrast, averaged only 22 artifacts per provenience, reflecting the rise in off–site refuse disposal and the demise of the site–specific archaeological record.

Returning to the artifact data presented earlier, we find that the Carolina Artifact pattern and its eight components reflect a similarity of site activities across Charleston, and across British North America. It also reflects what material culture was available, and what material culture was considered necessary for daily life and proper for one's station. Changing proportions of specific artifacts, though, reflect Charleston's rising wealth and attention to consumerism.

The first group of artifacts to consider are those related to architecture. Architectural materials rise in proportion throughout the 18th and 19th centuries, even on sites with a single main house building episode. This suggests that instead of outright rebuilding, owners of townhouses such as the Russell house engaged in continual renovation, modification, and modernization to existing compounds, as new backbuildings were added, existing ones expanded, and the main houses themselves modified and improved, for functional and stylistic purposes. Bushman has noted, for example, that the first artifact of gentility was a new and stylish house. In addition to a general increase in architectural materials, the architecture group exhibits more diversity in the later assemblages. Another interesting statistic is the rise in the proportion of window glass during the periods (from 22% to 43% of the architecture group for Charleston in general, and from 44% to 64% for the Russell house).

Returning to the kitchen group, we find that a variety of fine wares for food serving, consumption, and entertaining explode on the scene in the late 18th century. The proportion of utilitarian wares for Charleston drops from 41% of the ceramics to only 18%, and at Russell from 33% to 4%. However, it appears that the actual number and range of types remains fairly

consistent; instead, quantities of new tablewares and tea wares are added to the assemblage. On elite sites in Charleston, these wares include Chinese export porcelains, transfer printed earthenwares, creamwares in a variety of styles, and less common ceramics such as Elers and black basalt stoneware, and Astbury and Jackfield earthenwares.

In the mid 18th century, tea drinking was properly a perogative of the elite (Roth 1961). The tea ceremony occurred in people's houses, a private affair or one that slightly stretched the family circle (Carson 1990:28). By the Revolution, many families came to share aspirations for ornamental luxuries. By the end of the century, tea equipage included a tea table, tray, tea pot, cream jug, sugar bowl and tongs, cups, saucers, and teaspoons. Additional items might include a tea urn, a small stand for the urn or pot, a slop bowl, a canister, strainer, spoon tray, and plates for bread or cakes.

The Russell house assemblage contains a number of examples of fine Chinese porcelain for tea and for dining, including overglazed examples, Russell's set of Canton porcelain and the fragments of a Mazarin Blue punch bowl. More common at Russell, however, are creamwares, including a number of very fine forms. These refined earthenwares, perfected by Josiah Wedgwood, combined durability, affordability, and stylishness. Like other members of the colonial gentry, and those aspiring to such, Charlestonians evidently swarmed to the new wares. Creamwares comprise 20% of Charleston's late 18th century ceramics, and 24% of Russell's ceramic discards. Wedgwood moved from his green glazed Whieldon type wares of the 1740s to the cream colored wares by the 1760s. In less than ten years, these wares could be found in the four corners of the colonial world. In her study of 18th century consumerism, Ann Smart Martin has commented that Wedgwood himself marveled how quickly creamware "spread over the whole globe and how universally it is liked." What is remarkable in Martin's view is that Wedgwood managed to compress the cycle of luxury–to–common consumption into a very short period. By continually bringing out new styles, Wedgwood satisfied both the middle class consumers eager to display their knowledge of manners and the fashionably wealthy who sought to distance themselves from the nouveau. Like porcelain, creamware came in highly decorated and expensive, or relatively plain and inexpensive, forms. The Russell collection contains excellent examples of the former, including the hand–painted dinnerware in the Royal pattern, and the small scallop saucer from an elaborate centerpiece.

Though present in smaller numbers, leaded table glass also increases in quantity and diversity through the 18th century and into the 19th century, as table manners take their place alongside tea manners as a measure of one's refinement. Among the elite, attention to formal dining began with allocation of domestic space, and was followed by purchases of furniture and tableware as prescribed in the literature. The plan and execution of the Russell house itself was carefully conceived to guide guests through a series of public rooms and spaces. Furnishings for such spaces included not only basic tables and chairs, but decorative elements such as carpets, window hangings, and elaborate lighting. Tablewares were in matched sets and of sufficient number and variety to serve at least ten guests (Carson 1990). Careful spacing, symmetrical arrangement, and ordered appearance were important in food service.

Richard Bushman has noted that the elite ate more meat than folks of lesser means, but otherwise there was little difference in the foods consumed. The difference was in presentation. The faunal data collected from Charleston sites strongly supports this contention. Dr. Betsy Reitz has searched carefully among the various site assemblages for dietary differences through time, and across status lines, but has found only minor variation. The major difference is that the elite ate a more varied diet and this variety was provided by wild game. The cuts of meat and quantities of beef, pork, and chicken are remarkably similar for the elite and middling sort, and remarkably stable through the two centuries considered here. The extensive study of the Russell house appears to have clouded this issue further. The Russell house sample does provide first–time data to support the conclusion that the faunal assemblage of the wealthy contains more wild species. The Russell assemblage contained a large numbers of turtles and wild birds. But the butchering evidence and element distribution of cattle remains clouds the discussion of status as reflected in cuts of meat. Dr. Reitz's study, then, supports Bushman's suggestion that types of meat are a poor indicator of gentry status, especially on elite urban sites, where slaves and masters dined in close proximity.

Maurie McInnis (1996:6) has noted that "Charleston aristocracy's greatest temples to itself were found in the domestic structures built during the antebellum period." These townhouses were "the ultimate consumer object" (McInnis 1996; Chappell 1994). As refinement took hold in the early 18th century, the first object acquired by the rising gentry was a new house (Bushman 1992; Sweeney 1994:15).

Within these houses, a well crafted and appointed interior became "a carefully orchestrated, processional space. Charlestonians knew the importance of having a house 'in order' and they strove to create the proper setting for the enactment of their social rituals. It was on the interior where the patron could impart his personal cultural refinement with the combination of interior architectural details and collections of paintings, furniture, and decorative arts" (McInnis 1996:7, 10, 15). Indeed, addition of plasterwork and other finishes was the first step in creating a separate dining room in the early 19th century (Jordan 1988). Sweeping staircases, large sash windows, elaborately detailed public rooms, and a carefully arranged traffic pattern were elements which emphasized social inclusion within clearly defined boundaries of social division and distance.

While the interior domestic space became a retreat, and an oasis for refined behavior, the exterior of the building and its surroundings also made statements about social position and self–image. Maurie McInnis has noted that the antebellum gentry maintained the older houses, rather than build new ones. While the interiors were remodeled to suit current social needs, the exteriors were rarely altered (McInnis 1996:7). Further, Charlestonians who did build new houses did so in the traditional vernacular Charleston style, providing a continuity to the landscape and proclaiming their city's emphasis on established lineage. At the same time, these new houses were designed for "increasingly complex modes of entertainment and social interation" including balls and musicales (Savage and Iseley 1995:6) The large townhouses were often elevated with an above–ground basement which cooled the house, gave protection from flooding, raised the main living quarters above street level, and provided the image of social distance. The sense of distance was further enhanced by the presence of formal entrances, surrounding gardens, and forbidding

brick walls or wrought-iron fences that often stood between the houses and the street (Coclanis 1989; Weir 1983; Zierden and Herman 1996; McInnis 1996).

Part and parcel of these elite homes was a formal garden. Bushman notes that by 1725, as mansions began to appear on the American landscape, gardens came with them. From 1750 on, a garden was requisite for every mansion (Bushman 1992:129). Far from a separate element, a garden was "an extension of the parlor, a place where polite people walked and conversed. The formal finish on lawns, beds and walks continued the polish and decor on the passage from door to parlor to stairway" (Bushman 1992:130; Sarudy 1989).

Besides providing a stage for genteel performances, the house and garden was itself a performer on its own stage. The garden created an artificially refined space from which the house could rise to greet its guest. The entirety was surroundied by a fence, first a rough one of posts and then a nicer one. The fenced served as a visual and symbolic, as well as physical, boundary, the place where roughness ended and refinement began (Sarudy, personal communication, 1995; Bushman 1992).

In a further connection between the garden and the interior, the plants functioned just as the delightful objects did, as subjects for conversation and comment. Just as with their buildings, Charlestonians copied English garden styles, but melded them with the physical conditions of their new world settings and their own community self-image. Gardens were, according to Elizabeth Kryder-Reid (1994:131) "powerful statements of wealth and the right to own it". A proper garden reqired financial resources, but also privileged knowledge. Gardening required a familiarity with literature, classics and art, as well as the sciences - geometry, botany, husbandry, hydraulics, surveying and architecture. Gardens were, particularly in the 18th century, "controlled domains of nature." Kryder-Reid further suggests that, as media of identity and social control, they were also subject to diverse readings, whether one was owner, guest, or tending slave (Kryder-Reid 1994; Leone 1988; Leone et al. 1989; Yentsch 1994).

The garden was its owner's personal stage, an outdoor platform designed to present himself to his guests and to the community at large. Gardens emerged as one of the sites where public and private worlds intersected (Harwood 1993). Particularly adopted were the highly formalized and structured English gardens of the 18th century, including symmetrical vegetable and flower gardens. Americans continued the ornamental farm, or ferme ornee, which integrated the pleasurable and profitable. In England, the ferme ornee was replaced by the picturesque garden promoted by Capability Brown. His undulating, less formal, large-scale landscapes were not popular in America, possibly for two reasons. First, it did away with the flower garden, which Americans loved, and secondly, Americans already had unspoiled landscape, one constantly in need of taming, not emulating (Sarudy 1989; O'Malley 1989; Leighton 1976). Americans of this period sought a middle ground; the effect of nature cultivated by art. This formal garden was still in vogue in America when Russell was constructing his house.

But the new century would see gardens grow less and less formal, until mid-century when Andrew Jackson Downing would seriously introduce a 'natural grounds' movement into America.

As with their architectural counterparts, gardens would be changed and altered to fit new styles as the owners saw them. Gardens as an outdoor extension of interior space may have held particular importance in Charleston, where hot weather abounded. Barbara Sarudy has noted in her study of garden furniture that Charlestonians moved themselves, and their furniture, outside, in search of cooling breezes (Sarudy 1995b; personal communication).

Just as individual lots were refined, so too were cities. Beginning with city planning and ending with such amenities as lighting and paving, the city, or at least some aspects of it, was ordered and improved (Bushman 1992; Cruickshank and Burton 1990; Upton 1992). But Bushman notes that civic leaders actually molded some public places and excluded others. In Charleston and elsewhere, periodic disasters such as fires accelerated these activities. Refinement and improvement began with grand public architecture (Severens 1988). But other aspects of cities were refined as well – streets were broadened and ultimately paved, and they were traversed in carriages. Public spaces were created; spaces with assembly rooms for balls, dinners, concerts. Commercial areas were segregated from public areas. Bushman has provided a description of English commercial cities which matches Charleston nearly building for building. Most cities, he notes, "focused at two points – one at the docks and the second a few blocks away where church and government buildings formed a ceremonial center. A broad street carried traffic between waterfront and civic square." Mr. Bushman seems to have taken a carriage ride from the Exchange building up Broad Street to the 'four corners'; indeed, a study of 18th century Charleston noted this precise orientation (Calhoun et al. 1982). Bushman further notes that "refined living and market stalls did not harmonize." Indeed, in the decade before Russell and other wealthy merchants built new houses away from East Bay Street, the 18th century Beef Market, destroyed in the 1796 fire, was moved from the northeast corner of Meeting and Broad to the northern suburbs, as Broad street was transformed from a commercial to a professional vendue. Further, Russell sat on the board of the new National bank, built in its place.

But in the end, refinement of the city simply masked, but did not erase, the chaotic elements – noise, filth, disease. Nor did it control the unrefined population; the immigrants, the poor, the enslaved, each with their own set of needs and demands. High above the street, behind an elaborate series of barriers, the townhouse facade proclaimed its owner's status, and emphasized his ability to retreat from the public chaos of city life and increasing economic and political pressure. This general disorder was embodied in an overarching and ever–increasing fear of the slave population with whom the gentry were so physically interwoven.

The Russell Family and their Possessions

Archaeologists use the artifacts they recover to make broad statements about the lives of people who owned them. Yet there are periodic reminders that archaeologists deal with a very small percentage of the objects owned and used by past peoples. Further, some types of material culture are under–represented and others are not present at all. A review of recent scholarship, such as Tom Savage's volume on the Charleston Interior (1995) or Maurie McInnis' dissertation (1996) provides cogent reminders of the quantity and quality of materials not recovered

archaeologically. Nonetheless, the extensive excavations have revealed a number of particular artifacts which, when reviewed from this perspective, provide tangible evidence of the items used by the Russell family and, inferentially, the meaning of these objects to them, to guests, and to the rest of the city.

When Nathaniel Russell built a mansion said to have cost $80,000, and finished the facade with a wrought iron balcony bearing his scrolled initials, he clearly meant to proclaim his acquired economic station to the outside world. Marriage to Sarah Hopton had greatly enhanced his social standing in the community, as it had enhanced his growing wealth. The mansion with its elaborate architectural flourishes was no doubt furnished with the 'appropriate' type and number of furnishings and appointments. Those who had achieved gentry status during this period proclaimed this status through possession and use of the proper equipment, all increasingly available from the European markets.

Since the 1970s, archaeologists have looked for indicators of socioeconomic status in the archaeological record. Studies of status have focused on specific artifact types on a presence/absence basis, and on relative proportions of broad artifact categories (Otto 1975; Spencer–Wood 1987; Zierden and Calhoun 1990). The results of these studies have been mixed, and scholars have agreed that the issue of an individual's status in a community is complex, with both individuals and groups ascribing status in different ways. Status in a complex society is determined by a variety of factors and is often revealed by differing access to symbolic and material rewards. Measuring symbolic rewards is beyond the scope of archaeological study, but scholars have worked to relate socioeconomic status to material remains. Here, socioeconomic status refers to the relation of unequal distribution of goods in a market economy relative to social and economic differentiation. An assumption of archaeological research is that the material culture served a sociotechnic function, and was reflective of both income level and the prestige level of its users (Binford 1962; Deetz 1977; Zierden and Calhoun 1990).

In the 18th and 19th centuries, the increased availability of material goods was part of the transformation from a mercantilist to a capitalist market economy, with the accompanying development of a social stratification system corresponding to capitalist relations of production (Spencer–Wood 1987:2). During this period, most consumer goods were probably acquired through the market economy, with the exception of gifts or heirlooms. Some of the goods acquired by house residents would be selectively discarded or lost in the house yard, and would later be recovered by archaeologists. Spencer–Wood notes that this process permits some connection between patterns in archaeological deposits associated with the house site and the resident's aggregate market acquisition behavior (1987:2–3).

Beginning with table and tea wares, items loaded with privileged knowledge during the early National period and recovered in quantity from archaeological deposits, it appears that Nathaniel Russell owned and used a large set of blue Canton porcelain. Recovered vessel forms include a large number of plates in a variety of sizes, as well as cups and other hollow ware forms. Serving vessels, such as covered tureens, were represented. The most distinct vessel form was a warmer

Figure 74
Blue Canton porcelain

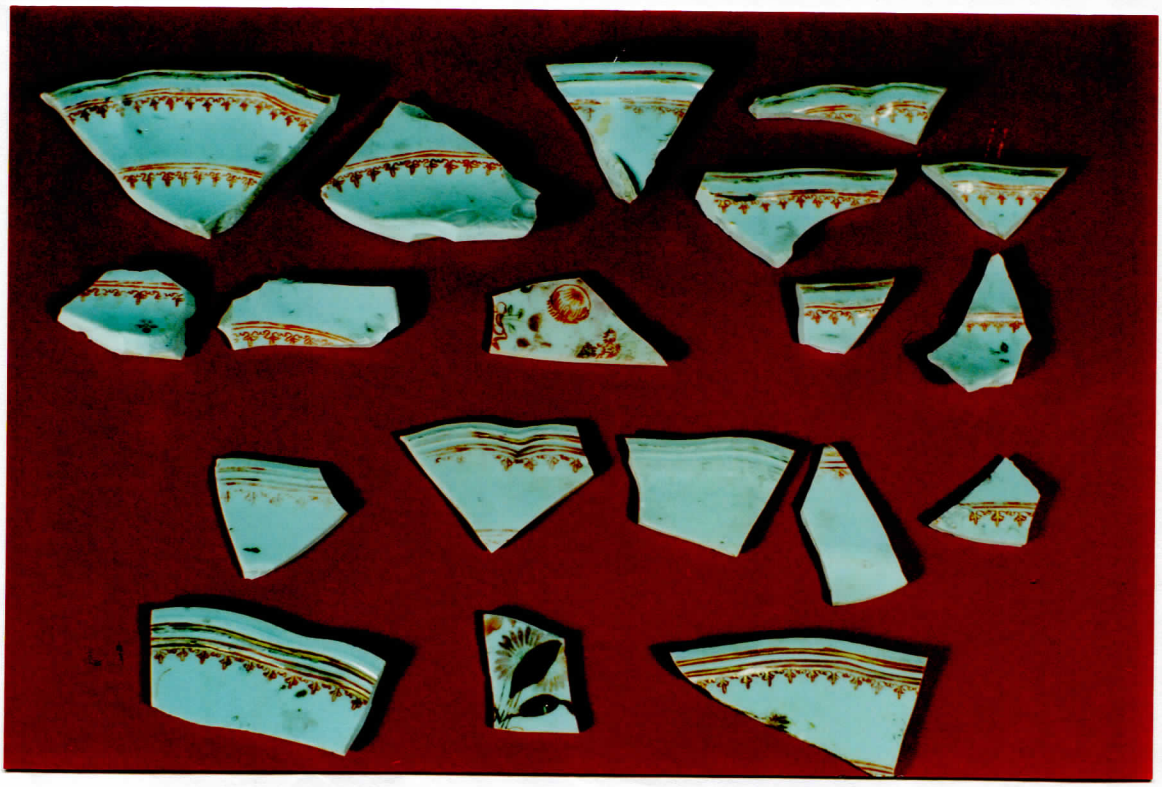


Figure 75
Overglazed Oriental porcelain

Inventory of Mrs. Sarah Dehon May 30, 1857

Box 109
No. 24

Mrs. Sarah Dehon
Charleston District

Inventory and appraisement of the Personal Estate of the late Mrs. Sarah Dehon deceased shown by Paul Trapier Theodore Dehon and William Dehon Executors of the last Will and Testament.

1 Bond of Theodore Dehon for $300

1 Bond of Henry Middleton and Arthur Middleton for $2,000

1 Bond of Henry Hogarth for $321.40

1 Bond of J. Thomas Costello for $600

1 Bond of William Bull for $900

1 Bond of J. Anna Rebecca Babson for $200

1 Note of Dr. Theodore Dehon for $398

32 Shares in Planters and Mechanics Bank of Charleston in name of Theodore Dehon

2 Shares in Planters and Mechanics Bank of Charleston in name of Sarah Dehon 50

5 Shares of Bank of Charleston in name of Sarah Dehon, old issue for value of 500

11 Shares of Bank of Charleston in name of Sarah Dehon new issue for value 550

11 Shares in Union Bank of South Carolina for value of 500

1 Certificate of 3 __ State Stock of South Carolina for 9.968.66

1 Certificate of 3 __ State Stock of South Carolina for 156.50

FIRST FLOOR

Front Room

2 Tables 3 Chairs valued at $11

Chamber off Front Room

1 Bedstead and Bedding

1 Sett of Drawers

1 Table

1 Looking Glass

1 Wash Stand

1 more Chest

3 Chairs

1 Pitcher

2 Basins valued at $30

Dining Room

1 Dining Table

5 Small Tables

1 Cabinet

2 Lamps

Inventory of Mrs. Sarh Dehon

Dining Room cont'd

1 Sett of curtains and cornices

4 Paintings

Back Room

1 Table

1 Ice House

2 Knife cases

6 Chairs

1 Fender

1 Pair Andirons valued at $10

Front Floor Entry

1 Bookcase

1 Table

1 Ice House valued at $4

Second Floor Front Room

1 Bedstead and Bedding and Curtains

2 Wardrobes

1 Set of Drawers

2 Tables

1 Washstand

1 Rocking Chair

8 Chairs

1 Pitcher

1 Basin

3 Paintings

1 Carpet

1 Rug

1 Screen

1 Pair Tongs

1 Shovel

1 Desk valued at $30

Drawing Room

1 Centre Table and cloth

3 Side Tables

1 Work Table

1 Sofa

14 Chairs

Inventory of Mrs. Sarah Dehon

Drawing Room cont'd

1 Rocking Chair
5 China Vases
2 Glass Vaces
1 French Clock
3 China Flower Pots
1 Engraving
1 Carpet
1 Rug
1 Shovel
1 Poker
1 Pain Tongs
1 Hearth Broom
1 Chandelier valued at $127.75

Entry

2 Tables valued at $3

Third Floor Front Room

1 Bedstead and Bedding
2 Setts of Drawers
2 Tables
1 Easy Chair
7 Chairs
1 Wash Stand
1 Toilet Table
2 Looking Glasses
1 Painr Andirons
1 Pair Tongs
1 Shovel
1 Painting
1 Fender
1 Pitcher
1 Bain valued at $30

Middle Room

2 Tables

Backroom

1 Wardrobe
1 Wash Stand
1 Table valued at $15

Inventory of Mrs. Sarah Dehon

Dressing Room

1 Sett of Drawers

1 Looking Glass

Kitchen

2 Pine Tables

1 Sett of Kitchen Utensils valued at $15

In Sundry Rooms

500 volumes of Books valued at $80

355 ounces of Silver @ $1.15/oz.

4 Waiters

1 Foot Waiter

1 Breadbasket

1 Sett Casters

1 Bowl

1 Teapot

2 Sugar Dishes

1 Milk Pot

1 Cream Pot

4 Decanters Stands

4 Salt Cellars

1 Cup

1 Cake Fork and Knife

1 Soup Ladle

1 Marrow Spoon

2 Butter Knives

12 Small Forks

11 Large Forks

11 Desert Spoons

14 Tablespoons

11 Tea Spoons

1 Tankard Making Valued at $400.25

1 Lot Glassware viz. 27 Doz. Jelly Glasses, 2 Dozen Lemonade glasses, 10 Champagne Glasses, 9 Sweet Meat Dishes, 8 small Dishes, 11 Decanters, 4 pick Glasses, 1 Large Tree waiter valued at $50

1 Lot China Ware viz. 19 India China Plates, 2 Large Do., 3 do. dishes, 1 do. Soup Tureen, 3 do. Bowls, 1 do. Mug, 1 __ Bowl, 76 Blue India China Plates, 20 do. custard Cups, 2 do. Bowls, 3 do. Vegetable Dishes, 3 Pudding Dishes, 7 Flat do. dishes, 2 do. Tureens, 2 do. nut dishes, 2 do. Sauce Boats, 10 Coffee Cups, 2 Saucers & Teacups, 12 White Plates, 1 doz.

Inventory of Mrs. Sarah Dehon

In Sundry Rooms cont'd

gold and white Desert Do., 4 ____ shaped, 6 Egg Cups, 1 Sugar Dish, 1 Milk Pot, 18 Saucers, 6 Cups, included above a lot Table & Chamber lines, etc. valued at $30

Cash in Mrs. Dehon's Charity Box $9.58

In Bank Bills in House 100

Balance of her credit in State Bank as per Bank Book $300

Servants: Sue - 55 years, $100; Phillis - 67 years, $100.

Funds held in Trust for Charleston Prot Episc Tem Dem Miss Society

27 Shares in bank of South Carolina value par 1215

3 Shares in Union Bank of South Carolina value par 150

14 Shares in Planters and Mechanics Bank of S. C. per value $350

6 per at State STock

$2000 for William dehon

8 Shares in Bank of South Carolina par value of 200 for Wm. Bordeaux

3 Shares in Planters and Mechanics Bank Par value $75

Filed 30th May 1857

Charleston 30th May 1857
Geo W. Coffin Joseph W. Faber Chas. Sinkler Appraisers
Theodore Dehon

plate, made as a 'double' vessel with hollowed interior, designed to be filled with hot water (figure 74).

Merchants like Russell were importing this ware in large quantities in the 19th century. In 1979, merchants Miller and Robertson advertised East–India Goods for sale, from the "ship Russell's Cargo" direct from Canton. The list included teas and lacquered wares, as well as China, "Blue and White Nankeen Table sets...Blue and White breakfast do., Mugs and Bowls".

These patterns of underglaze blue decoration were mass–produced in Canton and widely imported to America through the middle of the 19th century. Large dinner services with serving pieces were imported for open sale. Numerous inventories for this period refer to "China Ware and "India China" (Schiffer et al. 1980:186). Many of the fragments recovered from the Russell house exhibit a Chinese landscape with a border alternating daggers and dots, referred to as Nanking (Schiffer et al. 1980:189). Mrs. Sarah Russell Dehon's inventory of 1857 lists a number of pieces of "Blue India China", including 76 plates, 20 custard cups, 2 bowls, 3 vegetable dishes, 3 pudding dishes, 7 flat dishes, 2 tureens, 2 nut dishes, 2 sauce boats, 10 coffee cups, 2 saucers and teacups. (Inventory, May 30, 1857, box 109, no. 24) (table 10).

The Canton porcelain was most likely purchased by Russell after his move to Meeting Street. Two other distinctive sets of dinnerware date to the late 18th century and may have been inherited by the family or, at least, owned by them prior to their move. The recovery of late 18th century types in contexts dated a quarter century later reflects the lifespan of such objects, from purchase, to use, to loss or destruction. In fact, the recovery of several distinct artifacts from this period provides a good guideline for estimating the life span of such objects.

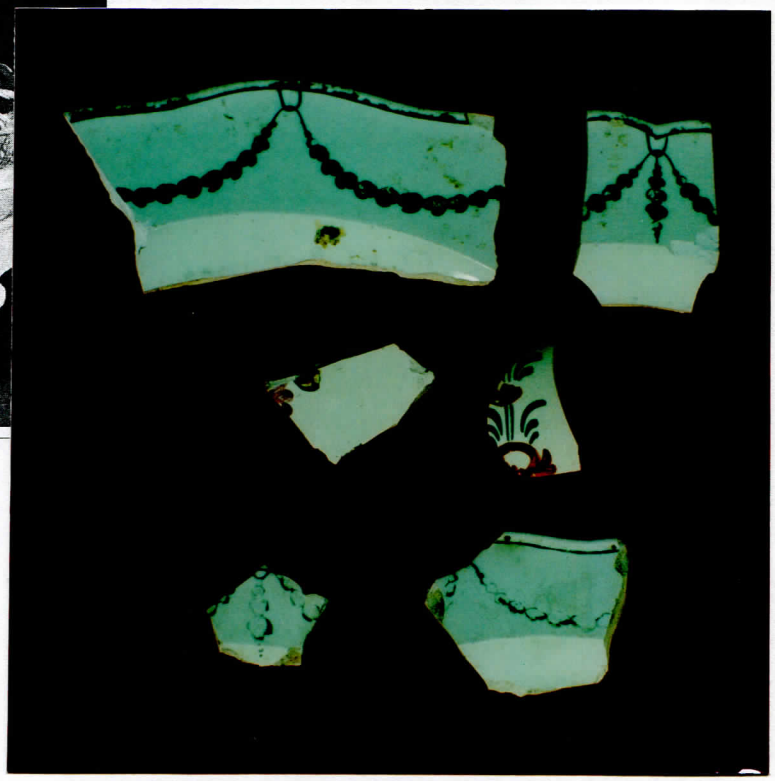
This includes a set of overglazed porcelain with red and gold bands and darts around the rim and the edge of the marley. Delicate floral motifs appear to have covered the center of the vessel and placed sparsely on the rim. The ceramic dates to the third quarter of the 18th century (figure 75). It is tempting to suggest that Mrs. Russell inherited this set from her family. It is clear that some of the pieces were broken and discarded during the Russell family's tenure at Meeting Street. The fragments were recovered in large numbers beneath the kitchen, a primary locus of Russell–era refuse.

Though the recovered examples again predate the Russell's tenure at Meeting Street, the archaeological assemblage included examples of better–than–average creamware, which, though no match for silver, nonetheless were designed for show. The first example is two fragments of a very thin, delicate shell–shaped saucer (figure 76). This small piece was identified as a saucer to a very elaborate centerpiece. A comparable example is illustrated by Towner (1978:141); it held a variety of cruets, dishes for sauces and spices, and hanging openwork baskets, all arranged around a center column adorned with elaborate figures (figure 77). Towner calls these center pieces, produced by the Leeds potteries, "an extraordinary feat of technical achievement." Towner's example is dated 1780. Smaller, less recognizable examples of sprig–decorated creamware were also recovered. The most unusual creamware was a set of royal pattern plates with overglazed painted decoration. The distinctive motifs of black and brown swags suggests that it

Figure 76
Creamware centerpiece saucer

Figure 77
Example of a creamware centerpiece, c. 1780, with scallop-shaped dishes. (From Creamware, by Donald Towner, 1978, p. 141)

Figure 78
Examples of overglazed creamware



may have been painted locally, or was most likely a special order (figure 78). The ware is consistent with styles from the 1780s, and so was most likely in the Russell household prior to their move to Meeting Street.

Where these various ceramics fall in a continuum from 'best' to 'everyday' is not clear at this point. Clearly, though, the mazarin blue punch bowl was intended for entertaining (figure 31). Again a late 18th century example, punches and their special service pieces were part of the elaborate entertainment rituals of the period.

The recovered porcelains closely resemble Mrs. Dehon's inventory. When she died in 1857, the house contained '19 India China plates and two large do, 3 dishes 1 soup tureen, 3 bowls, one mug'. These may be an overglazed set; the inventory then specifies the "Blue India China" and later "white plates". Also listed was a dozen gold and white dessert plates. Such a vessel was recovered from the upper zones beneath the kitchen. The single large example was a saucer of white European porcelain with an elaborate gold decoration, dating between 1810 and 1830 in style (figure 30).

Though not as extensively represented in the collection, the archaeological assemblage includes some interesting examples of table glass designed to impress guests. The group includes plain and faceted tumbler bases, and the handle to a punch cup (figure 79). Tumblers were for drinking water, and were developed in the late 18th century. The became more common as the 19th century progressed (Bickerton 1984:22). A variety of wine goblet bases were recovered, though none of these bore any distinguishing features (figure 40). More distinctive were fragments of goblet bowls which featured wheel–engraved designs. Suitability for engraving was one of the outstanding qualities of the high–lead English glass. Some of the finest engraved glass was made in England but shipped to Holland for decoration. The wheel engraving of the late 18th century to early 19th century ranged from coarse and unattractive to delicate and beautiful (Bickerton 1984:23). The Russell site yielded fragments which covered this gamut.

Decanters and cruets were more common at the Russell house; two styles predominate. One has a smooth, drawn neck; the other a shorter neck with everted rim and ornamented with three widely spaced rings (Hughes 1961:263). The single decanter stopper recovered at the site was a slightly convex vertical disc, popular in the third quarter of the 18th century (Hughes 1961:262). A smaller, faceted stopper is probably from a cruet, rather than a decanter. Finally, the base of a 'spirit square', lightly fashioned, probably dates to the late 18th century. These were either fitted in silver, or stored in mahogany cases (Hughes 1961:266) (figure 80).

The most distinctive artifact were fragments of a deep blue glass finger bowl or wine glass cooler (figure 81). Dating from the 1770s through the early 19th century, the two forms are difficult to distinguish from each other. Finger bowls of this period were hand blown with 'cut' bottoms and straight sides. Until the close of the eighteenth century, finger bowls served the double purpose of cleansing the fingers and rinsing the mouth. They were introduced as 'wash hand glasses', later shortened to washer. Wineglass coolers were designed to keep the heavy leaded wine glasses cooled until use by immersing them in iced water. These vessels were slightly

Figure 79
Examples of table glass:
tumbler bases, punch cup handle,
etched glass fragments

Figure 80
Fragments of decanters

Figure 81
Fragments of blue glass finger bowl;
the large example is from the Heyward–
Washington house; white glass candlestick;
fragments of decorative bottles

deeper than the finger bowls, and they featured one or two lips in the rim to form rests for the wineglass stems (Hughes 1961:296–297). The few larger examples recovered in Charleston have been finger bowls, and the Russell example appears to be the same. Mrs. Dehon's inventory lists an interesting variety of glassware, as well. Noticably absent are wine glasses. Listed instead are jelly glasses (small trumpet–shaped bowls on a short stem), lemonade glasses (most likely a tumbler style), and 4 pick glasses. Glassware for alcoholic beverages include 10 champagne glasses and 11 decanters. The most interesting item was a 'large tree waiter.'

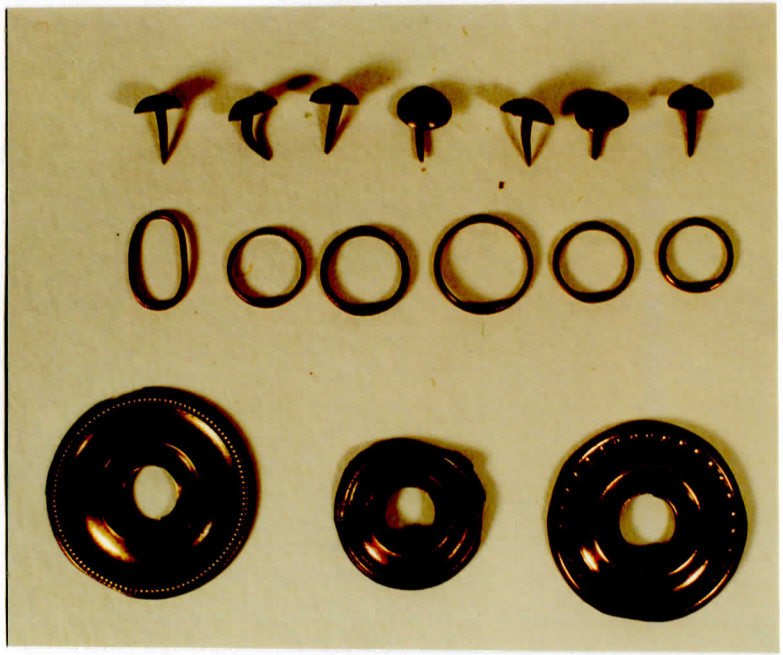
Cutlery, particularly bone handles from knives and forks, were relatively common at the Russell house (figure 42). Not recovered, but certainly present, was silver cutlery. Obviously, very little of the silver wares owned by the elite would enter the archaeological record. Mrs. Dehon's inventory lists an extensive collection of silver pieces, including a variety of forks, spoons, and service ware, along with a great variety of hollow wares.

Less well represented in archaeological material culture are items of personal adornment – clothing and jewelry. Clothing is reflected only in the fastenings – buttons, hooks, closures and buckles – while jewelry consists only of a few small, lost items, or those of lesser monetary value. Figure 82 shows a variety of clothing items most likely used by men. Distinctive among this group are a number of silver plated buttons, a pewter cuff link, and a large number of buttons and buckles. Distinctive among the latter group is the sterling silver buckle fragment, complete with maker's mark (figure 82).

Just as there was an extraordinarily large number of silver plated buttons, so too were there a relatively large number of parasol or umbrella parts, reflecting some of the finery used by the Russell women (figure 83). Also recovered was a portion of a delicate cosmetic mirror. This 2" mirror was round, with a polished brass rim and, possibly, a pewter back (figure 52).

Furniture is usually under–represented in an archaeological collection, as it is highly curated and rarely discarded. Occasional hardware elements are the only items that find their way into archaeological deposits. The Russell assemblage included a relatively large porportion of these items, and a relatively diverse group. Distinctive among the many items were three brass surrounds; at least one is from interior shutter hardware. The two larger feature a beaded rim design on one, the other a rim of acanthus leaves. These are consistent with early 19th century styles (figure 84).

By far the most numerous artifacts were upholstery tacks. These featured a square shank and domed head. These tacks were used to affix the upholstery fabric to the frame of the chair, and as the 19th century progressed larger numbers of these were used in a decorative fashion, until they formed unbroken lines along the edges of the upholstery. Though most domestic sites yield a few of these tacks, the Russell assemblage contained nearly two dozen. Unique to the Russell assemblage was the large number of small brass curtain rings. These small brass rings are less than 1 inch in diameter. Previously unidentified on Charleston sites, the Russell assemblage contained six of these (figure 84).



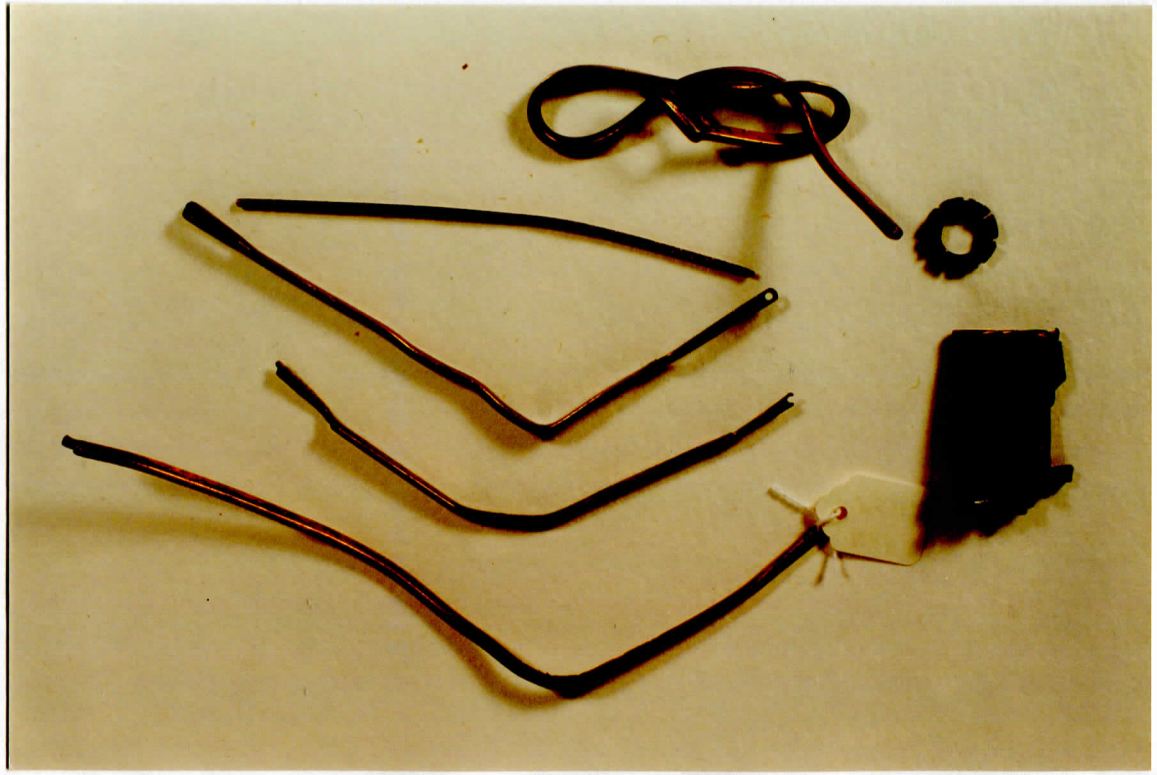


Figure 82
Men's clothing items

Figure 83
Umbrella or parasol parts

Figure 84
Furniture hardware: drawer pull surrounds, upholstery tacks, curtain rings

A tour through the Russell house itself, or at least a perusal of Sarah Russell Dehon's inventory (table 10) reveals a quantity and variety of furniture in each of twelve rooms. Compared to this listing and to other documents, the few small plastic bags of hardware seemed paltry indeed. They speak to the Russell's wealth and purchasing power, principally through the above–discussed comparison with other archaeological sites, where such artifacts are not nearly so common. Again, it must be remembered that many factors other than sheer purchasing power would affect the proportion of furniture recovered on site. The Allston assemblage, for example, contained proportionately more furniture items. While the Allstons were equally prosperous, a likely explanation for this increase may be the destruction of property during the Civil War and the seige of the city; the ensuing cleanup and discard likely placed an exceptional number of furniture items in a discard situation.

Nathaniel and Sarah Russell built and occupied their Meeting Street house after twenty years of marriage; he was 70, she 56. The house and its contents, then, reflected nearly complete lifetimes of acquisition. The Russell daughters were teenagers at the time of the move, and, after the death of her husband, Sarah Russell Dehon remained in the house the rest of her life. Mrs. Russell, and particularly Mrs. Dehon, were better known for their religious and charitable work than their social events. Perhaps the families felt secure socially, and thus under less pressure to proclaim their status, or perhaps they simply didn't enjoy the rituals (conversation with Robert Leath, 1996). The latter is somewhat suggested in an 1843 letter from Mrs. Dehon to her son,

"What do you think of my making an effort for a tea party last week! It was a point of duty not to be evaded...but after all, we had only the two Mrs. Middletons, Lizzy and Mrs. Heyward. Well, no matter, the rite of hospitality was exercised, and a good example set in the family." (William Dehon Papers, SCHS).

Indeed, the character of these women are embodied in two scenarios. In 1842, Reverend Paul Trapier wrote to his cousin by marriage, Nathaniel Russell Middleton, in Philadelphia, asking him to purchase "a comfortable chair" for Mrs. Dehon. He goes on to suggest, "nothing stylish, of course, but substantial and plain, and, above all, easy." In 1836 Arthur Middleton wrote to his sister–in–law concerning a cholera epidemic, "you would be not a little surprised to see the sideboard, ornamented not with tumblers and wine glasses, but phials of every kind of mixture, to be ready if necessary."

These passages suggest that by the 1830s, the household preferred a quiet, easy life to a social whirl. But finery evidently remained an important part of their family life. Arthur Middleton's letter implies that elegant glassware usually adorned the sideboard. During a tour of Europe in 1835, Alicia Russell Middleton made many purchases and commissioned many special pieces to take home. And Mrs. Dehon's inventory shows a house full of luxury items (figure 85).

This section has highlighted the finery discussed in documents and related pieces recovered from the ground. Perhaps more significant to interpretation of the property are the large number of less expensive ceramics, everyday containers, sewing items, toys, and food remains that were not mentioned in the legal documents or personal letters, yet recovered in great quantities. The

grandeur of gentry status and its occasional ritualized gatherings were carried out against a backdrop of daily chores and the 'workaday world' which held little glamour and entailed difficult obstacles – potable water supply, disposal of trash and other noxious waste, acquisition of enough fresh and preserved food to feed the household, protection from vermin and disease. The sideboard probably saw as many bouts of sickness as parties. Much of the struggle with these obstacles was left to the African American bondsmen in residence at the back of the house.

Gender and Material Culture

Gender studies in archaeology to date have worked to give voice to women and their role in the creation of the American past, through archaeological remains. Because of their legal and social position in colonial and antebellum America, women have been less visible in the documentary record (see Little 1994). Historical and archaeological studies of the female presence have focused on the "women's domain", the tasks that were the responsibility of women, the places these tasks took place, and the resulting artifacts (Deagan 1974; Seifert 1991; Spencer–Wood 1991). None of these studies conducted to date have focused on the sites of wealthy women, whose role in physical work was assumed by slaves or servants. While the household mistress directed the myriad of chores, she did not actually inhabit the places they were performed on a daily basis. Nor have they considered urban sites, where physical spheres of interaction were circumscribed and overlapping. It is for this reason that Ann Yentsch was able to better describe the role of slave women at the Calvert house than that of the Calvert women themselves (Yentsch 1994:300).

The few studies of gender on elite sites have considered women's roles in creation and maintenance of the garden (McKee 1996; Weber 1996); certainly the Russell ladies seem intimately involved with their garden. Yet gardening – from design to experimentation to maintenance to enjoyment – was the domain of men as well as women, from Thomas Jefferson's Monticello on down. (Hudgins 1990; Kelso 1990; Yentsch 1990; Leone and Shackel 1990).

It remains, then, to try to discern the role of women in the creation of the Russell site through a consideration of the objects themselves. But even this proves difficult. Although women dominate the site numerically, and the documented women seem to have been strong personalities capable of putting their own interests into action, it remains that patriarchal men were also in residence at the time when most of the household furnishings were purchased. While clothing and personal items can clearly be attributed to men or women – coat buttons, parasol struts – choices and use of ceramics, glassware, and furniture cannot. The best emblems of women, then, come from the later eras, when they were the only residents, and the site assumed a specific, non–domestic role – that of a school. It is in the Allston and Sisters' assemblages that slate pencils, inkwells, and plain utilitarian ceramics are present in significant numbers, and the acoutrements of finery are not. But the artifacts still say very little about the feminine role in their purchase or use.

Figure 85
Alicia Russell, c. 1792,
painted by Edward Savage (Courtesy,
Historic Charleston Foundation)

The numerous examples of correspondence and comment cited in this study suggest that the tenor of the household was dominated by the personalities of the Russell women, particularly after Nathaniel Russell's passing. The women were all strong, and devout christians. They seem to have set the tenor of daily life, and it was one of quiet family life, marked by child care and good works. Social affairs were tended to, but were not eagerly anticipated. Yet the material culture, both in the ground and in the documents, suggests that the social emblems were there.

In sum, the study of archaeological signatures of gender has not yet produced a quantifiable data base suitable for comparative study. As the following examination of black residents will show, the far larger and longer study of ethnicity in the archaeological record has produced a complex, but equally unquantifiable picture of material correlates of ethnic affiliation. An attempt to manipulate the archaeological data, in terms of quantification of various aspects of the assemblage is then too preliminary at this point. Long term study of women's roles, and the interaction of men and women, then, is likely to produce as complex a picture as the interaction of black and white Charlestonians.

Archaeological Evidence of Enslaved Residents

Easily lost in the interpretation of the Russell house that that for more than three quarters of a century enslaved African Americans comprised the majority of residents at the property. In her study of the Calvert household, Ann Yentsch gives voice to these urban residents, teasing their presence from ethnographic, historic, and demographic data. From here, she discusses architecture and social spaces of the "workaday world" (1994:188) and the few artifacts that can clearly be attributed to African American residents.

One of the frustrations of sites such as the Calvert's in Annapolis and the Russell's in Charleston is that the rubbish of master and slave are likely mixed in most primary contexts, and certainly in almost all of the secondary ones. Further, master and slave used many of the same materials, but ascribed to them different meaning, difficult to decipher from archaeological data alone. Master and slave at many of the same foods, but perhaps prepared them in a different way. To the extent possible, the limited archaeological data will be used to give voice to the black bondsmen.

The basic unit of excavation and analysis is the land or house lot associated with a domestic structure and outbuildings. Although a few artifacts could be lost in the yard by visitors to a house, the vast majority excavated from primary deposits in a yard that is well fenced or otherwise clearly separated are usually assumed to have been deposited by the house residents who controlled the yard space (Deagan 1982:161; Spencer–Wood 1987:2). The archaeological data associated with one structure usually cannot be divided to correspond with smaller economic or social units that may be housed in that structure, such as multiple families, servants, or boarders. Therefore, the archaeological meaning of a household corresponds to all of the residents of a

domestic structure that could have created primary deposits of artifacts in the house yard. Archaeological analyses represent, then, the combined acquisition and disposition behaviors of all residents in a house structure, and possiblity some from visitors as well (Spencer–Wood 1987:2)

From the time of its completion in 1808, until the Emancipation Proclamation, the majority of Russell house residents were enslaved African Americans. The number in residence throughout this period ranged from eight to twelve. Many had surnames, and many had special skills. Indeed, skilled slaves are found throughout the Russell and Allston families' correspondence – gardeners, carpenters, blacksmiths, cooks, fishermen.

When Russell moved to his house he also moved 18 slaves. In 1820, six slaves are listed in residence. The 1830 census enumerates 7 male and 5 female slaves and, interestingly, one free colored male around 30 years of age. Ten years later there were four male and four female slaves in residence. In 1850 there were 13 slaves owned by the Russells, plus six more owned by Reverend Trapier.

Elizabeth Allston Pringle's 1922 Chronicles of Chicora Woods describes the slaves living at the Russell house prior to the Civil War. Ten servants were in residence, ranging from the elderly Daddy Moses to Harris, a boy, and an unnamed 'young girl'. The principle people possessed special skills and, according to Mrs. Pringle, enjoyed respected and successful careers after emancipation. William Baron, a personal servant of Col. Ben Allston during the War, became a respected caterer and cook, in charge of suppers for the St. Cecelia Society. Joe Washington, the cook, received training under restauranteur Sam Lee.

Mrs. Pringle describes all of these people as 'good servants' and she was fond of all of them except Steven Gallant, who "put on airs". Whether the servants returned this affection is difficult to say; certainly the gardener Daddy Moses was faithful, as he was entrusted with solitary care of th house when the family fled the seige of the city in 1863. He died shortly thereafter of a stroke, while tending the garden.

Daddy Moses stands in contrast to Sarah Hopton Russell's slave, Tom Russell, who forty years earlier was convicted and executed for his role in the Denmark Vesey slave uprising. A skilled blacksmoth, Tom was evidently a trusted servant allowed to 'work out', as he kept a blacksmith shop on East Bay street. He seemingly lived at the Russell site, as Mrs. Russell knew that his co–conspirator, Gullah Jack, "was constantly with Tom at breakfast, dinner, and supper."

Affection for, or at least loyalty to, their white masters during the early 19th century probably ran the gamut from Daddy Moses to Tom Russell. While such emotions and the tenor of daily interaction are difficult, if not impossible, to guage, it is clear that white and black residents were in constant and close contact at the Russell site. Further, enslaved African Americans were responsible for most of the on–site activities, and some of the recovered artifacts.

Archaeologists began their research on African American sites in a quest for 'Africanisms' (Ascher and Fairbanks 1971) – material signatures of an African past and African identity

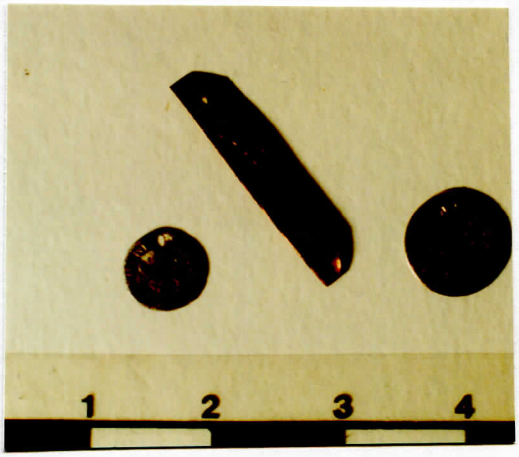
(Singleton 1991). Few were found. With its black majority, sizable and continuous influx of slaves directly from Africa, and black communities living in relative isolation, the South Carolina Lowcountry seemed an apt location for such a search.

And Lowcountry sites did indeed yield a relatively large number of things that seemed to be peculiarly African – colono ware, mud walled houses, distinctively marked graves, cowrie shells – and European goods used in an African way – blue glass beads. But what has emerged is a picture of complexity. The people being studied were not, particularly by the 19th century, African, but African American, a creolized society encompassing ideas and traits acquired from contact with Native Americans and Europeans.

The enslaved people who lived at the Russell house were not African, but African American. The objects they used, and the few objects they owned, were not created in an African, in a multi–ethnic New World setting or, primarily, obtained from the vast European market of mass–produced goods. But what did these manufactured, or hand made, objects mean to the people who used them?

Leland Ferguson (1992:xli) has suggested that creolization theory is an appropriate avenue for exploring the material expressions of African American material culture. Creole people are culturally and racially mixed; more significant is the examination of the creolization process, a multicultural adjustment experienced by all of the groups in contact, entailing interaction, exchange, and creativity. Moreover, differences of time, place, and ethnic mix resulted in different creolized cultures in various parts of the new world. In Ferguson's study, based on the examples of Kamau Brathwaite and Charles Joyner, linguistic concepts of cognition are used to explain that material things are part of the lexicon of culture while the ways they are made, used and perceived are part of the grammar or structure. Within creolizing culture, change can take place in either superficial features, or underlying structure, or both. With Ferguson's model in mind, we can examine objects of both European and local manufacture recovered at the Russell house and suggest how they might have been used by the site residents.

Archaeological evidence of ethnicity is indicated from several sources; objects presumably brought from Africa, recreations of African–styled or African–influenced objects, and mass–produced objects and other Euro–American materials reinterpreted for a special African American meaning (Singleton 1991; Ferguson 1992). Moreover, European manufactured goods dominated not only the American markets, but the world market, as well. Master and slave most often used the same wares, though they might have used them in a slightly different manner. And certainly they were discarded together. Despite this, a few artifacts were retrieved which can, with some degree of certainty, be attributed to the black residents. The first is, of course, the portion of a slave tag (figure 86). The recovery of such an artifact is not surprising. These municipal licenses monitored the hiring out process, and owners were required to purchase them for slaves hired out to others for varying periods (Singleton 1984). With his group of skilled slaves and his extensive business connections, it is likely that Russell hired out some of his slaves. The small portion of the Russell tag was cleanly cut, perhaps in a defiant gesture, perhaps surreptitiously.



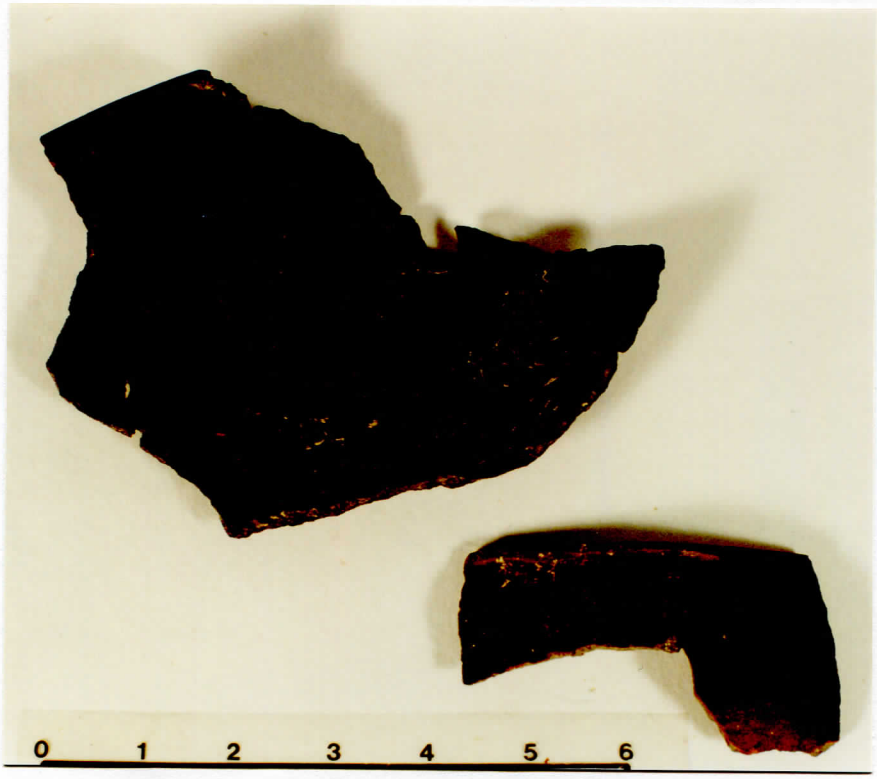


Figure 86
pierced Spanish coins, fragment of a slave tag

Figure 87
glass beads

Figure 88
Examples of colono ware

Two other objects, reworked for personal adornment, may have been the possessions of slave residents. Two small silver Spanish coins were pierced with a small hole at the top, presumably to be worn around the neck. One coin exhibited considerable wear around the hole. Pierced coins, usually of Spanish origin, have been recovered from plantation sites in Virginia and Georgia. Theresa Singleton (1991) has mentioned that archaeologists are yet to decipher what the objects meant to the people who used them (figure 86).

Equally cloudy is the meaning of the many glass beads found on plantation sites and presumably worn by African American women. These are not the precious stones and metals which would have been worn by the Russell women, but small beads of glass. Their modest presence (22) suggests that these were individual pieces sporadically lost around the main house and the rest of the property, as noted by Ann Yentsch at the Calvert house. But more significant to Yentsch than their use was the implication that, despite the oppression of bondage, the Calvert slave women were able to wear this jewelry in public, as their recovery from main house contexts implies. Yentsch suggests that in Africa jewelry was a "significant mark of cultural and social identity and one with great time depth". Substitution of tradional objects were common. Coins and glass buttons were easily substituted for bone and shell, for example. Yentsch further comments that west African women particularly enjoyed dressing finely (1994:192–193), and indeed historic documents (by whites) from Charleston and other southern cities often comment on black women's dress, or in their estimation, overdress. (Wade 1964:125–130).

Glass beads have a long history of use in Africa; further, beads were not routinely worn by European women until the mid–19th century. Yentsch goes on to discuss the "magical and metaphorical properties of beads" and their various colors. Blue beads are most common on slave sites (Singleton 1991:164) throughout the south, and William Adams has equated this with the Muslim belief that a single blue bead protected the bearer from the evil eye (Singleton 1991:164; Miller 1977:221). Yentsch suggests broader meanings for the color blue. Blue tube beads were the most common type recovered at the Russell site. These are also the most common kind found on Charleston sites in general (figure 87).

Also recovered in significant numbers at Russell, and elsewhere in Charleston, are Cornaline d'alleppo beads, translucent green tube beads covered with an opaque red glass (figure 87). Yentsch suggests that these red beads were immitative of carnelian, a red semiprecious stone. Carnelian beads have been found in burials in Barbados; in their research Handler and Lange attached particular significance to carnelian beads, imported from India and important in Africa (Handler et al. 1979; Yentsch 1994:193). Ann Yentsch's enlightening discussion of personal adornment brings life to the artifacts recovered at the Russell house. The beads and coins may be seen as more than an effort to enhance personal appearance; they are a means to tell the world about cultural identity.

Unlike the objects described above, the colono ware recovered at Russell, and on other Lowcountry sites has been attributed primarily, though not exclusively, to African American potters. African Americans are also seen as the primary users of this ware, though this attribution

is less clear. Beginning in the mid−1970s, archaeologists recovered great quantities of these ceramics from plantation sites in the Lowcountry, particularly 18th century sites, and particularly slave sites. Originially believed to be Indian pottery obtained through trade (South 1977), the volume of the ware, and the demographics of the Lowcountry, began to point ot another source − the African population (Ferguson 1980). Since Ferguson's publication, most scholars have followed his lead. The controversy of origin continued, however. In more recent studies, at least some of the pottery has been attributed to the Catawba Indian nation (Ferguson 1990; Crane 1994) and even to the influence of French Huguenots (Steen 1996). Steen and particularly Ferguson now remain deliberately vague as to the origin, and Ferguson again sees the ware as the product of a creolization process.

It remains, though, that Colono wares and black residents are often together. The attribution process on isolated plantations is relatively straightforward; in the city it becomes more complex and thus more clouded. Colono ware is also consistently recovered on urban sites, though in smaller proportions (averaging 5% of the ceramics). The wares continue into the 19th century.

Sources for these wares are equally cloudy. While most colono ware is presumed to have been manufactured on site at the rural plantations, it seems highly unlikely that the city afforded the space, the resources, or the opportunity for such an enterprise. An obvious explanation is that individual masters and/or their slaves brought these wares from their plantations. Other possibilities include sale or trade from other plantations, from the Charleston markets, or from itinerant merchants. There are references, or actually complaints, of slave vendors 'forstalling the markets' in Charleston and of Catawba Indians selling pots (Calhoun et al. 1984; Crane 1994). Brian Crane's neutron activitation analysis of colono wares from the Heyward house revealed a highly random arrangement of clay types, suggesting a variety of sources.

Though primarily a 19th century site, the Russell assemblage contained a significant amount of colono ware − 5.6%, consistent with the Charleston averages for this period. The colono wares, then, were part of the everyday life of Charlestonians, though for whom and in what fashion is unclear (figure 88).

When colono wares were attributed to African Americans in the late 1970s, it was presumed that they were used for cooking and eating (in other words, in foodways) and they were used because European goods were difficult to obtain. The decline in the early 19th century was attributed to the appearance of inexpensive, mass produced earthenwares and, as part of this, the movement among planters to more closely supervise the daily lives of their slaves and to impose 'improvements' aimed towards better health. But colono wares were also found at planter sites in the 18th century and colono wares continued in use after European goods were easily obtained. Indeed, a host of goods were <u>always</u> available in Charleston. Seemingly, the colonoware bowls and jars were not 'just another dish' to the African Americans who used them.

Leland Ferguson has more recently suggested that much of the colono ware held magical or ritual associations for their black users. He cites numerous examples marked with an X, in

reference to a Bakongo cosmogram, and numerous examples of them found in or near rivers on rice plantations. In building his case, Ferguson cites the "ubiquitous West African emphasis on water spirits and circularity" (Ferguson 1992:115). Ferguson further suggests that these pots were used for cooking medicines, not food, a tradition that persists in regions of west Africa today. This basic spiritual belief perhaps best explains the persistence of colono ware (Ferguson 1994, 1995).

White and black residents of the Russell property occupied the same buildings, but lived in different worlds. As Dell Upton points out, members of different cultures could inhabit the same space, but utilize and perceive it differently (Yentsch 1994:183; Upton 1985, 1990). Mrs. Pringle remembers affection and devotion from faithful servants, but clearly efforts were afoot to resist, or transcend, the bonds of servitude. Rarely was the resistance as overt as Tom Russell's and rarely was the response as startling. But the black men and women crafted a culture of their own within the bounds of the master's world.

Conclusions

Interpretation of the Russell house is a study of complexity. For there are no simple answers – for specific questions such as construction dates, or for complex questions, such as the Russell's self–perception. As archaeology, and indeed other disciplines, have matured, the answers to posed questions have become more fragmented and less clear–cut. A simple one–to–one search for African survivals has revealed a dynamic creolized culture, adapting to new and shared experiences through cultural mediation. Likewise, study of refinement reveals that the American elite copied English and other European fashions, inventions, and ideas, but molded them to fit their new world experience, an experience that included daily contact with enslaved people of African descent. Interpretations presented here, then, are far from final or definitive. While the current research projects on the Russell house are drawing to a close, study and reinterpretation of the property will continue indefinitely.

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APPENDIX I

FURTHER STUDIES OF VERTEBRATE FAUNA FROM THE NATHANIEL RUSSELL HOUSE, CHARLESTON, SOUTH CAROLINA

Daniel C. Weinand

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Abstract. Additional vertebrate remains recovered from the Nathaniel Russell House, located in Charleston, South Carolina, were examined. The deposits studied from the site dated to the periods (1730–1857), but were divided into two components: Pre–Russell (1730–1810) and Russell family (1808–1857) occupations. The Pre–Russell component contained 1,836 identifiable bone fragments, the remains of 34 individuals, and weighed 14,654.47 gm. The Russell family component contained 1,912 bone fragments, the remains of 38 individuals, and weighed 12,784.85 gm. The faunal assemblages from the two components are mostly similar, but contain some anomalous characteristics. Previous work has shown that little evidence exists for patterned change through time in animal use within the city. Additionally, the association of specific types of cattle elements and butchering marks appears weakly correlated with time period. The two aspects of the collection that are particularly interesting is evidence that changes over time may occur at the household or property level, and that these aspects may be only weakly correlated to occupant status.

Although studies continue at the Nathaniel Russell house as a component of subsistence strategies practiced by peoples in and around Charleston, South Carolina, patterns of vertebrate use have been difficult to define. These difficulties can be attributed to variables such as urban or rural location, socio-economic and ethnic status; as well as temporal, functional, and taphonomic differences. As zooarchaeological studies in the Charleston area are conducted, many of these aspects of life in the region are becoming more fully understood. However, all other possible variables may not yet have been defined. One reason is that most of the vertebrate data are from exposed deposits at residential or mixed residential/commercial sites from the late eighteenth and early nineteenth centuries.

Recent archaeological investigations at the Nathaniel Russell house provide an opportunity to examine two variables that are important to our understanding of the economy of Charleston. Unfortunately, few data exist for occupations in the early 1700s or late 1800s. While both of these time periods have been present in faunal samples excavated from Charleston, the samples have been small and hence not comparable to the larger samples from the eighteenth-/early nineteenth-century contexts. The recent study of materials from the Nathaniel Russell house provides more information to this late component and permits a better foundation for future temporal comparisons of subsistence change within the city.

In order to examine these aspects of animal use at the Nathaniel Russell house, the material under study will be compared to a summary of previous Charleston area collections from similar temporal contexts. The past work will be summarized first. Emphasis of this survey will be placed on upper and middle status households, each from temporal contexts corresponding to the newly studied materials. These residential data include previous excavations from the Russell house and two previously studied Charleston residences. The residential materials summarized here are from a Russell House collection studied earlier and deposited from 1780 to 1857 (Reitz and Weinand 1995); the Gibbes house, deposited between 1770 and 1840 (Zierden et al. 1987); and the Aiken-Rhett materials, deposited between 1820 and 1860 (Zierden et al. 1986). In addition to the residential comparison, data from the eighteenth-century Charleston Beef Market will also be summarized. Although biomass has been calculated for all of these samples, the summaries will focus on estimates of Minimum Numbers of Individuals (MNI), described in more detail below.

In all of the Charleston collections, domestic animals constituted approximately half of the individuals (Table 1). Domestic mammals contributed almost 43 percent of the individuals in most of the collections. The only exception is the Gibbes collection, in which domestic mammals contributed only 30 percent of the individuals. This may be a reflection of sample size. However, the Gibbes collection also contains a high level of both domestic and wild birds. Wild mammals are equally represented in the Russell and Gibbes collections, are represented slightly more in the Aiken-Rhett collection, and are greatly represented in the Beef Market collection. Proportions of remaining taxa, including reptiles, sharks and fishes, and commensal taxa are similar for all summaries presented. There is a slightly higher occurrance of commensal taxa in the Russell collection.

Efforts to define differences in subsistence behavior in Charleston based on socioeconomic distinctions have had limited success. In terms of taxa identified, there are few characteristics which correspond with socioeconomic status in the urban setting. This is easily demonstrated by the variations in the presented summaries. However, two slight differences have been suggested. Collections from upper status sites appear to contain a slightly more diverse range of species, both wild and domestic (Reitz 1987); although this may be a function of sample size. Upper status collections occasionally have a slightly higher percentage of fish individuals than middle or lower status ones (Reitz 1986, 1987); although this could be a function of preservation. Both of these distinctions are minor and have not been observed in all upper status collections.

The data from the Charleston Beef Market site (Calhoun et al. 1984), deposited between 1739 and 1796, are included to provide comparison to the residential assemblages. The Beef Market was the official site for a public market that functioned at this location until the end of the eighteenth century (Calhoun et al. 1984). Although most of the collection was contributed by cattle, some pigs and caprines were also present (Calhoun et al. 1984:78). Interestingly, a wide variety of other animals are also present in the Beef Market assemblage. The term "Beef Market" clearly does not reflect the full range of commercial activities that took place on the property. It is probably better to think of the Beef Market as a commercial venue where meats such as beef, pork, fish, venison, and poultry were sold. Its comparative value to the residential collections is that the market may have served these residences.

Two other characteristics need to be examined when attempting to define economic activity. One of these is element distribution. When the data for cattle elements recovered from Charleston archaeological sites are plotted against a Standard cow using a technique based on ratio diagrams, three distinct patterns are observed (Figure 1; Reitz and Zierden 1991). These patterns seem to reflect site function rather than status.

One of the patterns is clearly a residential one and is found both at upper and middle status sites (Figure 1; Reitz and Zierden 1991). While fragments from both the head and foot are recovered from residential sites, fragments from the hindquarter and especially the forequarter are more abundant than fragments from the head or foot. Forequarter bones were more common than hindquarter bones regardless of status. All residential sites, regardless of whether they were associated with middle or upper status occupants, conform to this pattern.

The non-residential patterns (Figure 1) can be divided into two categories based on function: public facilities associated with marketing and disposal of meat (Beef Market and Atlantic Wharf) and entertainment facilities (McCrady's Tavern and Lodge Alley). In the Beef Market pattern, fragments from the head are more common than in the residential pattern. Bones from the forequarter were underrepresented compared to residential sites. Hindquarter and foot fragments are found in similar proportions in the market and residential patterns.

The pattern for entertainment-related collections is a mirror image to the market pattern, yet distinct from the residential pattern (Figure 1; Reitz and Zierden 1991). At sites

whose primary function was public entertainment, fragments from the head were more common than at residential sites. In fact, the market and entertainment patterns have identical ratios of head fragments compared to the Standard cow. Bones from the forequarter were overrepresented in a mirror image to the pattern described by market sites, although somewhat below that described for residential sites. Fragments from the upper hindquarter were rare or absent, also in a mirror image to the market pattern. Fragments from the foot were slightly more common in the entertainment pattern than in the residential one. The percentage of entertainment-related fragments from the forequarter and the lower hindquarter, however, fall within the residential range. Entertainment facilities may have obtained meat exclusively through purchase at the market, thereby removing bones from the market.

The bones recovered from residential sites do not compliment those missing from the Beef Market. This suggests that the market was not the only source of bones for most residential sites. One interpretation of these data is that faunal remains from residential sites probably became part of the archaeological record through a combination of on-site butchery, meat purchased from vendors, and salted meats. On-site butchery might contribute elements from the entire skeleton. Since the residential pattern is also unlike the unmodified distribution of elements in a cow skeleton, on-site butchery does not appear to be the only source of meat/bones at residential sites. Instead a combination of on-site butchery and market purchases seems indicated. The ratio diagrams suggest that residential customers rarely purchased cuts which contained teeth or other skull fragments. Instead they were likely to purchase cuts from the forequarter which contained bone. At home, consumers may have discarded these market bones with ones from their own slaughter activities.

The other characteristic which can define economic activity is the presence of sawed bones. Sawing is a method of processing meat that produces small portions and is usually associated with butcher shops rather than home-butchering. If sawing was a common butcher shop technique and an uncommon household treatment, this may also be indicative of commercially prepared meats at the Nathaniel Russell house.

Sawing appears to increase somewhat through time at Charleston sites, and is especially common in collections associated with nineteenth-century, middle-class occupations. Less than 1 percent of the modified bones in the eighteenth-century First Trident Tannery (Zierden et al. 1983), pre-Brewton (Reitz 1990), and Beef Market (Calhoun et al. 1984) collections had been sawed, although sawed bone was present at all three sites. In upper status collections less than 1 percent of the Brewton-Motte-Alston bones had been sawed (Reitz 1990); 1 percent of the Gibbes bones had been sawed (Zierden et al. 1987); but 6 percent of the Aiken-Rhett bones had been sawed (Zierden et al. 1986). However, sawing was found on only 1 percent of the bone in the Pringle-Frost collection (Reitz 1990).

In contrast to this, sawed bone was common in middle-class, nineteenth-century collections. Between 8 percent and 15 percent of the bones in the 66 Society Street (Frank 1988) and President Street (Wood 1988) collections were sawed; sawed bones also constituted 8 percent of the 40 Society Street collection (Reitz and Dukes 1993). On the other hand,

only 4 percent of the 72 Anson Street collection was sawed (Reitz and Dukes 1993). The previous data from the Russell collection are also anomalous. Sawed bones contributed 16 percent of the modified bones in the 1780–1857 Russell collection (Reitz and Weinand 1995). In general, sawing appears to be related to middle–class households and may suggest that it was those households which were most likely to make use of butchery–meats.

Previous work has shown that Charleston sites share many characteristics regardless of function, time period, or occupant's status (Reitz and Weinand 1995). These data are presented as a comparative base for possible patterns for determining economic activity of residential sites. The Beef Market data are presented to demonstrate the differences of function and as a possible source of usable resources for the residences under study. A higher percentage of sawed bones would be consistent with purchase of at least some meat from the markets. It would be expected that the recent data to be presented should follow a residential element distribution pattern but may not fit a sawed bone pattern, similar to the previous data from the Russell house. These possibilities will be explored using vertebrate remains from the Nathaniel Russell house.

METHODS

Vertebrate materials from the Nathaniel Russell house, Charleston, South Carolina were examined. The materials were excavated by Martha Zierden of the Charleston Museum and were recovered with 1/4–inch screen. The materials reported here are divided into two temporal components. The earlier component is from an occupation previous to the Russell family occupation of the site (1730–1810). This component will be referred to here as the Pre–Russell family component. The materials from this component are associated with a house located on the property prior to the construction of the Russell mansion and may have been occupied by the family during this time. The second component studied is from the Russell family occupation of the mansion from 1808 to 1857. These materials were excavated from a deposit located beneath the kitchen.

The vertebrate materials recovered were examined and analysed using standard zooarchaeological methods. For the purposes of this paper, the Pre–Russell and Russell family components were analyzed as two separate analytical units. A list of the FS#'s examined in each provenience examined appears in Appendix A. All identifications were made by Daniel C. Weinand, using the comparative skeletal collection of the University of Georgia's Zooarchaeology Laboratory, located in the Museum of Natural History. Bones of all taxa were counted (NISP) and weighed to determine the relative abundance of the species identified. The elements identified, the portion recovered, and symmetry were recorded. Indicators for sex, age, and modifications were noted when observed. When preservation allowed, measurements were taken following the guidelines established by Angela von den Driesch (1976). These measurements are presented in Appendices B and C.

The Minimum Number of Individuals (MNI) was estimated based on paired elements and age. As stated previously, the Pre–Russell and Russell Family components are considered two distinct analytical units. Therefore, MNI was calculated for each of these analytical units from the faunal materials from each component. In some cases more individuals were estimated if all the materials identified at the order or family level were considered together, rather than if just those bones identified to genera within the order or family were examined. In these cases, MNI was estimated for both taxonomic levels. The MNI estimate made for the genus is included in the species list in parentheses for information only and is not included in the total for the species list or in subsequent calculations, unless otherwise noted.

While MNI is a standard zooarchaeological quantification medium, the measure has several biases. For example, MNI emphasizes small species over larger ones. This can be demonstrated by a hypothetical sample which consists of five catfish and only one cow. Although five catfish represent more individuals, a single cow would supply more meat. A further problem with MNI is the assumption that the entire individual was utilized at a site. From ethnographic evidence, it is known that this is not always true. This is particularly the case for larger individuals and animals utilized for special purposes (White 1953). Additionally, MNI is influenced by the aggregation of proveniences during analysis. The aggregation of separate samples into one analytical whole (Grayson 1973) allows for a conservative estimate of MNI, while the "maximum distinction" method applied when analysis discerns discrete sample units results in a much larger MNI. Further, some elements are more readily identifiable than others. The taxa represented by these elements may therefore be incorrectly perceived as more significant to the diet than others. Conversely, some taxa represented by large numbers of bones may present few paired elements and hence the number of individuals for these species may be underestimated. Turtles are good examples of this last problem. MNI for these animals will usually be underestimated relative to the number of fragments.

Biomass estimates attempt to compensate for problems encountered with MNI. Biomass provides information on the quantity of meat supplied by identified animals. The estimates are based on the allometric principle that the proportions of body mass, skeletal mass, and skeletal dimensions change with increasing body size. This scale effect results from a need to compensate for weakness in the basic structural material, in this case, bone. The relationship between body weight and skeletal weight is described by the allometric equation:

$$Y=aX^b$$

(Simpson, Roe, and Lewontin 1960:397). Many biological phenomena show allometry described by this formula (Gould 1966, 1971). In this equation, X is the skeletal weight or a linear dimension of the bone, Y is the quantity of meat or the total live weight, b is the constant of allometry (the slope of the line), and a is the Y–intercept for a log–log plot using the menthod of least squares regression and the best fit line (Casteel 1978; Reitz and Cordier 1983; Reitz et al. 1987; Wing and Brown 1979). A given quantity of bone or a specific skeletal dimension represents a predictable amount of tissue due to the effects of allometric growth. Values for a and b are obtained from calculations made of data at the Florida

Museum of Natural History and the University of Georgia Museum of Natural History. The allometric formulae used here are presented in Table 2.

Biomass, MNI, and other derived measures are subject to sample size bias. Casteel (1978), Grayson (1979), and Wing and Brown (1979) suggest a sample size of at least 200 individuals or 1400 bones for a reliable interpretation. Small samples frequently will generate a short species list with undue emphasis on one species in relation to others. It is not possible to determine the nature or the extent of the bias, or correct for it, until the sample is made larger through additional work.

The species identified for each of the components from the Nathaniel Russell House are summarized by placement in faunal categories based on vertebrate class. This summary contrasts the percentage of various groups of taxa in the collection. For the Nathaniel Russell materials, these categories were Domestic Mammals; Domestic Birds; Wild Mammals (including white-tailed deer); Wild Birds; Turtles; Fishes; and Commensal Taxa. In order to make comparisons of MNI and biomass estimates possible, the summary table includes biomass estimates only for those taxa for which MNI was estimated. For example, biomass for white-tailed deer (Odocoileus virginianus) was used rather than biomass for Artiodactyla. Commensal taxa will be discussed further below.

The presence or absence of elements in an archaeological assemblage provides data on animal use such as butchering practices. The mammalian elements identified in the Nathaniel Russell assemblage are summarized into categories by body parts. The Head category includes only skull fragments, including antler fragments, and teeth. The atlas and axis, along with other vertebrae and ribs, are placed into the Vertebra/Rib category. The Forequarter category includes the scapula, humerus, radius, and ulna. The carpus and metacarpus are presented in the Forefoot category. The Hindfoot category includes tarsal and metatarsal specimens. The Hindquarter category includes the innominate, sacrum, femur, and tibia. Metapodiae, podiae, sesamoids, and phalanges are assigned to the Foot category. The Caprine category includes those bones identified to Caprine and sheep (Ovis aries). The presence/absence of bones associated with cultural values are often difficult to derive from archaeological deposits. It is usually assumed that bones associated with parts of the body that supply relatively little meat would be less desirable than bones associated with meaty portions of the carcass. For example, the femur is associated with more meat than are the mandibles.

The elements identified for pig, cow, and caprids (including Ovis aries) have been presented visually to illustrate their number and location on a carcass. Horn core, some skull fragments and loose teeth are not illustrated. Although the atlas and axis are accurately depicted, other cervical vertebrae, as well as thoracic, lumbar, and caudal vertebrae and ribs are placed approximately on the illustration. The last lumbar location is used to illustrate vertebrae which could be identified only as vertebrae. Bones identified only as sesamoids, metapodial bones, podials, or phalanges are illustrated on the right hindfoot.

The archaeological element data are also compared to a Standard cow on a log difference scale (Reitz and Zierden 1991; Simpson 1941). The Standard cow was developed from the number of elements present in an unmodified cow skeleton with certain alterations. The number of bones for the Standard cow was reduced to reflect values which are probably more realistic from the standpoint of identification. The number of cranial elements was reduced to 52 from 64. It was considered likely that only fragments from the following bones would be identified under most circumstances: parietal, frontal, temporal, maxilla, occipital, premaxilla, and zygomatic, as well as 32 teeth, 2 horns, 2 bulla, and the mandibles. The number of axial elements were reduced to 28 from 71. It was considered unlikely that all caudal vertebrae and ribs would be identified to species so this number (44–46) was reduced to two. The sacrum includes five segments, which in young animals may be separate but which in adults are fused. Hence the number of sacral elements was reduced to 1 from 5. The number of sesamoids, metapodiae, and phalanges, was reduced from 60 to 24. The exact number of bones in this group is variable since it includes small metapodials such as the metacarpal V, phalanges and sesamoid bones, the number of which is individually variable. It seems unrealistic that all of these would be identified as cow under normal circumstances, so the number was reduced by 40 percent. The consequence of this step was to reduce the percentage of some element categories while increasing the percentage of others. The actual percentages for each category are as follows: Head, 25.8 percent; Axial, 28.6 percent; Forequarter, 3.2 percent; Hindquarter, 6.9 percent; Forefoot, 5.7 percent; Hindfoot, 5.7 percent; and Foot, 24.2 percent.

In order to compare the archaeological data with the Standard cow, the percentages of each element category for the Standard cow are converted into logarithms, subtracted from the log value of the same element category for the archaeological percentages, and plotted against the Standard cow represented by the vertical line in Figures 1–3. Although the archaeological values are fragment counts and the values for the Standard cow whole elements, the relationship in the ratio diagrams are similar to those found in unmodified histograms. The cow ratio diagram in Figures 2 and 3 represent Pre–Russell (N130 E328) and Russell Family (N221 E174) relationships, respectively.

Relative ages of pigs, cows, and caprids identified were estimated based on observations of epiphyseal fusion for diagnostic elements. When animals are young their bones are not fully formed. The area of growth along the shaft and the end of the bone, the epiphysis, are not fused. When growth is complete the shaft and the epiphysis fuse. While environmental factors influence the actual age at which fusion is complete (Watson 1978), elements fuse in a regular temporal sequence (Gilbert 1980; Schmid 1972; Silver 1963). During analysis, bones were recorded as either fused or unfused; the bones were then placed into one of three categories based on the age in which fusion generally occurs. This is more informative for unfused bones which fuse in the first year or so of life and for fused bones which complete growth at three or four years of age than for other bones. An element which fuses before or at eighteen months of age and is found fused archaeologically could be from an animal which died immediately after fusion was complete or many years later. The ambiguity inherent in age grouping is somewhat reduced by recording each element under the oldest category possible.

The sex of animals is an important indication of animal use; however, there are few osteological indicators of sex. Males are indicated by the presence of spurs on the tarsometatarsus of turkeys and chickens and by the presence of large canines in pigs. Male turtles are indicated by a depression on the plastron to accomodate the female carapace during mating. Females are recognized by the absence of these features. Female birds may also be identified by the presence of medullary bone (Rick 1975). Another approach is to compare measurements of identified bones for evidence of bones which fall into a male or female range, although there rarely are sufficient numbers of measurements to reliably indicate sex.

Modifications to bones can indicate butchering methods as well as site formation processes. Modifications were classified as burned, sawed, hacked, clean-cut, cut, carnivore-gnawed, and rodent-gnawed. Burned bone may result from exposure to fire when a cut of meat is roasted. Burns may also occur if bones are burned intentionally or unintentionally after discard. The presence of parallel striations on the outer layer of compact bone was used as evidence that a bone had been sawed, presumably before the meat was cooked. A large instrument such as a cleaver or ax would be responsible for inflicting hack marks. Hack marks may be inflicted before or after the meat has been cooked but are usually indicative of butchery. Clean-cuts are disarticulating cuts through a single plane of a bone shaft. Due to poor preservation of the compact bone layer or an inherently thin compact bone layer, these cuts may not provide evidence of the tool used, but it is assumed that they were inflicted by an ax, saw, or other large cutting instrument such as a cleaver. Cuts are small incisions across the surface of bones. These marks were probably made by a knife as meat was removed before or after the meat was cooked. Cuts may also be left behind if attempts are made to disarticulate the carcass at joints. Some marks that appear to be made by human tools may actually be abrasions inflicted after the bones were discarded, but distinguishing this source of small cuts requires access to higher powered magnification than was available during this analysis (Shipman and Rose 1983). Gnawing by carnivores and rodents would result in loss of an unknown quantity of discarded bone.

RESULTS: PRE-RUSSELL FAMILY

The Pre-Russell family component (N130 E328) was a small assemblage consisting of 1,836 bones weighing 14,654.5 gm and containing the remains of at least 34 individuals (Table 3). Domestic taxa contributed 98 percent of the biomass of taxa for which MNI was estimated (Table 4). The principle domestic mammal was cow (Bos taurus). Cows contributed 23 percent of the individuals and 67 percent of the total biomass. Pigs (Sus scrofa) contributed 9 percent of the individuals and 5 percent of the total biomass. Caprines (sheep/goat) were the least abundant of the domestic mammals, contributing 2 individuals. One of these individuals was identified as a sheep (Ovis aries) which contributed less than 1 percent of the total biomass. The other caprid individual was identified as a possible goat (Caprine cf. Capra hirca) which also contributed less than 1 percent of the biomass. Because of the close similarity of sheep and goats, some tables present the combined numbers for both under the heading

Caprine. Chickens (Gallus gallus) were the only domestic birds identified and contributed 6 percent of the individuals, but less than 1 percent of the total biomass.

Wild, non-commensal taxa contributed 50 percent of the individuals and 2 percent of the biomass in the Pre-Russell component (Table 4). The only wild mammal identified was a deer (Odocoileus virginianus). The deer contributed 3 percent of the individuals and 1 percent of the biomass. Wild birds included a duck (Anatidae), a Canada goose (Branta canadensis), a turkey (Meleagris gallopavo) and a member of the hawk and falcon family (Accipitridae). Each of these taxa contributed 3 percent of the individuals and less than 1 percent of the biomass. The duck and goose were estimated as separate individuals by size. Although the Canada goose is a member of the Anatidae family, some bones identified as Anatidae were too small to be from the goose. The turtles identified were a possible snapping turtle (cf. Chelydra serpentina), a mud/musk turtle (Kinosteridae), two box/water turtles (Emydidae), and a probable loggerhead turtle (Chelonidae cf. Caretta caretta). The Emydids contributed 6 percent of the individuals but less than 1 percent of the biomass. The possible snapping turtle, kinosternid, and chelonid each contributed 3 percent of the individuals and less than 1 percent of the biomass. Fishes identified included a gar (Lepisosteus spp.), a hardhead catfish (Arius felis), a gafftopsail catfish (Bagre marinus), a sea bass (Centropristis spp.), a sheepshead (Archosargus probatocephalus), a black drum (Poganias cromis), and a flounder (Paralichthys spp.). Each contributed 3 percent of the individuals and less than 1 percent of the biomass.

The only commensal taxa identified were two Old World rats (Rattus spp.), which contributed 6 percent of the individuals and less than 1 percent of the biomass. Rats are found in close association with humans. It is assumed they were not part of the diet.

The mammalian elements identified from the Pre-Russell family component are presented in Table 5, with domestic mammal elements visually presented in Figures 4-6. All of the caprid elements have been combined under the heading Caprine. The cow was the most skeletally complete mammal, represented by mostly equal numbers of elements from all skeletal categories. However, forefoot and foot elements were slightly underrepresented. Pigs were represented primarily by elements from the head. The remaining mammals were skeletally incomplete.

There was some evidence for age at death for the animals in the sample (Tables 6-8) and no indicators of sex. Two of the pigs were juveniles when they died. The other pig in the collection could only be identified as having been older than a juvenile at death. Ages for pigs were estimated from two distal, right, unfused humerus fragments and one distal, right, fused humerus fragment. The distal humerus fuses between 12 and 18 months of life in pigs. Ages for cows were more difficult to estimate. One cow was a juvenile, two were sub-adults less than 36 months old at death, two were adults, and three were an indeterminate age at death but were greater than 12 months old. The juvenile was identified from an unfused acetabulum fragment. The adults were estimated from fused, distal radius fragments. The two sub-adults and indeterminate individuals were problematical. Seven individuals were identified from

the nine distal, fused humerus fragments. The distal humerus fuses at 12 months of age. One of these individuals may have been the previously described adult. Three individuals were identified from unfused, proximal calcaneus framents. However, one of these three individuals may have been the juvenile. The calcaneus fuses at 36 months. This leaves three individuals with fused, distal humerii. The age for the possible goat could not be estimated because the only element identified as possible goat was a proximal metatarsal fragment. The proximal metapodiae in all domestic mammals are fused at birth. The sheep identified was greater than 13 months old at death.

Modifications to the bones from the Pre–Russell family component included burning, sawing, hacking, clean cuts, cuts, carnivore gnawing, and rodent gnawing (Table 9). The primary modifications in the component were hacking and cuts, represented by 39 and 34 percent of the modified bones, respectively. The remaining modifications each contributed less than 10 percent to the total modifications. A pathologically altered pig tooth (FS# 285) was also identified in the collection. This tooth was not included in the table as it is not the result of post–mortem alteration. A reason for this malformation could not be discerned.

RESULTS: RUSSELL FAMILY

The Russell family component (N221 E174) was comparatively similar in size to the Pre–Russell component; consisting of 1,912 bones weighing 12,784.85 gm and containing the remains of at least 38 individuals (Table 10). Domestic taxa contributed 98 percent of the biomass of taxa for which MNI was estimated (Table 11). The principle domestic mammal was cow (Bos taurus). Cows contributed 24 percent of the individuals and 62 percent of the biomass. Pigs (Sus scrofa) contributed 11 percent of the individuals and 2 percent of the biomass. Caprines (sheep/goat) were the least abundant of the domestic mammals, contributing 8 percent of the individuals and only 2 percent of the biomass. Chickens contributed 11 percent of the individuals but less than 1 percent of the biomass.

Wild, non–commensal taxa contributed 42 percent of the individuals although only 1 percent of the biomass in the Russell Family component (Table 11). The only wild mammal identified was a single deer (Odocoileus virginianus). The deer contributed less than 1 percent of the total biomass. Wild birds included four ducks (Anatidae), two of which were Cananda goose (Branta canadensis), a turkey (Meleagris gallopavo), and a mourning dove (Zenaida macroura). One yellow–bellied turtle (Trachemys scripta) was identified which contributed less than 1 percent of the biomass. A variety of fishes were identified. Fishes include a hardhead catfish (Arius felis), a gafftopsail catfish (Bagre marinus), a temperate bass (Morone spp.), two sheepshead (Archosargus probatocephalus), a mullet (Mugil spp.), and a mackeral (Scombridae). These taxa each contributed less than 1 percent of the biomass.

The only commensal taxa identified were two Old World rats (Rattus spp.), which contributed less than 1 percent of the biomass. Rats are commonly found in close association with humans, and it is assumed they were not part of the diet.

The mammalian elements identified in the Russell family component are presented in Table 12, with the domestic mammal elements visually presented in Figures 7–9. The most skeletally complete mammal was the cow, represented by relatively higher numbers of lower forelimb and upper hindlimb elements. The pig and caprids were represented by low, but mostly equal elements from all skeletal categories. However, no elements were identified from the Vertebra/Rib category for pigs nor from the Head category for caprine. It should be noted that the elements for caprines include those elements identified as Caprine and sheep (Ovis aries). Rats were represented by a lower incisor, two humerus fragments, an ulna fragment, two innominate fragments, three tibia fragments and a femur fragment. The deer was represented by a metatarsal fragment.

There was some evidence for age at death for the taxa in the sample (Tables 13–15) but one indicator of sex. At least one of the pigs was a juvenile when it died, two were at least subadults, and the other could only be identified as being less than 24 months old. The juvenile was estimated from an unfused acetabulum fragment. The subadults were estimated from two distal, left, fused tibia fragments. Two individuals were identified from distal, unfused, tibia fragments. However, one of these individuals may have been the previously described juvenile. The tibia fuses at 24 months in pigs. Three adult cows and six sub–adults were identified. The adults were identified from left, fused, distal radius fragments. Caprids included one adult, one subadult, and one indeterminate age. The adult was estimated from a fused, proximal ulna fragment. Two individuals had unfused proximal tibias at death. The proximal tibia fuses late in life. However, an age for only one of these individuals could be estimated. The subadult was estimated from one of these fragments and a fused distal tibia fragment. Although two individuals were identified from fused distal tibia fragments, one of these may have been the adult. The only conclusion that can be made about the indeterminate individual was that it was younger than 42 months at death, which is when the proximal tibia fuses. A female chicken was identified from a tarsometatarsal fragment which lacked a spur.

Modifications included burning, sawing, hacking, clean cuts, cuts, carnivore gnawing, and rodent gnawing (Table 16). The primary modification was hacking, which was observed on 27 percent of the total modified bones. The only other significant modifications were cuts, sawing, burning, and clean cuts. These modifications were observed on 19 percent, 17 percent, 15 percent, and 13 percent of the modified bones, respectively. Gnawing was observed on less than 10 percent of the modified bones. A pathologically altered pig tooth (FS# 307) was also identified in the collection. This tooth was not included in the table as it is not the result of post–mortem alteration. A cause of this malformation could not be discerned.

DISCUSSION

Study of urban faunal assemblages raises interesting questions about formation processes and mechanisms by which animal products were distributed in Charleston. Although the aim of additional studies is to develop some pattern which addresses these questions, the recent work at the Nathaniel Russell house only creates more questions. Summary tables, element

distribution, and the proportion of sawed bones from the recently studied data will be compared to the previous studies.

When the summary tables from the two temporal units are considered (Table 17), their similarities are apparent. However, the most obvious difference is the abundance of turtle individuals in the Pre–Russell component. It is interesting to note that the only other Charleston collection to contain a similar proportion of reptiles is the Aiken–Rhett collection (Table 1). However, the Aiken–Rhett collection was deposited much later than the Pre–Russell component. Another anomalous feature that both Russell components possess when compared to previous studies is the high percentage of wild birds. Although the Gibbes house collection is a small one, the percentage of wild birds in the Gibbes collection is comparable to the Russell family data presented here. The percentage of wild mammals in the Nathaniel Russell collections separated here compares directly to the earlier Nathaniel Russell (Reitz and Weinand 1995) and Gibbes (Zierden et al. 1987) data. However, these collections differ only slightly from the other residential collection and differ greatly from the Beef Market collection.

Although wild mammals, turtles, alligators, fishes and birds were sold in Charleston via markets and vendors, it was anticipated that households relying primarily upon purchased meats probably produced assemblages of discarded animal bones dominated by refuse from pigs, cows, caprines, and chickens. It has been found that high prestige households tend to have more wild animals in their deposits, perhaps because of a desire to set a diverse table and/or because they could obtain foods from their plantations or directly from hunters and fishers (Reitz 1987). This trend has not been readily observable in previous Charleston assemblages due possibly to small sample size. However, the large numbers of turtles and wild birds from the recent Nathaniel Russell data suggest such a pattern may exist if sample size is increased. Decreases in the amount of wild fauna found in other Charleston collections may also be attributable to limited use of outlying plantations and/or increased use of commercial outlets within the city for food.

The two other aspects of interest in the Nathaniel Russell collection are related to the types of cow bones identified and the presence of sawed bones. It has been argued in other contexts that many households, particularly affluent ones, slaughtered on their own property some if not much of the meat they consumed (Reitz and Zierden 1991). This interpretation is based on the observation that elements from the entire carcass are found in faunal assemblages from many prestigious households. It is likely that these households could draw upon their own herds for meat. In many cases, they also had enough dependents that they could use most of the meat before it spoiled. For example, when Russell moved into the new house in 1808, he had a wife, two daughters, and 18 slaves to feed (Zierden, personal communication 1994). It might be more economical for him to slaughter his own animals than it would be to purchase meat. A smaller household might not have its own herds and might have difficulty disposing of meat before it spoiled. Sawing is a method of processing meat to produce small portions and is usually associated with butcher shops rather than home–butchering. If sawing was a common butcher shop technique and an uncommon household treatment, this may also be indicative of commercial butchery and sale of meat.

An assemblage representing purchase of meat from a butcher shop, therefore, should have two characteristics. These would be a high percentage of bones from the Body (the ribs, vertebrae, forequarters, and hindquarters) and a high percentage of sawed bones. On-site butchering would be characterized by bones from the entire skeleton and a low percentage of sawed bones.

In order to evaluate whether a faunal assemblage has a high percentage of bones from the body, we can compare the archaeological assemblage with the normal distribution of elements. For this study, the two components represent two occupations of the property during which the site's function may have altered. The figures presented include a composite residential plot and the log ratio diagram for the special function Beef Market for comparison. It can be seen in Figures 2 and 3 that the Russell elements, for both contexts, do not fit either plot.

However, since it is assumed that they were both residential occupations, subtle differences between the contexts must be accounted for. The most obvious difference is the greatly underrepresented Head elements in the Russell Family component. Although the Pre-Russell component does not display as great an underrepresentation, it can be seen that both representations are consistent with the Residential pattern. The Forequarter and Hindquarter elements are quite similar in both contexts, each being slightly overrepresented to the Standard cow. However, this does not follow either the Beef Market or Residential patterns. The only other dissimilarity is present in the comparison of Foot elements. The Pre-Russell Foot elements are slightly underrepresented, but the Russell Family Foot elements are slightly overrepresented. Again, however, neither result compares directly with the Beef Market or Residential patterns.

Although the log difference ratios seem to be similar with the exception Head elements represented, the proportions of actual elements identified are quite dissimilar. Table 18 summarizes element distributions from the recent excavations of the Russell House compared to the undisturbed Standard cow and to the Beef Market. There is a distinct difference between the Pre-Russell and Russell family components. The Pre-Russell component contains a large percentage of elements from the body. This would be consistent with purchase of some butchered meats. This trend is also consistent with primary butchering on the property beyond the excavated area. When the data from the log ratio differences and the element distribution are combined, the latter appears more likely.

What is not shown in this table is the equally strong tendency for elements to be from the distal humerus through the carpals of the foreleg and from the distal femur through the tarsals of the hindleg (Figures 3 and 6), which suggests on-site butchery. This is particularly pronounced in the Russell Family component, where carpals and tarsals contributed 55 percent of the cattle bones. A similar pattern was found at the Rutledge House, where 23 percent of the cattle bones were carpals and tarsals from a single deposit (Unit 3, Zone 5) associated with the 1770-1820 occupation (Zierden and Grimes 1989). Additionally, this pattern was observed in previous excavations

of the Nathaniel Russell house. Carpals and tarsals from the Andrus component of the Russell house contributed 47 percent of the cattle bones (Reitz and Weinand 1995).

The element distribution from the Russell Family deposit is consistent with its context. The materials were recovered from an area underneath the kitchen. The data is interpreted as evidence of primary butchery or discard associated with the nearby kitchen. In addition to the Andrus component of the Russell House, this butchery pattern has also been observed in the Rutledge House collection (Zierden and Grimes 1989). Data from these components provide good reason to doubt that high-status households might be distinguished by high percentages of elements from the more meaty Body, as many have assumed. Clearly high-status households may be more typically characterized by elements from the Foot than from the Body. This aspect of animal use in Charleston warrents further attention.

Sawing is another line of evidence that might be more closely examined. Higher percentages of sawed bones found in middle-class deposits are thought to be consistent with purchase of meat from markets (Reitz 1990). Sawing, although present at other types of sites from all time periods, has been common (4-15 percent) only in middle-class deposits. It is interesting then that the Pre-Russell component, which has been shown above to follow a pattern consistent with purchased meats, provides evidence of sawing on only 4 percent of the modified bones. Further, the Russell Family component contains evidence of sawing on 17 percent of the modified bones. This is also inconsistent with its proposed context. Although these inconsistencies may reflect higher status or small sample size, they may also reflect the inherent difficulty in prescribing patterns of status to Charleston collections based on butchery indicators.

CONCLUSIONS

Although the opportunity for continued studies of the Nathaniel Russell faunal materials has been and will continue to be a valuable addition to understanding the faunal assemblages of Charleston, it continues to raise many questions. There appears to be little evidence for patterns of animal use within the city, even during a particular time period. Further, the association of specific types of cattle elements and butchering marks appears only weakly correlated with status and site function. However, the Pre-Russell materials appear likely to represent a butchery refuse deposit. It seems there may have been so many differences among households within the city that a general trend will be difficult to detect. However, it appears that the overall subsistence strategy at the Nathaniel Russell site was consistent with other residential collections from Charleston.

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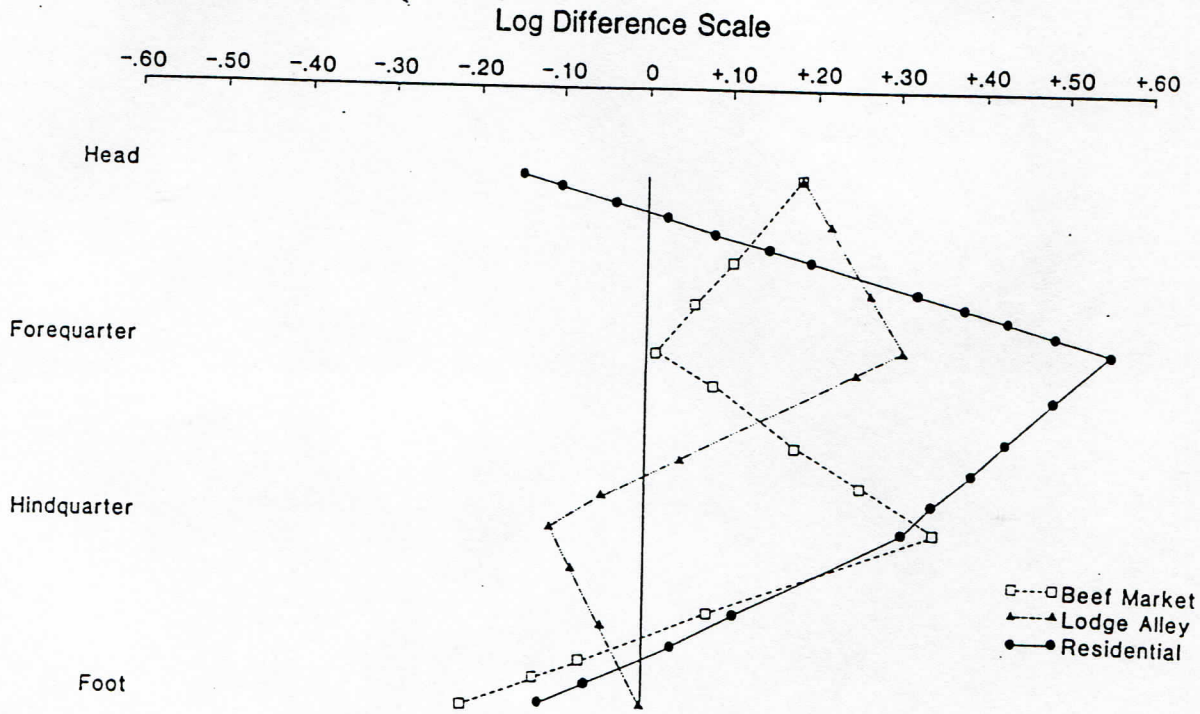


Figure 1. Ratio diagram of identified cow body parts to the Standard cow for Charleston (Reitz and Zierden 1991).

FIGURE 2
LOG DIFFERENCE SCALE (PRE-RUSSELL)

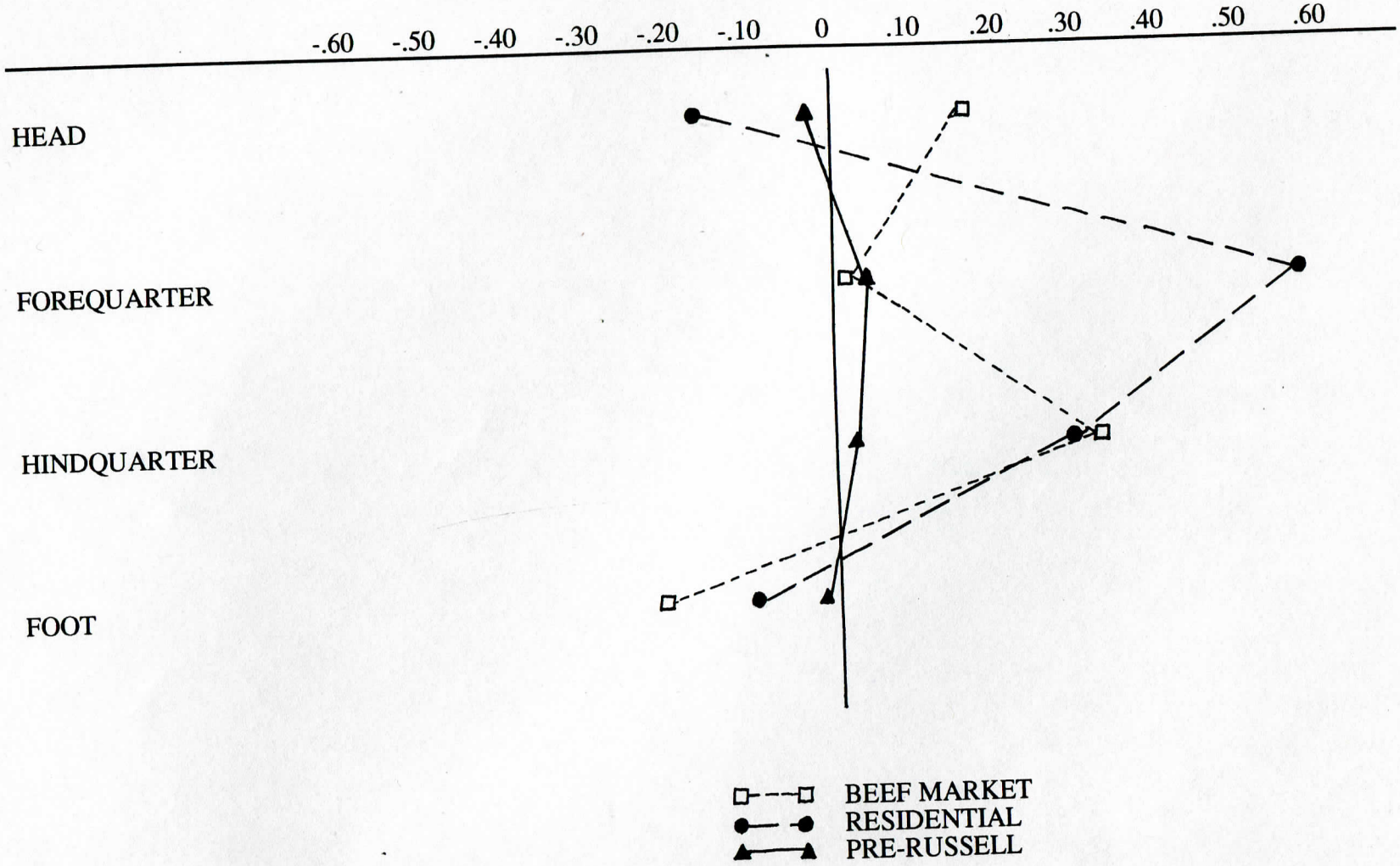
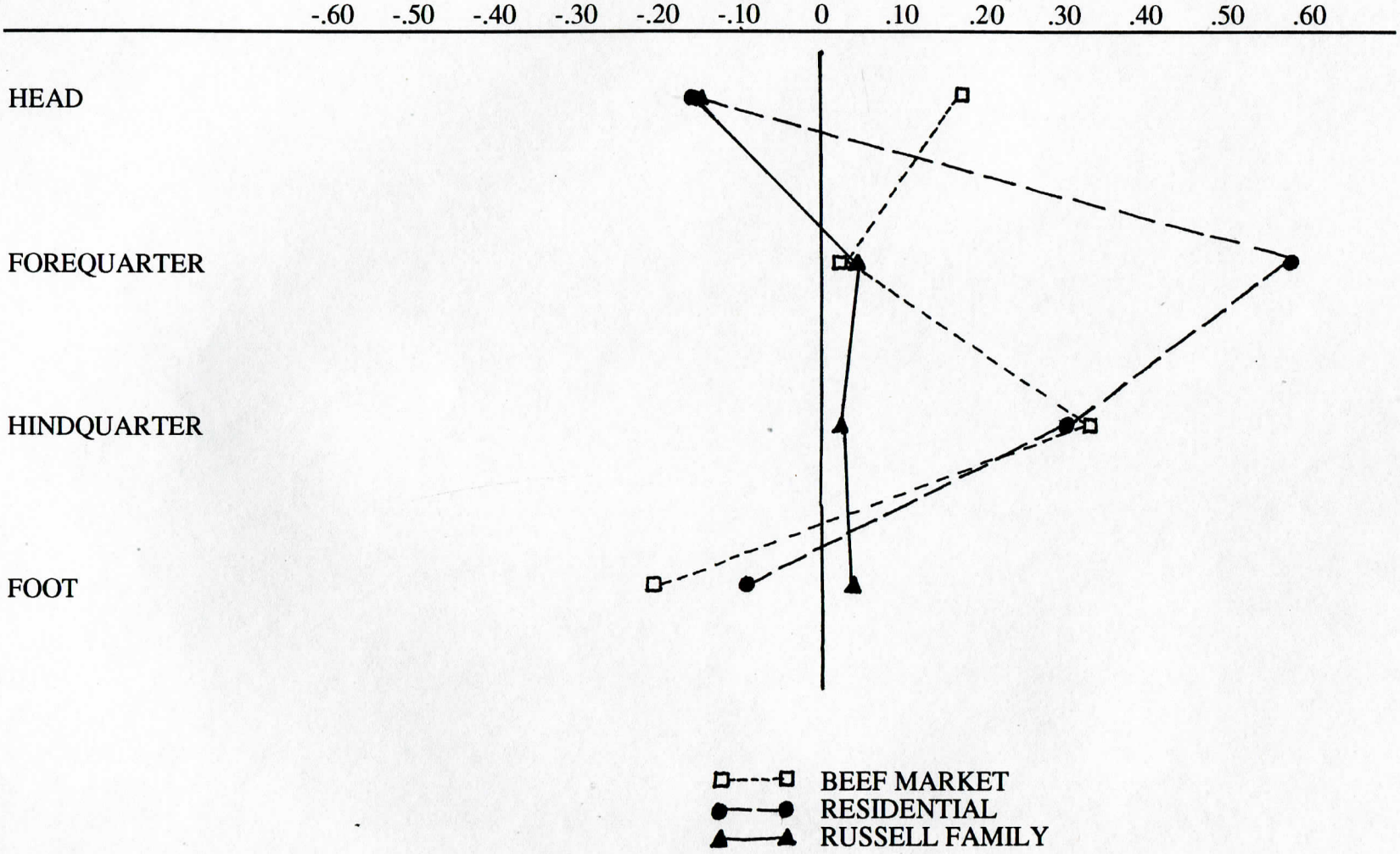


FIGURE 3
LOG DIFFERENCE SCALE (RUSSELL FAMILY)



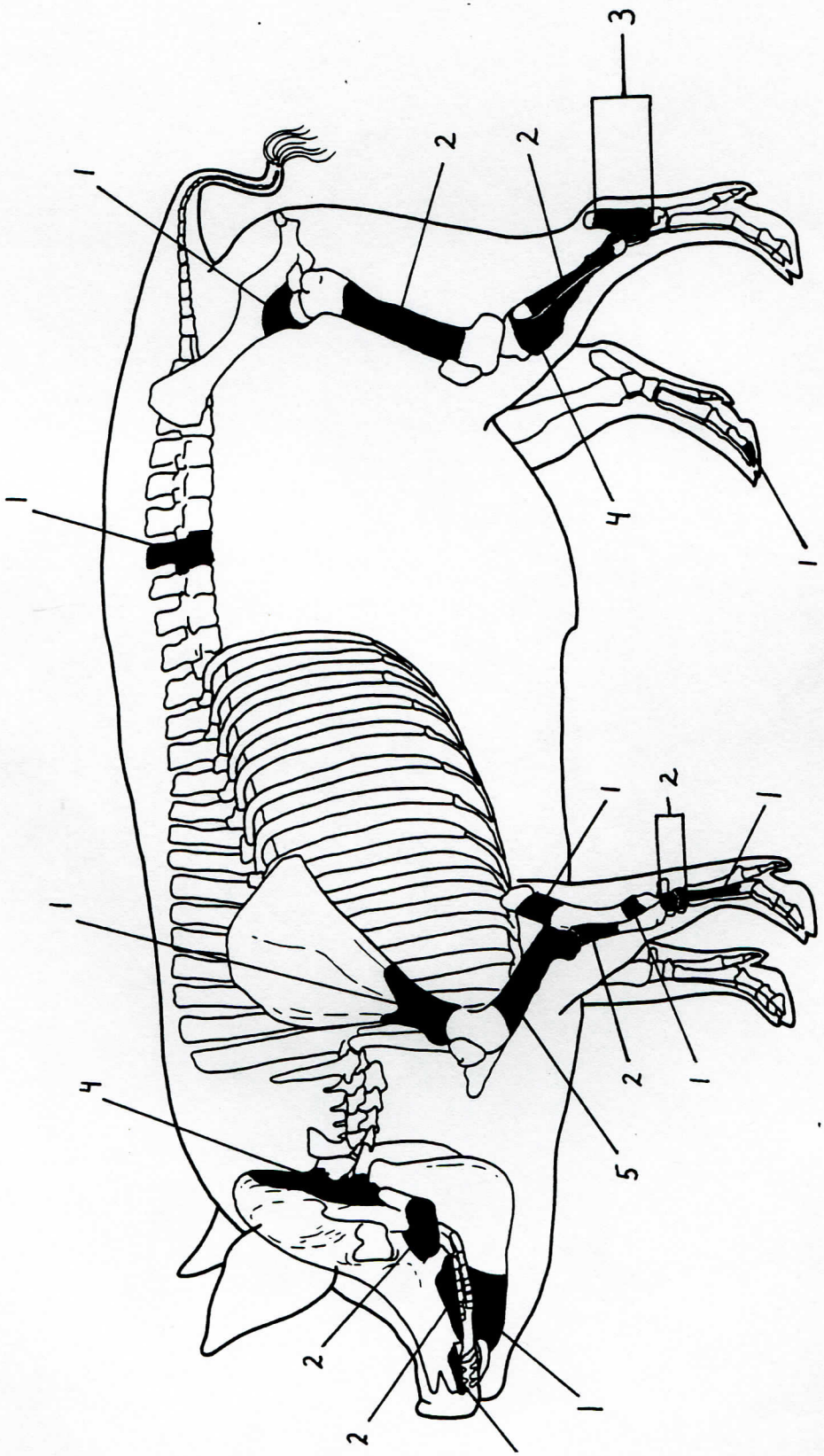


Figure 4. Nathaniel Russell (Pre-Russell; N130 E328), Pig Elements Identified. Not illustrated are 11 teeth and 4 skull fragments. N=52.

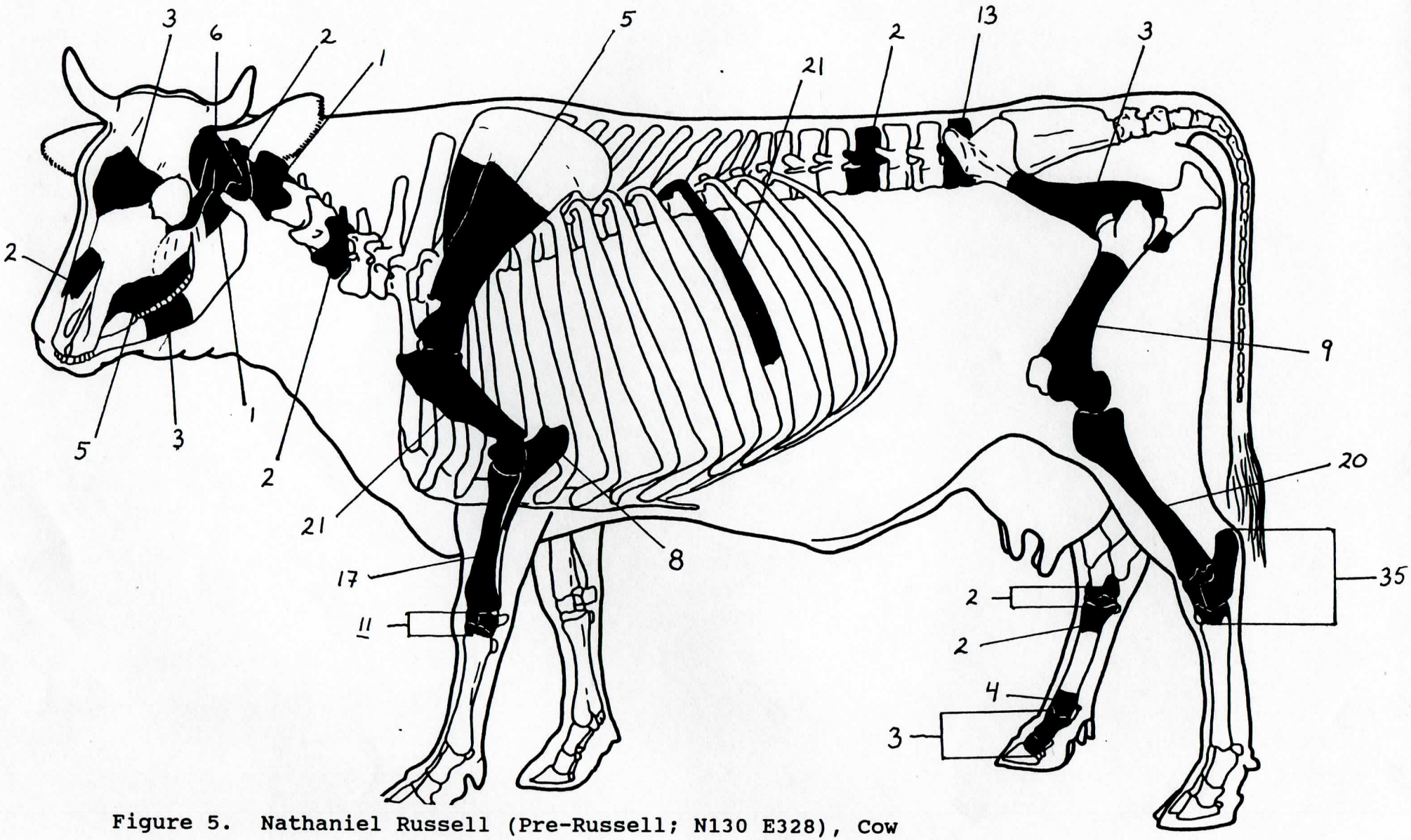


Figure 5. Nathaniel Russell (Pre-Russell; N130 E328), Cow Elements Identified. Not illustrated are 12 teeth, 3 horncore fragments, and 11 skull fragments. N=227.

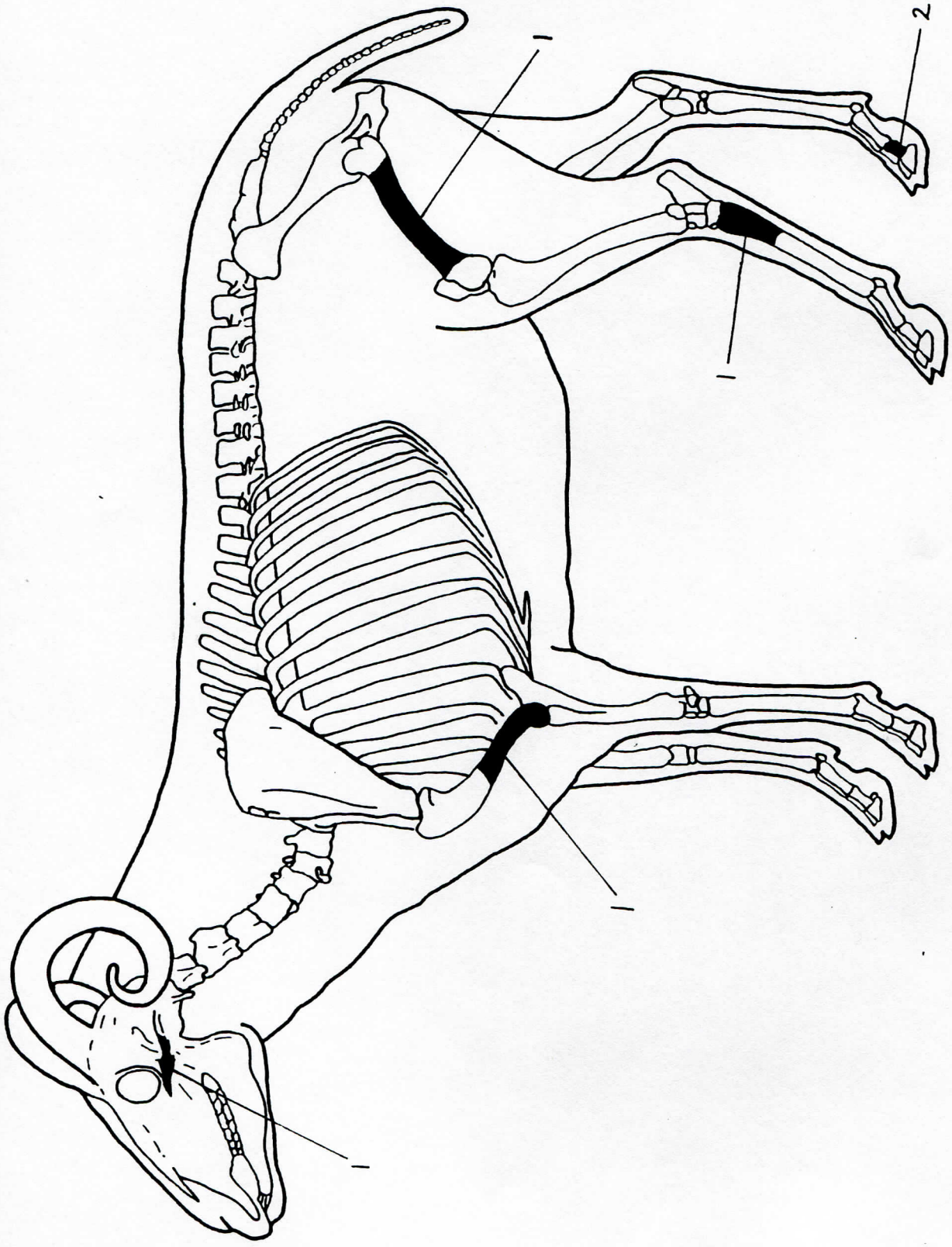


Figure 6. Nathaniel Russell (Pre-Russell; N130 E328), Caprine Elements Identified. Not illustrated are 1 tooth. N=7.

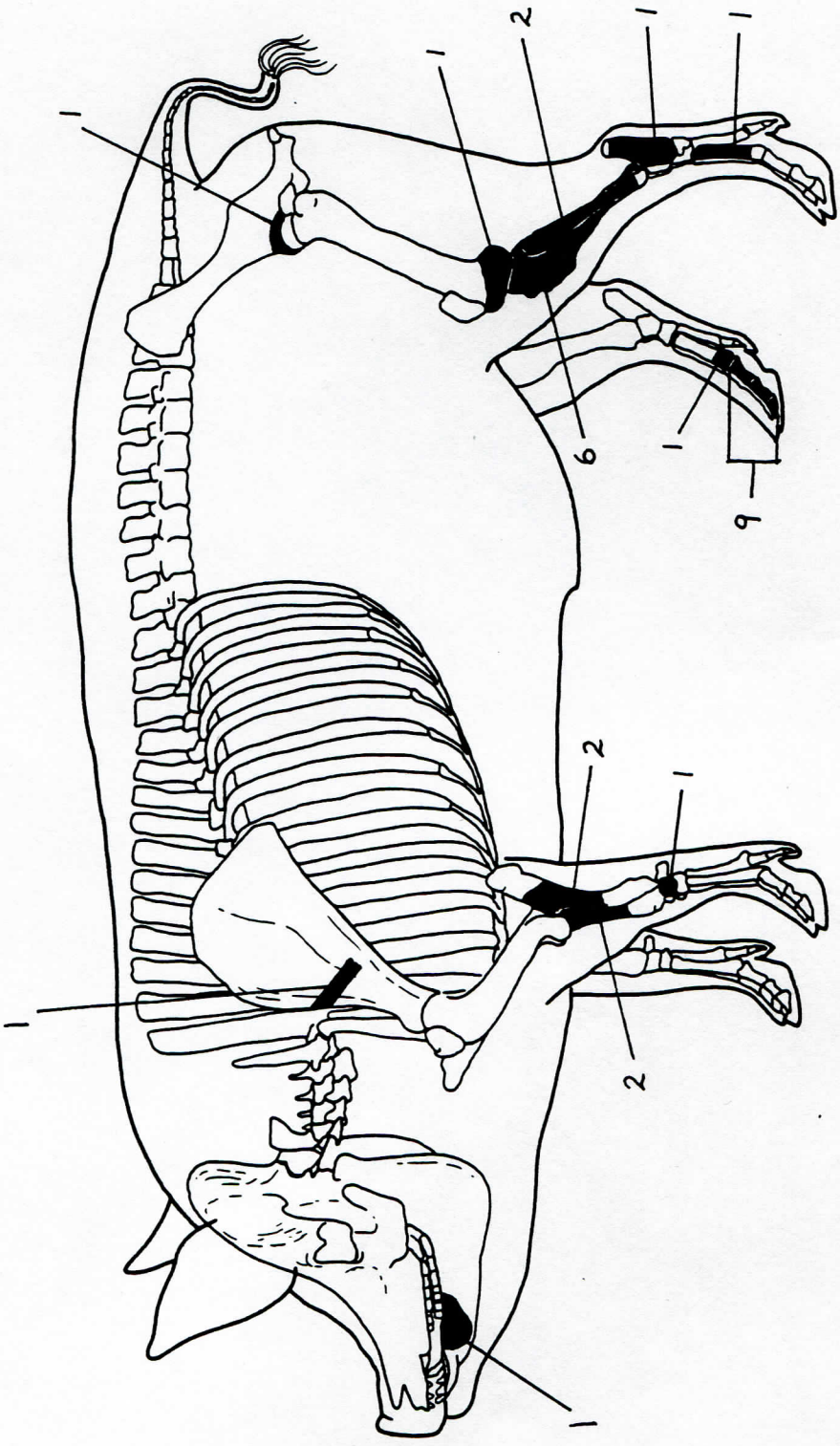


Figure 7. Nathaniel Russell (Russell Family; N221 E174), Pig Elements Identified. Not illustrated are 8 teeth and 2 skull fragments. N=39.

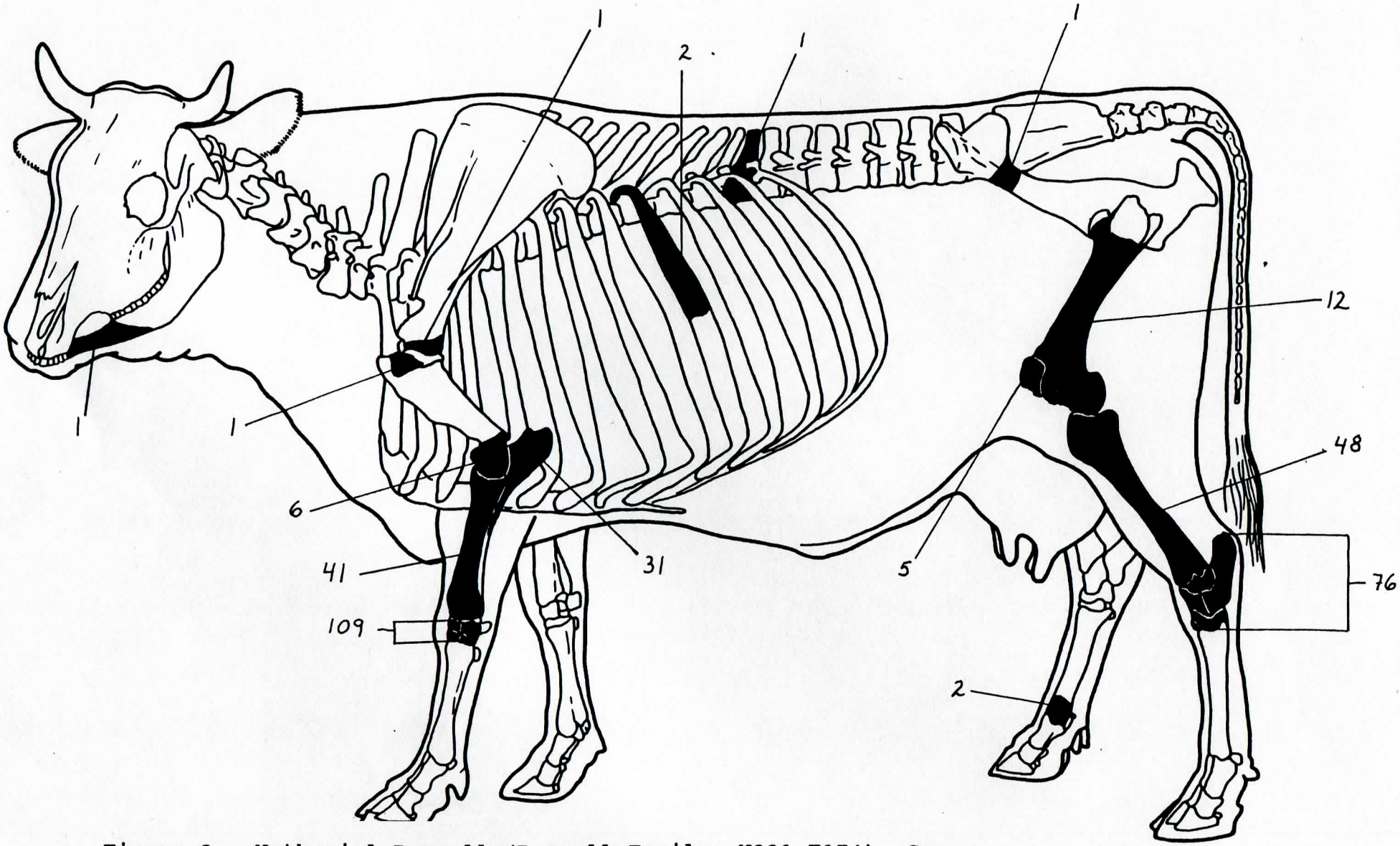


Figure 8. Nathaniel Russell (Russell Family; N221 E174), Cow Elements Identified. Not illustrated are 2 teeth. N=339.

Table 1. Charleston Summaries, 18th and Early-19th Centuries.

	Gibbes (1770-1840)		Aiken-Rhett (1820-1860)		Beef Market (1739-1796)		Russell (1780-1857)	
	MNI	%	MNI	%	MNI	%	MNI	%
Domestic Mammals	8	29.6	28	43.1	33	42.3	14	43.8
Domestic Birds	4	14.8	8	12.3	7	9.0	2	6.3
Wild Mammals	1	3.7	5	7.7	12	15.4	1	3.1
Wild Birds	5	18.5	4	6.2	7	9.0	3	9.4
Turtles/Other Reptiles	2	7.4	6	9.2	2	2.6	1	3.1
Sharks and Fishes	5	18.5	12	18.5	15	19.2	6	18.8
Commensal Taxa	2	7.4	2	3.1	2	2.6	5	15.6
TOTAL	27		65		78		32	

Note: Gibbes data from Zierden et al. (1987); Aiken-Rhett from Zierden et al. (1986); Beef Market from Calhoun et al. (1984); Russell data from Reitz and Weinand (1995).

Table 2. Allometric Values Used In Study.

Faunal Category	N	Y-Intercept (a)	Slope (b)	r^2
	Bone Weight (kg) to Body Weight (kg)			
Mammal	97	1.12	0.90	0.94
Bird	307	1.04	0.91	0.97
Turtle	26	0.51	0.67	0.55
Osteichthyes	393	0.90	0.81	0.80
Siluriformes	36	1.15	0.95	0.87
Perciformes	274	0.83	0.93	0.76
Serranidae	18	1.51	1.08	0.85
Centrarchidae	38	0.84	0.76	0.80
Sparidae	22	0.92	0.96	0.98
Sciaenidae	99	0.74	0.81	0.73
Pleuronectiformes	21	0.89	1.09	0.95

Note: Key to abbreviations: Formula is $Y=aX^b$; where Y is biomass or meat weight, X is bone or shell weight, a is the Y-intercept, and b is the slope; N is the number of observations (Reitz and Cordier 1983; Reitz et al. 1987; Wing and Brown 1979).

Table 3. Nathaniel Russell, N130 E328: Species List.

	NISP	MNI		WT, GM	BIOMASS	
		#	%		kg	%
UID Mammal	1265			3234.78	37.92	23.98
Rattus spp.	2	2	5.88	0.37	0.01	0.01
Old World rat						
Artiodactyla	15			106.68	1.76	1.11
Sus scrofa	52	3	8.82	592.80	8.23	5.20
Pig						
Odocoileus virginianus	3	1	2.94	73.08	1.25	0.79
Deer						
Bos taurus	227	8	23.53	10066.17	105.34	66.61
Cow						
Caprine	4			58.54	1.02	0.64
Sheep/Goat						
Caprine cf. *Capra hirca*	1	1	2.94	9.94	0.21	0.13
Possible goat						
Ovis aries	2	1	2.94	2.95	0.07	0.04
Sheep						
UID Bird	104			40.61	0.60	0.38
Anatidae	3	1	2.94	0.81	0.02	0.01
Ducks						

Table 3. Nathaniel Russell, N130 E328: Species List (cont.).

	NISP	MNI		WT, GM	BIOMASS	
		#	%		kg	%
Branta canadensis	1	1	2.94	1.40	0.03	0.02
Canada goose						
Gallus gallus	22	2	5.88	23.34	0.36	0.23
Chicken						
Meleagris gallopavo	6	1	2.94	12.15	0.20	0.13
Turkey						
Accipitridae	1	1	2.94	0.53	0.01	0.01
Hawks and allies						
UID Turtle	9			9.21	0.14	0.09
UID Turtle cf. Chelydra serpentina	3	1	2.94	4.93	0.09	0.06
Possible snapping turtle						
Kinosternidae	8	1	2.94	2.34	0.06	0.04
Mud and musk turtles						
Emydidae	2	2	5.88	1.75	0.05	0.03
Chelonidae cf. Caretta caretta	4	1	2.94	11.32	0.16	0.10
Possible loggerhead turtle						
UID Fish	80			25.59	0.41	0.26
Lepisosteus spp.	1	1	2.94	0.53	0.02	0.01
Gar						

Table 3. Nathaniel Russell, N130 E328: Species List (cont.).

	NISP	MNI		WT, GM	BIOMASS	
		#	%		kg	%
Siluriformes	3			0.41	0.01	0.01
Catfishes						
Ariidae	2			1.51	0.03	0.02
Sea catfishes						
Arius felis	1	1	2.94	0.26	tr.	tr.
Hardhead catfish						
Bagre marinus	3	1	2.94	0.84	0.02	0.01
Gafftopsail catfish						
Centropristis spp.	3	1	2.94	1.28	0.02	0.01
Sea bass						
Archosargus probatocephalus	1	1	2.94	1.98	0.03	0.02
Sheepshead						
Pogonias cromis	5	1	2.94	2.06	0.07	0.04
Black drum						
Paralichthys spp.	3	1	2.94	0.48	0.01	0.01
Flounder						
UID Vertebrate				365.83		
TOTAL	1836	34		14654.47	158.15	

Table 4. Nathaniel Russell, N130 E328: Summary Table.

	MNI		BIOMASS	
	#	%	kg	%
Domestic Mammals	13	38.23	113.85	97.93
Domestic Birds	2	5.88	0.36	0.31
Wild Mammals	1	2.94	1.25	1.07
Wild Birds	4	11.76	0.26	0.22
Turtles	5	14.70	0.36	0.31
Fishes	7	20.59	0.17	0.15
Commensal Taxa	2	5.88	0.01	0.01
TOTAL	34		116.26	

Table 5. Nathaniel Russell, N130 E328: Element Distribution.

	Rat	Pig	Deer	Cow	Caprine
Head		25		46	2
Vertebra/rib		1		41	
Forequarter		10	1	51	1
Forefoot		3	1	11	
Foot		1		11	2
Hindfoot		3	1	35	1
Hindquarter	2	9	-	32	1
TOTAL	2	52	3	227	7

Table 6. Nathaniel Russell, N130 E328: Epiphyseal Fusion for Pigs.

	UNFUSED	FUSED	TOTAL
EARLY FUSING:			
HUMERUS, DISTAL	4	1	5
SCAPULA, DISTAL		1	1
RADIUS, PROXIMAL		2	2
ACETABULUM		1	1
METAPODIALS, PROXIMAL		1	1
MIDDLE FUSING:			
TIBIA, DISTAL	1		1
CALCANEUS, PROXIMAL	1		1
METAPODIALS, DISTAL	1		1
LATE FUSING:			
HUMERUS, PROXIMAL	1		1
ULNA, PROXIMAL	1		1
ULNA, DISTAL	1		1
TIBIA, PROXIMAL	2	-	2
TOTAL	12	6	18

Table 7. Nathaniel Russell, N130 E328: Epiphyseal Fusion for Cows.

	UNFUSED	FUSED	TOTAL
EARLY FUSING:			
HUMERUS, DISTAL		9	9
SCAPULA, DISTAL		1	1
RADIUS, PROXIMAL		8	8
ACETABULUM	1	1	2
METAPODIALS, PROXIMAL		2	2
1ST/2ND PHALANX, PROXIMAL		3	3
MIDDLE FUSING:			
TIBIA, DISTAL	1	4	5
CALCANEUS, PROXIMAL	6	2	8
METAPODIALS, DISTAL	5	3	8
LATE FUSING:			
HUMERUS, PROXIMAL	6	1	7
RADIUS, DISTAL	5	3	8
ULNA, PROXIMAL		1	1
FEMUR, DISTAL	5	1	6
TIBIA, PROXIMAL	11	2	13
TOTAL	40	41	81

Table 8. Nathaniel Russell, N130 E328: Epiphyseal Fusion for Caprine.

	UNFUSED	FUSED	TOTAL
EARLY FUSING:			
HUMERUS, DISTAL		1	1
METAPODIALS, PROXIMAL		1	1
1ST/2ND PHALANX, PROXIMAL		2	2
LATE FUSING:			
FEMUR, PROXIMAL	1		1
FEMUR, DISTAL	1	_	1
TOTAL	2	4	6

Table 9. Nathaniel Russell, N130 E328: Modifications.

	Burned	Sawed	Hacked	C. Cut	Cut	C. Gnawed	R. Gnawed
UID Mammal	1	1	9	5	16	2	1
Artiodactyla					1	1	1
Deer			1		1		
Cow		3	27	4	8	1	
Caprine					1		
UID Bird					2		1
Turkey					2		
Accipitridae					1		
UID Vertebrate	4	–	—	–	—	–	1
TOTAL	5	4	37	9	32	4	4

Note: C. Cut, C. Gnawed, and R. Gnawed refer to clean cut, carnivore gnawed, and rodent gnawed, respectively.

Table 10. Nathaniel Russell, N221 E174: Species List.

	NISP	MNI		WT, GM	BIOMASS	
		#	%		kg	%
UID Mammal	1264			3761.15	43.43	30.91
Rattus spp.	10	2	5.26	3.19	0.07	0.05
Old World rat						
Artiodactyla	11			31.95	0.59	0.42
Sus scrofa	39	4	10.53	192.30	2.99	2.13
Pig						
Odocoileus virginianus	1	1	2.63	7.04	0.15	0.11
Deer						
Bos taurus	339	9	23.68	8123.88	86.85	61.81
Cow						
Caprine	27	3	7.89	170.67	2.68	1.91
Sheep/Goat						
Ovis aries	5	(2)		49.68	0.88	0.63
Sheep						
UID Bird	72			31.24	0.47	0.33
Anatidae	18	4	10.53	10.01	0.17	0.12
Ducks						
Branta canadensis	2	(2)		3.71	0.07	0.05
Canada goose						

Table 10. Nathaniel Russell, N221 E174: Species List (cont.).

	NISP	MNI		WT, GM	BIOMASS	
		#	%		kg	%
Gallus gallus	26	4	10.53	20.97	0.33	0.23
Chicken						
Meleagris gallopavo	9	1	2.63	18.66	0.29	0.21
Turkey						
Zenaida macroura	1	1	2.63	0.05	tr.	tr.
Mourning dove						
Emydidae	1			0.91	0.03	0.02
Box and Water turtles						
Trachemys scripta	3	1	2.63	20.10	0.24	0.17
Yellow-bellied turtle						
UID Fish	63			83.13	1.06	0.75
Siluriformes	1			0.18	tr.	tr.
Arius felis	1	1	2.63	0.23	tr.	tr.
Hardhead catfish						
Bagre marinus	1	1	2.63	0.37	0.01	0.01
Gafftopsail catfish						
Morone spp.	3	1	2.63	1.80	0.04	0.03
Temperate bass						
Serranidae cf. Centropristis	2	1	2.63	0.37	0.01	0.01
Sea bass						

Table 10. Nathaniel Russell, N221 E174: Species List (cont.).

	NISP	MNI		WT, GM	BIOMASS	
		#	%		kg	%
Archosargus probatocephalus	11	2	5.26	8.81	0.12	0.08
Sheepshead						
Mugil spp.	1	1	2.63	0.46	0.02	0.01
Mullet						
Scombridae	1	1	2.63	0.09	tr.	tr.
Mackerals						
UID Vertebrate				243.90		
TOTAL	1912	38		12784.85	140.50	

Table 11. Nathaniel Russell, N221 E174: Summary Table.

	MNI		BIOMASS	
	#	%	kg	%
Domestic Mammals	16	42.10	92.52	98.46
Domestic Birds	4	10.53	0.33	0.35
Wild Mammals	1	2.63	0.15	0.16
Wild Birds	6	15.79	0.46	0.49
Turtles	1	2.63	0.24	0.25
Fishes	8	21.05	0.20	0.21
Commensal Taxa	2	5.26	0.07	0.07
TOTAL	38		93.97	

Table 12. Nathaniel Russell, N221 E174: Element Distribution.

	Rat	Pig	Deer	Cow	Caprine
Head	1	11		3	
Vertebra/ribs				3	1
Forequarter	3	5	1	80	6
Forefoot		1		109	7
Foot		10		2	1
Hindfoot		2		76	7
Hindquarter	6	10	_	66	10
TOTAL	10	39	1	339	32

Table 13. Nathaniel Russell, N221 E174: Epiphyseal Fusion for Pigs.

	UNFUSED	FUSED	TOTAL
EARLY FUSING:			
RADIUS, PROXIMAL		1	1
ACETABULUM	1		1
METAPODIALS, PROXIMAL		1	1
1ST/2ND PHALANX, PROXIMAL		5	5
MIDDLE FUSING:			
TIBIA, DISTAL	3	2	5
CALCANEUS, PROXIMAL	1		1
METAPODIALS, DISTAL	1		1
LATE FUSING:			
FEMUR, DISTAL	1		1
TIBIA, PROXIMAL	2	_	2
TOTAL	9	9	18

Table 14. Nathaniel Russell, N221 E174: Epiphyseal Fusion for Cows.

	UNFUSED	FUSED	TOTAL
EARLY FUSING:			
HUMERUS, DISTAL		5	5
SCAPULA, DISTAL		1	1
RADIUS, PROXIMAL		9	9
MIDDLE FUSING:			
TIBIA, DISTAL	6	17	23
CALCANEUS, PROXIMAL	10	4	14
LATE FUSING:			
HUMERUS, PROXIMAL	1		1
RADIUS, DISTAL	19	5	24
ULNA, PROXIMAL	16	1	17
FEMUR, PROXIMAL	2		2
FEMUR, DISTAL	5	3	8
TIBIA, PROXIMAL	16	1	17
TOTAL	75	46	121

Table 15. Nathaniel Russell, N221 E174: Epiphyseal Fusion for Caprine.

	UNFUSED	FUSED	TOTAL
EARLY FUSING:			
SCAPULA, DISTAL		2	2
RADIUS, PROXIMAL		2	2
METAPODIALS, PROXIMAL		3	3
MIDDLE FUSING:			
TIBIA, DISTAL		3	3
CALCANEUS, PROXIMAL		1	1
METAPODIALS, DISTAL		2	2
LATE FUSING:			
ULNA, PROXIMAL		1	1
FEMUR, DISTAL	1		1
TIBIA, PROXIMAL	3	—	3
TOTAL	4	14	18

Table 16. Nathaniel Russell, N221 E174: Modifications.

	Burned	Sawed	Hacked	C. Cut	Cut	C. Gnawed	R. Gnawed
UID Mammal	6	11	9	3	5		3
Rat							1
Pig		1			2		3
Cow	1	10	24	14	7	1	1
Caprine			3		6		2
Duck					1		
Chicken					1		1
Turkey					2		
Emydidae					1		
UID Vertebrate	13	—	—	—	—	-	—
TOTAL	20	22	36	17	25	1	11

Note: C. Cut, C. Gnawed, and R. Gnawed refer to clean cut, carnivore gnawed, and rodent gnawed, respectively.

Table 17. Summary of Nathaniel Russell Excavations.

	Pre-Russell (1730-1810)		Russell Family (1808-1857)	
	MNI	%	MNI	%
Domestic Mammals	13	38.23	16	42.10
Domestic Birds	2	5.88	4	10.53
Wild Mammals	1	2.94	1	2.63
Wild Birds	4	11.76	6	15.79
Turtles	5	14.70	1	2.63
Fishes	7	20.59	8	21.05
Commensal Taxa	2	5.88	2	5.26
TOTAL	34		38	

Table 18. Nathaniel Russell: Skeletal Distributions.

	Head	Body	Foot
Standard Cow	26%	39%	35%
Beef Market	51%	28%	21%
Russell (1780-1857)	10%	36%	54%
Russell (Andrus)	1%	47%	52%
Russell (Pre-Russell)	20%	55%	25%
Russell (Russell Family)	1%	44%	55%

Note: Standard Cow data from Reitz and Zierden (1991); Beef Market data from Calhoun et al. (1984); Russell (1780-1857) and Russell (Andrus) data from Reitz and Weinand (1995).

Appendix A. Nathaniel Russell House: Samples Studied.

Pre-Russell Component:

Unit N130 E328, FS#:

241	256	278	
245	257	285	
247	258	288	

Russell Family Component:

Unit N221 E174, FS#:

291	298	313	319
293	306	316	322
296	307	317	

APPENDIX B: NATHANIEL RUSSELL, N130 E328; MEASUREMENTS.

TAXON	ELEMENT	DIMENSION	MEASUREMENT, mm
Sus scrofa	Humerus	BT	31.7
		Bd	37.9
	3rd Metacarpus	Bp	16.2
	3rd Phalanx	Ld	21.3
		DLS	22.9
	Radius	Bp	27.0, 39.6
	Scapula	GLP	33.7
Odocoileus virginianus	Metacarpus	Bp	28.8
	Radius	Bd	33.3
Bos taurus	Astragalus	Dm	35.4, 36.4, 38.5, 39.5, 41.4
		Dl	37.1, 37.6, 37.7, 38.7, 40.3
		GLm	58.9, 62.2, 62.3, 62.9, 66.5
		GLl	65.1, 68.0, 68.4, 68.8, 71.5
		Bd	40.6, 42.1, 44.3, 44.7, 47.9

APPENDIX B: NATHANIEL RUSSELL, N130 E328; MEASUREMENTS (cont.).

TAXON	ELEMENT	DIMENSION	MEASUREMENT, mm
Bos taurus	Calcaneus	GB	40.7
		GL	128.0
	Cubonavicular	GB	51.2, 53.3, 57.1,
			59.3, 59.9
	Humerus	Bd	91.3
	Metacarpus	Bp	57.2, 62.4, 67.1
	1st Phalanx	Bp	36.7
	2nd Phalanx	Bp	30.3, 30.6
		GL	28.0, 42.3
		Bd	24.8, 42.7
	Radius	BFp	80.3, 83.5
		Bp	86.7, 94.4
		Bd	73.2, 76.4
Caprine	Humerus	BT	27.8
		Bd	30.7
Caprine cf. Capra hirca	Metatarsus	Bp	23.2
Ovis aries	2nd Phalanx	Bp	10.8, 11.4
		GL	25.5, 25.6
		GLpe	24.3, 25.0
		Bd	9.1, 9.1
Anatidae	Humerus	Bd	15.0
	Tibiotarsus	Bd	10.9

APPENDIX B: NATHANIEL RUSSELL, N130 E328; MEASUREMENTS (cont.).

TAXON	ELEMENT	DIMENSION	MEASUREMENT, mm
Gallus gallus	Acetabulum	DiA	7.2, 8.9, 9.3
	Carpometacarpus	Bp	12.0
		Did	5.2, 7.8
		GL	37.6
	Femur	Bp	19.9
		Dp	11.9
	Humerus	Bd	15.7
	Radius	Bd	7.6
	Scapula	Dic	13.0, 13.6
	Tibiotarsus	Dip	19.1
		Bd	13.0
Meleagris gallopavo	Coracoid	Lm	68.1

APPENDIX C: NATHANIEL RUSSELL, N221 E174; MEASUREMENTS.

TAXON	ELEMENT	DIMENSION	MEASUREMENT, mm
Sus scrofa	2nd Phalanx	Bp	14.1, 17.1
		GL	20.1, 24.5
		Bd	12.6, 14.0
	Radius	Bp	29.4
	Tibia	Bd	27.5
		Dd	26.2
	Ulna	BPC	20.4
Odocoileus virginianus	Radius	Bp	34.2
		BFp	33.1
Bos taurus	Astragalus	Dm	36.4, 37.7, 38.4
			38.8, 39.8
		Dl	34.6, 36.1, 36.1,
			37.2, 38.2, 38.8,
			39.0, 40.3, 49.9
		GLm	58.9, 59.9, 60.6,
			61.6, 63.2, 63.7,
			65.1, 65.8
		GLl	64.4, 66.3, 67.5,
			67.7, 68.3, 68.6,
			69.8, 69.8, 70.8

APPENDIX C: NATHANIEL RUSSELL, N221 E174; MEASUREMENTS (cont.).

TAXON	ELEMENT	DIMENSION	MEASUREMENT, mm
Bos taurus	Astragalus	Bd	40.6, 41.3, 44.1, 45.2, 46.1, 46.8, 46.9, 49.2
	Calcaneus	GB	42.5, 47.4
		GL	129.2, 145.5
	Cubonavicular	GB	51.3, 52.3, 54.5, 54.5, 56.1, 56.2, 57.9, 58.0, 58.2, 58.5, 58.9, 60.6, 62.4, 62.9, 63.3
	Patella	GB	60.1
		GL	71.1
	Radius	BFp	83.4
		Bp	90.8
		Bd	69.9
	Tibia	Bd	58.1, 63.6, 66.0, 65.8
		Dd	41.5, 48.2, 48.7, 49.7
	Ulna	BPC	42.1, 44.7, 47.2, 48.6, 48.7, 52.1, 55.4

APPENDIX C: NATHANIEL RUSSELL, N221 E174; MEASUREMENTS (cont.).

TAXON	ELEMENT	DIMENSION	MEASUREMENT, mm
Caprine	Astragalus	Dm	17.8
		Dl	16.9, 18.3
		GLm	27.3
		GLl	30.0, 32.4
		Bd	20.0
	Calcaneus	GL	60.4
		GB	20.1
	Cubonavicular	GB	24.7
	Metacarpus	Bp	24.5, 26.4
	Radius	Bp	32.7
		BFp	30.5
	Scapula	GLP	38.5, 38.7
		BG	23.9
		LG	23.5
	Tibia	Bd	29.1
Ovis aries	Tibia	Bd	26.6, 29.4
		Dd	21.1, 23.5
	Ulna	BPC	29.8

APPENDIX C: NATHANIEL RUSSELL, N221 E174; MEASUREMENTS (cont.).

TAXON	ELEMENT	DIMENSION	MEASUREMENT, mm
Anatidae	Coracoid	BF	12.6
		Lm	32.9
	Humerus	Bd	9.2
	Radius	Bd	7.1
		Did	6.3
	Scapula	Dic	11.3
Branta canadensis	Tibiotarsus	Bd	16.5
Gallus gallus	Coracoid	Lm	57.5
	Scapula	Dic	11.7
	Tibiotarsus	Dip	18.6
		Dd	11.1, 11.6, 11.8, 11.8
		Bd	10.7, 10.7, 11.0, 11.1
	Ulna	Bp	10.6
		Did	11.1
Meleagris gallopavo	Acetabulum	DiA	11.1
	Humerus	Bp	23.6
	Tibiotarsus	Dd	14.0, 18.3
		Bd	15.7, 19.5

APPENDIX II

PALYNOLOGICAL AND PARASITOLOGICAL ANALYSIS OF SEDIMENTS FROM THE NATHANIEL RUSSELL HOUSE

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Abstract

Analysis of sediments from Charleston historical contexts has been enlightening, especially with respect to palynology. Aspects of land use have been signalled by changes in pollen spectra. The analysis of the Nathaniel Russel House deviates from the previous productive studies in that the preservation of pollen was exceptionally poor. This contrasts with previous analyses of the John Rutledge House and the Miles Brewton House which produced significant palynological results. This is especially surprising since all of these houses are located in close proximity to each other in southern Charleston. However, despite the poor preservation, parasite eggs of Trichuris and Ascaris were found. Zooarchaeological analysis does not indicate that pigs were butchered in the area. This is important since pigs host species of Ascaris and Trichuris that are morphologically identical to species that live in humans. Therefore, it is probable that the eggs found are those of the species invective to humans, Trichuris trichiura and Ascaris lumbricoides.

Table 3: Approximate percentages of opaque, inert material (charcoal) and fungal spores.

Sample #	Opaque Inert	Fungal Spores
1	25%	25%
2	25%	25%
3	50%	20%
4	50%	15%
5	5%	10%
6	10%	<5%
7	25%	10%
8	25%	25%
9	25%	15%
10	25%	50%
11	50%	10%
12	50%	25%
13	50%	25%
14	50%	25%
15	25%	10%
16	25%	15%
17	50%	25%

Table 4: Pollen concentrations expressed as number of pollen grains per milliliter of sediment.

Sample #	Concentration Value
1	94
2	O
3	485
4	103
5	26
6	290
7	34
8	17
9	377
10	339
11	57
12	911
13	872
14	132
15	135
16	251
17	94

TABLE 5: Raw pollen and parasite egg counts. The number on the left of the hash mark indicates moderately preserved pollen grains, the number to the right of the hash mark indicates poorly preserved pollen. Those entries without hash marks indicate number of moderately preserved pollen grains, i.e. no poorly preserved grains were encountered of that taxon in that sample.

Taxon	Sample #									
	1	2	3	4	5	6	7	8	9	10
Lycopodium	12	84	9	11	42	13	22	65	32	20
Trichuris	1	0	0	1	0	0	0	0	0	1
Ascaris	1	0	0	0	0	0	0	0	0	0
Pinus	0	0	0	0	0	0/3	0	0	0/3	1/6
Pinus bladder	0	0	2	2	0	0	0	0	0	4
Quercus	0	0	1/2	0	0	0	0	0	0	1/1
Tilia	0	0	0	0	0	0	0	0	0	0
Ostrya/Carpinus	0	0	0	0	0	0	0	0	0	0
Salix	0	0	0	0	0	0	0	0	0	0
Liquidambar	0	0	0	0	0	0	0	0	0	0/1
Fraxinus	0	0	0	0	0	0	0	0	0	0
Alnus	0	0	0	0	0	0	0	0	0	0
Unidentifiable	1	0	0	0	1	3	0	0	5	1
Cheno Am	1	0	2	0	0	0/3	1	2	0/10	0
Poaceae	1	0	0	0	2	1	0	0	0/10	1/1
Ligulaflorae	0	0	0	1	0	0	0	0	0/2	0/1
Ambrosia-type	0	0	0	0	0	0	0	0	0/2	0
Caprifoliaceae	0	0	0	0	0	0	0	0	0	0
Helianthus-type	0	0	0	0	0	0	0	0	0	0
Malvaceae (?)	0	0	0	0	0	0	0	0	0	0

Taxon	Sample #						
	11	12	13	14	15	16	17
Lycopodium	33	12	16	20	56	21	32
Trichuris	0	0	0	0	0	0	0
Ascaris	0	0	0	0	0	0	0
Pinus	1	0/2	0/10	0	0/1	1/1	2/2
Pinus bladder	2	18	17	3	3	5	0
Quercus	1	1	0	1	0	1	2
Tilia	1	0	0	0/1	0	0	0
Ostrya/Carpinus	0	0	0	0	0	1	0
Salix	0	0	0	0	0	0	0
Liquidambar	0/1	0	0	0	0	0	0
Fraxinus	0	1	0	0	0	0	0
Alnus	0	0	0	0	1	0	0/1
Unidentifiable	0	2	2	3	0	0	0
Cheno Am	0	4	4	2	8/3	2	0
Poaceae	0	0/1	0/2	0	0	0/1	0/1
Ligulaflorae	0	0	0	0	1	1	0
Ambrosia-type	0	0	1	0	1	1	0
Caprifoliaceae	0	0	1	0	0	0	0
Helianthus-type	0	0	0	0	0/1	0	0
Malvaceae (?)	0	0	0	0	1	0	0

Discussion

Understanding Parasite Data

Intestinal parasite eggs are common finds in historic site sediments. The numbers of parasite eggs found per unit volume of sediment are effected by variables that fall into two categories: depositional and post-depositional variables. Depositional variables related to the nature of the population that used the latrine as well as parasite reproductive biology. Post-deposition features relate to sanitation practices, gardening practices (use of feces as fertilizer), and soil conditions.

Depositional features are summarized by Herrmann (1995) for latrine deposits. Since sanitation was poor at many urban sites and feces were not confined consistently in latrines, Herrmann's observations are applicable to historic site sediments in general. The number of parasite eggs are initially determined by the intensity of infection (parasite load) and the number of infected versus non-infected people on site. Greater numbers of people using a latrine also effect the diversity of parasites present since each individual represents a distinct ecological niche for parasites. People who are constantly associated with each other, such as cohabiting family units, tend be similar in their parasitological fauna due to cross infection. Communal latrines, and sites that have communal latrines, that are used by several families have the greatest potential of showing high species diversity. If the latrine is used only for defecation as opposed to general trash receptacles, more concentrated fecal layers and, consequently, greater egg concentrations may be evident. The species diversity and egg concentration is also determined by the socio-economic status and age-sex composition of the people using the latrine. Lower socio-economic

status is often related to lower levels of sanitation/hygiene and therefore increased prevalence of fecal-borne worms. Also toddlers and young children tend to be most heavily infected with intestinal parasites and are tend to interact more intimately with their mothers. Therefore, women are more often infected with certain parasites than men. Women are also involved in food preparation which leaves them more susceptible to tapeworm infection in certain North American historic subcultures. Therefore, latrines used by families are likely to have more parasite eggs deposited in them than latrines used by male workers. However, there are idiosyncratic household sanitation behaviors that limit or expand exposure to parasites. These can not be predicted and add a degree of random variability to the parasitological interpretation of past behaviors.

The diversity and concentration of parasites is also influenced by the presence of domestic animals. Eggs from a variety of animals have been found in historic latrines including those from dogs, cats, fowl, and horses. These can provide very interesting insights into human-animal associations. However, they also present diagnostic problems. The whipworms and ascarid roundworms of pigs disseminate eggs that are identical to those of humans. Therefore, it is essential to have information regarding the potential of human-pig associations at the site under study.

The proportion of eggs from different species relates to differential fecundity of parasite species. Among the nematodes (roundworms), *Ascaris* species are the most fecund, a single female disseminating as many as 200,000 eggs per day. In comparison, the whipworm of humans, *Trichuris trichiura*, disseminates about 10,000 eggs per day. Strongyloides stercoralis disseminates about 50 eggs per day, and most of these hatch before they are defecated.

Therefore, the count of parasite eggs can not be related to different parasite infections on a one to one level. To evaluate the relative prevalence of different parasites in human populations, one must consider the relative egg production of different species encountered, and also the preservation potential of each species.

Post-depositional factors further alter the spectrum of parasite eggs in historic sites. The frequency and efficiency of latrine cleaning, and reuse of latrines as trash pits reduces the egg concentrations in sediments. Edaphic conditions result in the degradation of parasite eggs. High pH is on factor that is associated with poor egg preservation (Reinhard et al. 1987). Biological soil organisms further destroy parasite eggs. This has been demonstrated for latrine soils in Germany and New England (Reinhard et al. 1987).

If post-depositional factors have not altered the parasite egg concentration severely, parasite eggs can be used in urban contexts to identify whether or not sediments have a fecal origin. Jones (1985) has established concentration values that reflect the fecal nature of urban archaeological deposits. Whipworm egg counts of 20,000+ eggs per milliliter are from sediments that are mostly fecal. Concentrations ranging from 2,000 to 19,999 eggs per milliliter are from mixed sediments. Soils that are primarily non-fecal (trash) have counts ranging from 500 to 1,999 eggs per milliliter. In urban context, counts below 500 per milliliter are typical of what Jones call the urban "background fauna".

Understanding Pollen Data

The goal of the archaeological palynologist is to distinguish behavioral and environmental influences in the pollen record. Therefore, archaeopalynologists must be aware of the nature of pollen deposition and preservation. Most pollen in the terrestrial setting is transferred from

flower to flower by one of two pollination strategies: wind pollination (anemophily) and insect pollination (entomophily). Anemophilous pollen makes up the vast majority of natural pollen rain. Anemophylous plants tend to produce large quantities of pollen ranging from 10,000 to 70,000 pollen grains per anther. In contrast, entomophilous plants usually produce less than 1,000 grains or less per anther which are held to the anther, and then insect body, by lipids. Therefore, little pollen falls to the ground from entomophilous plants. Consequently, entomophilous pollen makes up no more than 4% of the natural pollen rain.

How far pollen grains travel in the wind depends in part on the height of the flowers and weight of the individual pollen grains. Some pollen grains travel great distances from their source plants where-as others fall only a short distance from the point of release. Those that travel long distances are poor indicators of local environments. Those grains that tend to fall close to their source are good indicators of local environment. The terminal velocity of pollen grains has been measured for many anemophilous pollen grains. Terminal velocity is an estimate of the number of millimeters a pollen grain falls per second in still air. How fast a pollen grain falls is related to weight. Some trees, such as pines, produce very light pollen grains (terminal velocity of 2) that carry for hundreds or thousands of miles before they settle. Other trees, such as firs (terminal velocity of 40), produce heavy grains that mostly settle within a few yards to a few miles of their source. Thus, for environmental reconstruction, it is important to have an idea of terminal velocities of pollen types, especially for tree pollen.

Preservation conditions also affect the composition of pollen extracted from soil samples. Pollen preservation is affected by pH, oxidation potential (Eh), fungal decomposition, and wetting-drying episodes. Acidic pH is better for preservation. Low oxidation potential is better

for preservation. Conditions that inhibit fungal growth are good for pollen preservation. Constantly moist soils are better for preservation than soils that are intermittently wet and dry. The preservation potential of different pollen types is directly related to the amount of a compound called sporopollenin that is present in the pollen wall. Sporopollenin is the most durable organic compound of biological origin and it is found almost exclusively in pollen and spores. It varies between pollen types in its abundance. The wall of pine pollen is composed of about 19.6% sporopollenin which makes pine the most durable pollen grain. In contrast, the sporopollenin content of other pollen types is relatively low: 8.8% for alder, 7.5 for elm, 5.9 for oak, and 5.0 for cottonwood. Therefore, in soils that have poor preservation potential, there will be differential decomposition of pollen types with low sporopollenin content. For the above example, cottonwood would have the worst preservation, pine the best preservation, with oak and elm moderate preservation in soils that have poor preservation qualities. Thus, in poor environments, pine will be over-represented and cottonwood will be under-represented.

Preservation also relates to the thickness of the pollen wall, surface structure, number of pores, and other characteristics of grain morphology. In general, the most durable grains come from pines, composites (Asteraceae), grasses (Poaceae), and Cheno-Ams (Chenopodiaceae and Amaranthaceae). Thus, in poorly preserved samples, these types will be the only ones present. In especially poorly preserved soils, one might expect to find only pine pollen. When it appears that these types are over-represented, then interpretation of pollen results must be cautious since other pollen types will have differentially decomposed. During palynological analysis, note should be taken regarding the preservation of individual types, as well as the spectrum of pollen taxa taken

as a whole. The better the preservation of all types of pollen, The interpretive potential of the pollen count will be stronger if pollen of all types is well preserved.

Several factors effect the structure of the pollen wall. Chemical process can erode holes in the surface of the pollen, metamorphic processes can crush and discolor the grains, and mechanical abrasion can break the pollen. Therefore, it is important for the palynologist to take note of the nature of decomposition for poorly preserved pollen grains. Fractures may indicate mechanical breakage. Large-scale erosion of the pollen grain walls indicate chemical destruction. The presence of transparent grains (called ghost grains) also indicates chemical erosion. Under the scanning electron microscope, linear defects in the pollen wall indicates fungal decomposition. Flattened, discolored pollen indicates metamorphic activity which in turn reflects recycling of pollen from geological sediments in newer archaeological sediments.

Quantifying pollen is an important aspect of archaeopalynology (Reinhard 1993; Reinhard et al. 1991). To do this, *Lycopodium* spores are added to each sample. The pollen grains are counted along with the *Lycopodium* spores. With pollen, a two hundred grain count is considered sufficient for statistical representation of the sample's pollen profile (Barkley, 1934). The number of pollen grains per milliliter of soil is calculated on the basis of the ratio of pollen grains to the known number of spores. Occasionally, soil samples contain either too few pollen grains to obtain a 200 grain count or contain too much insoluble light organic matter, such as charcoal, to allow for a 200 grain count. Low pollen content is usually associated with poor preservation of pollen and poor pollen preservation results in differential pollen representation in which pollen taxa with a high content of sporopollenin preserve but grains with low sporopollenin content decompose. High insoluble organic content does not necessarily affect pollen preservation, but

does prevent obtaining 200 grain counts because the pollen grains can not be concentrated for the count. In such cases, I count four microscopic pollen preparations (14 by 14 mm coverslip dimension) per sample. If, it is clear after these counts that a 200 grain count can not be achieved, counting is terminated.

The Nathaniel Russel Data

The pollen and parasite results of the Nathaniel Russel house were characterized by poor preservation and low concentrations. The pollen destruction is most impressive. The pollen grains that were encountered were eroded and folded. The main type found was that of pine *(Pinus)*. Because of high sporopollenin content, pine is one of the last pollen taxa to decompose. Importantly, even the pine grains were eroded and the most common pollen residue found in some sample were the bladders that had completely separated from the pollen grains. The parasite eggs that were found were also eroded and fragmented.

The cause of the decomposition is evidenced in the relatively large numbers of fungal spores in most samples. Some fungi decompose pollen, but more importantly, the fungi grow in aerobic environments that tend to have histories of repeated wetting-drying episode. This is the most destructive environment for pollen. Therefore, the Nathaniel Russel sediments are of a type most destructive to pollen.

Another problem with these samples was the high concentration of inert, opaque material that appears to be charcoal carbon fragments. This dominated most samples. Because carbon is the most difficult component of archaeological sediments to remove chemically without destroying pollen grains, high quantities of carbon confounds pollen counting. However, the fact that the pollen preservation was extremely poor makes the high carbon content irrelevant. In

other words, the high carbon content of the samples is disconcerting, but even if the carbons was not present the decomposed state of the pollen would have yielded skewed data.

The few parasite eggs that were found are significant. The eggs are consistent with species of *Trichuris* (whipworm) and *Ascaris* (giant roundworm) that are infective to pigs and humans. The parasitological issue, then, is the diagnosis of human versus pig infection. The zooarchaeological analysis of the Nataniel Russel house shows that only long bones, and in one case a mandible, were found at the site. It is, therefore, unlikely that pigs were butchered on site and therefore unlikely that pig viscera were the source of the eggs. Thus, I think that it is safe to conclude that the parasite eggs are of the human infective species *Trichuris trichiura* and *Ascaris suis*. The implication is that fecal borne disease was a problem at the site. Other fecal borne parasites that might have been on site include hookworm, wireworm, amoebas, and *Giardia* Further work at sites with better preservation potential in Charleston should be done to evaluate the extent of this health threat.

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APPENDIX III

OXIDIZABLE CARBON RATIO (OCR)

DATING ANALYSIS

Douglas S. Frink

Archaeology Consulting Team

Essex Junction, Vermont

OCRSOIL3 Review or edit record (match 23). Page 1 of 1
F1-Help F2-Records F3-Edit F4-Quick Entry F10-Continue

Site #: N.R.H. Location: N150 E135 Phase: 1994
Mean temp: 66.5 Mean rain: 118.24 14C Date: 80 EST
Date: 9/19/95 SCS name: Initials: FZ
ID #: 1680 Feature #: FS #14
Level: ZONE 3
Depth: 30.49 cm Effective Depth: 2
Texture: 3.866
Color-Munsell #: Description:

Textural analysis	gm	%	
Very Coarse Sands:	0.325	: 0.110	Total measured wt: 294.319
Coarse Sands:	0.184	: 0.063	Total sample wt: 296.071
Medium Sands:	0.370	: 0.126	
Fine Sands:	13.583	: 4.615	% Accuracy (tm/ts): 99.408
Very Fine Sands:	244.953	: 83.227	
Coarse silt:	20.844	: 7.082	
Fine silt & clay:	14.060	: 4.777	

pH: 7.0 Sqrt pH: 2.65%O.M. (LOI): 2.628 Sqrt LOI: 1.621|%O.C. (WB): 1.23
OCR: 2.137 OCRDATE: 95.6595 +/-: 2.8698

....+....1....+....2....+....3....+....4....+....5....+....6....+....7....+....8

OCRSOIL3 Review or edit record (match 22). Page 1 of 1
F1-Help F2-Records F3-Edit F4-Quick Entry F10-Continue

Site #: N.R.H. Location: N200.4 E297 Phase: 1994
Mean temp: 66.5 Mean rain: 118.24 14C Date: 142 EST
Date: 9/19/95 SCS name: Initials: FZ
ID #: 1681 Feature #: 13
Level: E
Depth: 64 cm Effective Depth: 2
Texture: 3.874
Color-Munsell #: Description:

Textural analysis	gm	%	
Very Coarse Sands:	0.325	: 0.110	Total measured wt: 294.679
Coarse Sands:	0.184	: 0.062	Total sample wt: 296.017
Medium Sands:	0.730	: 0.248	
Fine Sands:	13.583	: 4.609	% Accuracy (tm/ts): 99.548
Very Fine Sands:	244.953	: 83.125	
Coarse silt:	20.844	: 7.073	
Fine silt & clay:	14.060	: 4.771	

pH: 7.0 Sqrt pH: 2.65%O.M. (LOI): 0.543 Sqrt LOI: 0.7369%O.C. (WB): 0.22
OCR: 2.468 OCRDATE: 310.0909 +/-: 9.3027
....•....1....•....2....•....3....•....4....•....5....•....6....•....7....•....8

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OCRSOIL3              Review or edit record (match 21).          Page 1 of 1
 F1-Help  F2-Records  F3-Edit  F4-Quick Entry                    F10-Continue
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Site #: N.R.H. Location: N111 E190 Phase: 1994
Mean temp: 66.5 Mean rain: 118.24 14C Date: 150 EST
Date: 9/19/95 SCS name: Initials: FZ
ID #: 1682 Feature #: FS #62
Level: ZONE 4601
Depth: 76.2 cm Effective Depth: 2
Texture: 4.112
Color-Munsell #: Description:

Textural analysis	gm	%	
Very Coarse Sands:	10.922	: 7.739	Total measured wt: 141.136
Coarse Sands:	3.700	: 2.622	Total sample wt: 141.808
Medium Sands:	3.383	: 2.397	
Fine Sands:	6.550	: 4.641	% Accuracy (tm/ts): 99.526
Very Fine Sands:	83.328	: 59.041	
Coarse silt:	16.921	: 11.989	
Fine silt & clay:	16.332	: 11.572	

pH: 7.2 Sqrt pH: 2.68%O.M. (LOI): 1.904 Sqrt LOI: 1.3799%O.C. (WB): 0.73
OCR: 2.608 OCRDATE: 142.1469 +/-: 4.2644

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....+....1....+....2....+....3....+....4....+....5....+....6....+....7....+....8
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OCRSOIL3 Review or edit record (match 20). Page 1 of 1
F1-Help F2-Records F3-Edit F4-Quick Entry F10-Continue

Site #: N.R.H. Location: N150 E100 Phase: 1994
Mean temp: 66.5 Mean rain: 118.24 14C Date: 150 EST
Date: 9/19/95 SCS name: Initials: FZ
ID #: 1683 Feature #: FS #64
Level: ZONE 4
Depth: 76.2 cm Effective Depth: 2
Texture: 4.184
Color-Munsell #: Description:

Textural analysis	gm	%	
Very Coarse Sands:	20.061	: 6.678	Total measured wt: 300.401
Coarse Sands:	3.081	: 1.026	Total sample wt: 302.220
Medium Sands:	4.131	: 1.375	
Fine Sands:	24.771	: 8.246	% Accuracy (tm/ts): 99.398
Very Fine Sands:	206.504	: 68.743	
Coarse silt:	24.187	: 8.052	
Fine silt & clay:	17.666	: 5.881	

pH: 6.9 Sqrt pH: 2.63%O.M. (LOI): 1.474 Sqrt LOI: 1.214|%O.C. (WB): 0.73
OCR: 2.019 OCRDATE: 120.0280 +/-: 3.6008
....•....|....•....2....•....3....•....4....•....5....•....6....•....7....•....8

OCRSOIL3 Review or edit record (match 19). Page 1 of 1

F1-Help F2-Records F3-Edit F4-Quick Entry F10-Continue

Site #: N.R.H. Location: N200.5 E121 Phase: 1994

Mean temp: 66.5 Mean rain: 118.24 14C Date: 140 EST

Date: 9/19/95 SCS name: Initials: FZ

ID #: 1684 Feature #: 32

Level: 2

Depth: 106.7 cm Effective Depth: 2

Texture: 4.124

Color-Munsell #: Description:

Textural analysis	gm	%	
Very Coarse Sands:	13.650	: 4.332	Total measured wt: 315.067
Coarse Sands:	4.477	: 1.421	Total sample wt: 316.591
Medium Sands:	4.907	: 1.557	
Fine Sands:	22.821	: 7.243	% Accuracy (tm/ts): 99.519
Very Fine Sands:	231.385	: 73.440	
Coarse silt:	20.200	: 6.411	
Fine silt & clay:	17.627	: 5.595	

pH: 7.0 Sqrt pH: 2.65%O.M. (LOI): 1.451 Sqrt LOI: 1.2046%O.C. (WB): 0.64

OCR: 2.267 OCRDATE: 142.9080 +/-: 4.2872

....•....1....•....2....•....3....•....4....•....5....•....6....•....7....•....8

OCRSOIL3 Review or edit record (match 18). Page 1 of 1
F1-Help F2-Records F3-Edit F4-Quick Entry F10-Continue

Site #: N.R.H. Location: N200.5 E121 Phase: 1994
Mean temp: 66.5 Mean rain: 118.24 14C Date: 140 EST
Date: 9/19/95 SCS name: Initials: FZ
ID #: 1685 Feature #: 33
Level: L
Depth: 112.8 cm Effective Depth: 2
Texture: 4.036
Color-Munsell #: Description:

Textural analysis	gm	%	
Very Coarse Sands:	4.678	: 4.554	Total measured wt: 102.720
Coarse Sands:	0.809	: 0.788	Total sample wt: 103.261
Medium Sands:	1.633	: 1.590	
Fine Sands:	5.033	: 4.900	% Accuracy (tm/ts): 99.476
Very Fine Sands:	74.726	: 72.747	
Coarse silt:	8.137	: 7.922	
Fine silt & clay:	7.704	: 7.500	

pH: 6.7 Sqrt pH: 2.59%O.M. (LOI): 1.396 Sqrt LOI: 1.1815%O.C. (WB): 0.520
OCR: 2.685 OCRDATE: 191.9627 +/-: 5.7589
....•....1....•....2....•....3....•....4....•....5....•....6....•....7....•....8

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OCRSOIL3              Review or edit record (match 17).          Page 1 of 1
 F1-Help  F2-Records  F3-Edit  F4-Quick Entry                    F10-Continue
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Site #: N.R.H. Location: N235 E295 Phase: 1995
Mean temp: 66.5 Mean rain: 118.24 14C Date: 100 EST
Date: 9/19/95 SCS name: Initials: FZ
ID #: 1686 Feature #: 33
Level: ZONE 5
Depth: 45.7 cm Effective Depth: 2
Texture: 4.695
Color-Munsell #: Description:

Textural analysis	gm	%	
Very Coarse Sands:	35.946	: 14.865	Total measured wt: 241.814
Coarse Sands:	10.649	: 4.404	Total sample wt: 243.395
Medium Sands:	14.411	: 5.960	
Fine Sands:	20.407	: 8.439	% Accuracy (tm/ts): 99.350
Very Fine Sands:	126.036	: 52.121	
Coarse silt:	19.334	: 7.995	
Fine silt & clay:	15.031	: 6.216	

pH: 6.9 Sqrt pH: 2.63%O.M. (LOI): 3.315 Sqrt LOI: 1.8207%O.C. (WB): 1.08
OCR: 3.069 OCRDATE: 103.1668 +/-: 3.0950

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....•....1....•....2....•....3....•....4....•....5....•....6....•....7....•....8
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OCRSOIL3 Review or edit record (match 16). Page 1 of 1

F1-Help F2-Records F3-Edit F4-Quick Entry F10-Continue

Site #: N.R.H. Location: N235 E205 Phase: 1995

Mean temp: 66.5 Mean rain: 118.24 14C Date: 150 EST

Date: 9/19/95 SCS name: Initials: FZ

ID #: 1687 Feature #: 48

Level:

Depth: 85.3 cm Effective Depth: 2

Texture: 4.029

Color-Munsell #: Description:

Textural analysis	gm	%	
Very Coarse Sands:	0.542	: 0.287	Total measured wt: 188.707
Coarse Sands:	0.392	: 0.208	Total sample wt: 182.975
Medium Sands:	7.304	: 3.871	
Fine Sands:	7.304	: 3.871	% Accuracy (tm/ts): 103.133
Very Fine Sands:	143.718	: 76.159	
Coarse silt:	16.014	: 8.486	
Fine silt & clay:	13.433	: 7.118	

pH: 7.0 Sqrt pH: 2.65%O.M. (LOI): 1.135 Sqrt LOI: 1.0654%O.C. (WB): 0.30

OCR: 3.783 OCRDATE: 315.9642 +/-: 9.4789

....+....1....+....2....+....3....+....4....+....5....+....6....+....7....+....8

OCRSOIL3 Review or edit record (match 15). Page 1 of 1
F1-Help F2-Records F3-Edit F4-Quick Entry F10-Continue

Site #: N.R.H. Location: N130 E328 Phase: 1995
Mean temp: 66.5 Mean rain: 118.24 14C Date: 165 EST
Date: 9/19/95 SCS name: Initials: FZ
ID #: 1688 Feature #: FS #241
Level: ZONE 4A
Depth: 109.75 cm Effective Depth: 3
Texture: 3.855
Color-Munsell #: Description:

Textural analysis	gm	%	
Very Coarse Sands:	3.377	: 2.171	Total measured wt: 155.568
Coarse Sands:	1.744	: 1.121	Total sample wt: 156.139
Medium Sands:	2.932	: 1.885	
Fine Sands:	6.480	: 4.165	% Accuracy (tm/ts): 99.634
Very Fine Sands:	107.342	: 69.000	
Coarse silt:	15.974	: 10.268	
Fine silt & clay:	17.719	: 11.390	

pH: 7.1 Sqrt pH: 2.66%O.M. (LOI): 2.981 Sqrt LOI: 1.7266%O.C. (WB): 1.300
OCR: 2.293 OCRDATE: 165.8537 +/-: 4.9756
....•....1....•....2....•....3....•....4....•....5....•....6....•....7....•....8

OCRSOIL3 Review or edit record (match 14). Page 1 of 1

F1-Help F2-Records F3-Edit F4-Quick Entry F10-Continue

Site #: N.R.H. Location: N213 E210 Phase: 1995

Mean temp: 66.5 Mean rain: 118.24 14C Date: 125 EST

Date: 9/19/95 SCS name: Initials: FZ

ID #: 1689 Feature #: 60

Level:

Depth: 39.6 cm Effective Depth: 1

Texture: 3.900

Color-Munsell #: Description:

Textural analysis	gm	%	
Very Coarse Sands:	1.621	: 0.892	Total measured wt: 181.827
Coarse Sands:	0.732	: 0.403	Total sample wt: 183.411
Medium Sands:	0.929	: 0.511	
Fine-Sands:	6.336	: 3.485	% Accuracy (tm/ts): 99.136
Very Fine Sands:	151.082	: 83.091	
Coarse silt:	13.422	: 7.382	
Fine silt & clay:	7.705	: 4.238	

pH: 7.5 Sqrt pH: 2.74%O.M. (LOI): 0.867 Sqrt LOI: 0.931I%O.C. (WB): 0.32

OCR: 2.709 OCRDATE: 102.7581 +/-: 3.0827

....+....1....+....2....+....3....+....4....+....5....+....6....+....7....+....8

OCRSOIL3 Review or edit record (match 13). Page 1 of 1
F1-Help F2-Records F3-Edit F4-Quick Entry F10-Continue

Site #: N.R.H. Location: N190 E158 Phase: 1995
Mean temp: 66.5 Mean rain: 118.24 14C Date: 120 EST
Date: 9/19/95 SCS name: Initials: FZ
ID #: 1690 Feature #: 282
Level: ZONE 4601
Depth: 54.9 cm Effective Depth: 2
Texture: 3.949
Color-Munsell #: Description:

Textural analysis	gm	%	
Very Coarse Sands:	4.377	: 1.913	Total measured wt: 228.810
Coarse Sands:	3.130	: 1.368	Total sample wt: 229.926
Medium Sands:	3.763	: 1.645	
Fine-Sands:	10.214	: 4.464	% Accuracy (tm/ts): 99.515
Very Fine Sands:	172.368	: 75.332	
Coarse silt:	17.939	: 7.840	
Fine silt & clay:	17.019	: 7.438	

pH: 7.1 Sqrt pH: 2.66%O.M. (LOI): 2.259 Sqrt LOI: 1.5030%O.C. (WB): 0.69
OCR: 3.274 OCRDATE: 180.0788 +/-: 5.4024
....•....[....•....2....•....3....•....4....•....5....•....6....•....7....•....8

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OCRSOIL3              Review or edit record (match 12).          Page 1 of 1
 F1-Help  F2-Records  F3-Edit  F4-Quick Entry                    F10-Continue
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Site #: N.R.H. Location: N130 E328 Phase: 1995
Mean temp: 66.5 Mean rain: 118.24 14C Date: 210 EST
Date: 9/19/95 SCS name: Initials: FZ
ID #: 1691 Feature #: FS #285
Level: ZONE 6
Depth: 128 cm Effective Depth: 5
Texture: 5.139
Color-Munsell #: Description:

Textural analysis	gm	%	
Very Coarse Sands:	41.675	: 32.674	Total measured wt: 127.548
Coarse Sands:	1.853	: 1.453	Total sample wt: 128.222
Medium Sands:	1.121	: 0.879	
Fine Sands:	3.679	: 2.884	% Accuracy (tm/ts): 99.474
Very Fine Sands:	60.664	: 47.562	
Coarse silt:	7.702	: 6.039	
Fine silt & clay:	10.854	: 8.510	

pH: 7.5 Sqrt pH: 2.74%O.M. (LOI): 1.956 Sqrt LOI: 1.3986%O.C. (WB): 0.95
OCR: 2.059 OCRDATE: 238.6987 +/-: 7.1610

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....•....1....•....2....•....3....•....4....•....5....•....6....•....7....•....8
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APPENDIX II

PALYNOLOGICAL AND PARASITOLOGICAL ANALYSIS OF SEDIMENTS FROM THE NATHANIEL RUSSELL HOUSE

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Abstract

Analysis of sediments from Charleston historical contexts has been enlightening, especially with respect to palynology. Aspects of land use have been signalled by changes in pollen spectra. The analysis of the Nathaniel Russel House deviates from the previous productive studies in that the preservation of pollen was exceptionally poor. This contrasts with previous analyses of the John Rutledge House and the Miles Brewton House which produced significant palynological results. This is especially surprising since all of these houses are located in close proximity to each other in southern Charleston. However, despite the poor preservation, parasite eggs of Trichuris and Ascaris were found. Zooarchaeological analysis does not indicate that pigs were butchered in the area. This is important since pigs host species of Ascaris and Trichuris that are morphologically identical to species that live in humans. Therefore, it is probable that the eggs found are those of the species invective to humans, Trichuris trichiura and Ascaris lumbricoides.

Introduction

Since the first report of parasite and pollen analysis of a historical site appeared in 1987 by Reinhard, Mrozowski and Orloski, the analysis of historical latrines has increased dramatically. Because of interest in these types of analysis among the staff of the Charleston Museum, Charleston became one of the major test areas for the refinement of historic sediment analysis. There has been, unfortunately, a hiatus in analysis between 1993 and the present. This is due to two factors: a long-term illness that debilitated the author in 1993, followed in 1994 by the shut down of the University of Nebraska pollen lab. Happily, 1996 ushers in positive developments with the building of the Microfossil Research Facility at the University of Nebraska which houses a new sediment processing laboratory, a new light microscope research laboratory, and a scanning electron microscope laboratory.

This report summarizes the investigation of sediments from the Nathaniel Russel House. Seventeen sediment sample were submitted for analysis. These were processed in 1995-1996 at the Texas A&M Palynology Laboratory . The processed sediments were provided to me on January 14 in two sets, a palynology series and a parasitology series. The analysis goals were to identify possible parasite infections and to build on the previous palynological studies of Charleston sites in defining environmental change and other land-use impacts on the area in historic times.

Materials and Methods

The samples were processed by Dennis Grider at the Texas A&M University Palynology Laboratory following techniques formulated in 1992 by Warnock and Reinhard. Modification of this procedure is the reduction of sonication time following the discovery that sonication beyond

one minute duration damages some types of pollen grains (Kalinska and Reinhard, in revision). Therefore, the processing follows procedures following the most recent developments in processing procedure.

Sediment processing dissolves divides various soil components to concentrate organic debris containing parasite eggs and pollen grains in a way that can be quantified in terms of number of parasite eggs and pollen grains per gram or milliliter of sediment. Thirty milliliters of soil were first measured. A tablet of *Lycopodium* spores was added to each sample. Each *Lycopodium* spore tablet contains 11,300 plus or minus 400 spores. Therefore, approximately 377 spores are present per milliliter of soil. This known number of exotic spores enables accurate measurement of the parasite eggs and pollen grains per milliliter of soil by calculating a ratio of eggs or pollen to known spores.

The individual samples were first treated with 30% hydrochloric acid (HCl) in 300 milliliter beakers. Hydrochloric acid dissolves calcium carbonates. The acid was slowly added to the soil samples until reaction ceased. Distilled water was then added to the samples. After the carbonates were removed, the samples were sedimented and screened to remove any large, heavy components. Sedimentation was accomplished by rigorously swirling the samples in the beakers until the sediment particles were in suspension. The beaker was then set aside for 30 seconds to allow heavy fractions to settle out. The supernatant was then poured through a 0.25 millimeter mesh screen into a 500 milliliter beaker. This process was repeated until the supernatant was nearly clear. Any heavy sand sediment remaining in the original 300 milliliter beakers was discarded. The microscopic remains in the 500 milliliter beakers were then concentrated by

centrifugation, and then washed three times in distilled water to removed any traces of hydrochloric acid which would otherwise react with chemicals in later processing stages.

The samples were then treated with 72% hydrofluoric acid which dissolves fine silicates. This was accomplished by transferring the concentrated remains to 700 milliliter plastic beakers to which 50 milliliters of hydrofluoric acid was added. The samples were set aside for 24 hours to allow for completion of the reaction, stirring approximately every 7 hours to ensure complete interaction between remains and acid. After 24 hours, distilled water was added to the samples and the mixtures were left to settle for 2 hours. The supernatant was then aspirated off, with care taken not to disturb the sedimented any remains. This water wash was repeated two more times. The remaining sediments were then concentrated by centrifugation into 50 milliliter centrifuge tubes. Distilled water was added and the tubes were placed in a sonicator and sonicated for 1 minutes. This treatment loosens fine organic debris and separates microscopic particles. After sonication, the microscopic remains were transferred to 12 milliliter glass centrifuge tubes. After the microscopic remains were concentrated by centrifugation and the supernatant poured off, a heavy density mixture of zinc bromide (specific gravity 2.0) was added to the tubes. The tubes were then spun in a centrifuge at 1,500 r.p.m. for 15 minutes. This process results in the separation of light organic remains, including parasite eggs, from heavier organic detritus. The heavy detritus sinks to the bottom of the tubes, while the light organic remains float to the surface of the heavy density mixture and are easily removed. The light organic remains formed a dark band at the top of the tubes. These light organic remains were then pipetted into 50 milliliter beakers. The samples were rinsed with distilled water and spun down in 12 milliliter glass centrifuge tubes until all evidence of the heavy density mixture was gone.

TABLE 1: Summary of processing procedure. Parasite subsample is removed after step 9.

Step #	Procedure	Goal
1	measure sample	quantification
2	add Lycopodium tablet	quantification
3	HCl treatment	Dissolves carbonates
4	H_20 wash	Removes HCl
5	Swirl technique	separates large silicates
6	screening	Removes macrofossils
7	HF treatment	dissolves small silicates
8	H_20 wash	Removes HF
9	Sonication	disperses sediments
10	Subsample removed	parasite analysis
10	Acetic Acid wash	Removes H_20
11	Acetolysis treatment	dissolves cellulose
12	Acetic Acid wash	removes acetolysis solution
13	H_20 wash	removes acetic acid
14	KOH treatment	dissolves humic compounds
15	H_20 wash	removes humic residual products
16	Transfer to ETOH	removes H_20
17	Transfer to glycerin	archive preparation

At this point, a subsample from each sample was transferred to glass vials in glycerol for parasite egg examinations. The remaining samples were washed twice with glacial acetic acid and then acetolysis solution was added to dissolve cellulose and related compounds. Acetolysis solution consists of nine parts acetic anhydride to one part sulfuric acid. After acetolysis, the samples were rinsed with glacial acetic acid and then three water washes. Finally, to dissolve humic compounds, the samples were treated for 30 seconds in five percent potassium hydroxide and then washed repeatedly with distilled water. The samples were then transferred to two dram vials with alcohol. Glycerin was added and the alcohol was vaporized with low heat.

Microscope preparations of each samples were made by placing a drop of glycerol with suspended sediment on a microscope slide. The microscope preparations were then scanned at a 240 power of magnification for parasite eggs and 500 power for pollen grains. When potential parasite eggs were encountered, they were examined at 500 power. Examination was done with a Jenaval microscope under differential interference phase contrast. The steps of processing are summarized in Table 1.

Results

The sample numbers with field provenience are listed in Table 2. Most samples contained large amounts of inert, opaque material that is probably charcoal. Most also contained remarkably high numbers of fungal spores. The inert material and fungal spores were quantified on the basis of visual estimates on the number of total objects seen on the microscope slide. These estimates were broken into categories representing approximate occurrence: 25%, 50%, 75% of identifiable objects (Table 3). The pollen concentration values are presented in Table 4 and the pollen grain and parasite egg counts are presented in Table 5.

TABLE 2: Laboratory numbers and field provenience numbers.

Sample #	Field #
1	FS 285, N130E238, Zone 6
2	FS 074, N135E265, Fea.19
3	FS 062, N111E190, Zone 4
4	FS 047, N200.9E297, Fea. 9
5	FS 096, N134.8E328, Zone 4
6	FS 084, N135E265, Zone 2
7	FS 352, N172E270, Zone 3
8	FS 251, N213E210, Fea. 60
9	FS 125, N200.5E121, Fea. 33
10	FS 219, N185E215, Fea. 49
11	FS 294, N190E158, Fea. 66
12	FS 142, N235E295, Fea. 35
13	FS 172, N244.5E205, Zone 5
14	FS 050, N150E100, Fea. 11
15	FS 109, N237E103, Zone 5
16	FS 321, N100E100, Zone 3
17	FS 212, N130E188, Zone 3