

INVESTIGATING ELITE LIFEWAYS THROUGH ARCHAEOLOGY:

THE JOHN RUTLEDGE HOUSE

by

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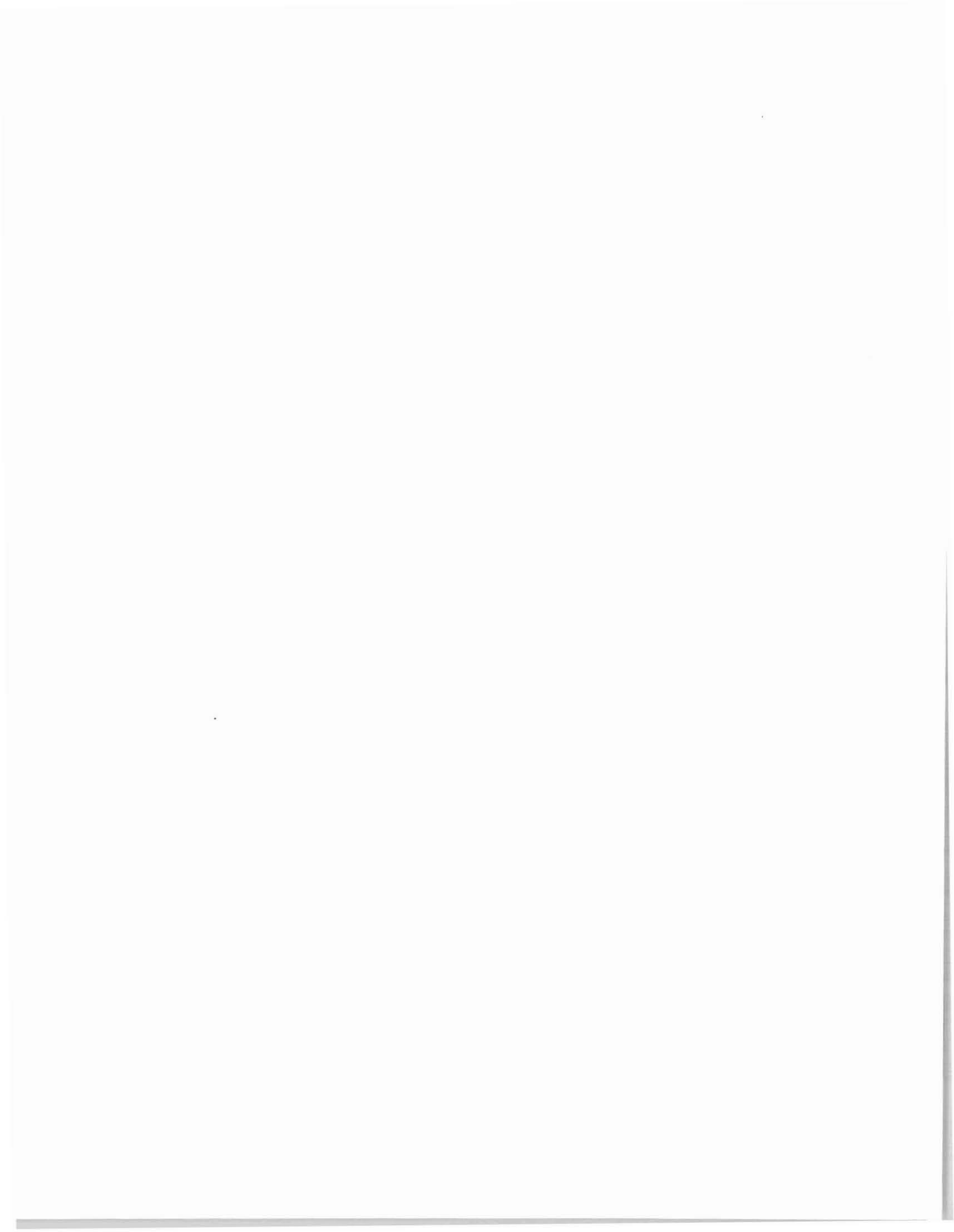


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Acknowledgements

Archaeological research is both a collaborative and cumulative effort. Each project may be defined as a single unit, described in a technical report such as this one. Few projects are conducted in isolation, however, and the Rutledge project has added to the Charleston data base in several areas. The data have been considered relative to other elite townhouse sites, to other suburban sites, and in general to all previously excavated sites in Charleston, as well as other North American historic sites. The research has been collaborative as well, encompassing the research of a number of individuals, some of whose work is contained in this report. Zooarchaeologist Elizabeth Reitz and Ethnobotanist Michael Trinkley have been working with Charleston data for years, greatly expanding the scope of our projects. Palynologist Karl Reinhard worked with us for the first time on the Rutledge project, and his research offers exciting new possibilities. Historical research was conducted by Suzanne Buckley and Ziyadah Kirnon, as well as Mrs. Arthur Parker, providing a documentary component to the study. We have also drawn heavily from the ongoing architectural research of folklorist Bernard Herman, and we appreciate his input.

Finding funding for archaeological projects is often difficult, and it is encouraging that an increasing portion of such funds in Charleston have come from private enterprises and individuals. Funds for this project were provided by Mrs. Arthur Parker and Mrs. Frederick Bunting. The project was, in fact, initiated by Mrs. Parker. We sincerely thank them for their generosity, and it is our hope that their vision will spur others to such actions. This project will serve to illustrate the positive results of local citizens in the archaeology of their city, and the value, and fragility, of archaeological deposits.

The project was greatly facilitated and encouraged by restoration architects William Evans and Joseph Schmidt. Their help was invaluable and their interest and enthusiasm greatly appreciated. Likewise, we thank developer Richard Widman for his interest and development of an exhibit of excavated materials at the Rutledge House Inn.

On a more mundane level, the tremendous quantity of artifacts recovered could not have been processed without the many hours of assistance by volunteers and students. Matthew Swilip, Sue Lipovsky, Bob Jacobs, Maggie Jacobs, Hayne von Kolnitz, Barbara Brundage, Pam Timmons, Jeanette Weiland, Barbara Hiott, and Rhoda McLean all donated many hours of fieldwork.

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CHAPTER I

INTRODUCTION

Interest in archaeological research at the John Rutledge House began when Mrs. Arthur Parker contacted The Charleston Museum about the feasibility of an excavation project. Mrs. Parker, a descendant of John Rutledge, was eager to expand knowledge of this important figure's history; his life and daily affairs. The Museum immediately became interested in continuing research on a variety of anthropological issues related to urban townhouse sites. The grand house at 116 Broad Street was empty and in disrepair, and restoration plans were underway. The firm of John Rutledge Associates planned to restore the structure as an exclusive inn, under the direction of Evans and Schmidt, Architects. Archaeological investigations could answer questions pertaining to the architectural evolution of the house.

With so many diverse and important goals to be achieved, a modest archaeological excavation project was designed by Martha Zierden, Curator of Historical Archaeology, to test the site and meet these diverse goals. The project was generously funded by Mrs. Arthur Parker and Mrs. Frederick Bunting, citizens of Charleston. During nine days of excavation, five units were excavated to sterile soil. The spatially small sample retrieved from the John Rutledge House contained large amounts of material, and is a valuable addition to ongoing research in Charleston.

The John Rutledge House is important as the home of a framer of the United States Constitution and a leading Charleston citizen. The property also contains extensive archaeological resources capable of providing information specifically on the history of the site and its occupants, and generally on the growth and development of Charleston as an urban center. The site is an important data base for many reasons; primary among them is its condition and location. Data from the John Rutledge House are an important addition to ongoing urban archaeological research in Charleston. Archaeological investigations will also contribute to knowledge of the architectural evolution of the structure.

Urban Archaeology in Charleston

The development of archaeology in Charleston parallels the development of urban archaeology in much of the country. Investigations began with a few small-scale, isolated projects, essentially descriptive in nature. A number of research efforts initiated in Charleston in 1981 served to bring the city into the mainstream of urban archaeology. This included the initiation of large-scale, federally funded excavation at the Charleston Place site (Honerkamp et al. 1982), the expansion of artifact studies (Herold 1981; Singleton 1982, 1984), and the initiation of long-term archival research sponsored by the City (Zierden and Calhoun

1982, 1984a, 1984b; Calhoun and Zierden 1984, Calhoun et al. 1982).

The archival research served as an archaeological survey of the city, in that we were able to predict site location, type of activity, and length of occupation throughout the city. The two year project was funded by Community Development Grants from the City and matching Historic Preservation grants, administered by the South Carolina Department of Archives and History. Based on the length and density of human occupation of the urban center, the entire peninsular city below the cross-town is considered a vast, contiguous archaeological site.

An outgrowth of this research was the formulation of long-term research goals for The Charleston Museum's Urban Archaeology Program (Zierden and Calhoun 1984). In subsequent years, the approach has proved quite successful. Most of the archaeological projects in the city are small in scale. By addressing broad anthropological research questions on a continuing basis, the projects are united in a comparative framework, making them more than the sum of their parts. The result has been pioneering research in the field of urban archaeology (Zierden and Calhoun 1986; Reitz 1986; Singleton 1984). In order to expand our research efforts, a similar documentary study focusing on the Charleston Neck was recently completed. The project concentrated on the development of nineteenth century suburban areas, and on Charleston's industrial growth. Many of the original research questions were refined and new ones were proposed (Rosengarten et al. 1987).

Following completion of the city-wide research design, excavations focused on sites located in the colonial commercial core (Figure 1). Occupied since the early eighteenth century, all of the sites served a dual function as businesses and residences, and were rebuilt several times. Many had served as rental property, and the function and configuration of the properties changed constantly. The limited time available for historical research on these projects provided a general site history, but also illustrated several problems. Gaps in our knowledge concerning site owners were numerous; gaps in our knowledge of site occupants and activities were more numerous. Therefore, equation of specific excavated proveniences with specific site occupants, the traditional approach in historical archaeology, became virtually impossible.

With this avenue closed, we looked for alternative methods. The incomplete site histories were combined with general data on the growth and development of the city to formulate a neighborhood level of research. Based on our then-current state of knowledge, similarities as well as differences among the assemblages became apparent. Taken together, the sites revealed a general pattern for dual function sites in the city. The various assemblages were also examined for clues to socioeconomic status. While some differences between the high, middle, and low status sites were noted in the faunal, floral, and cultural

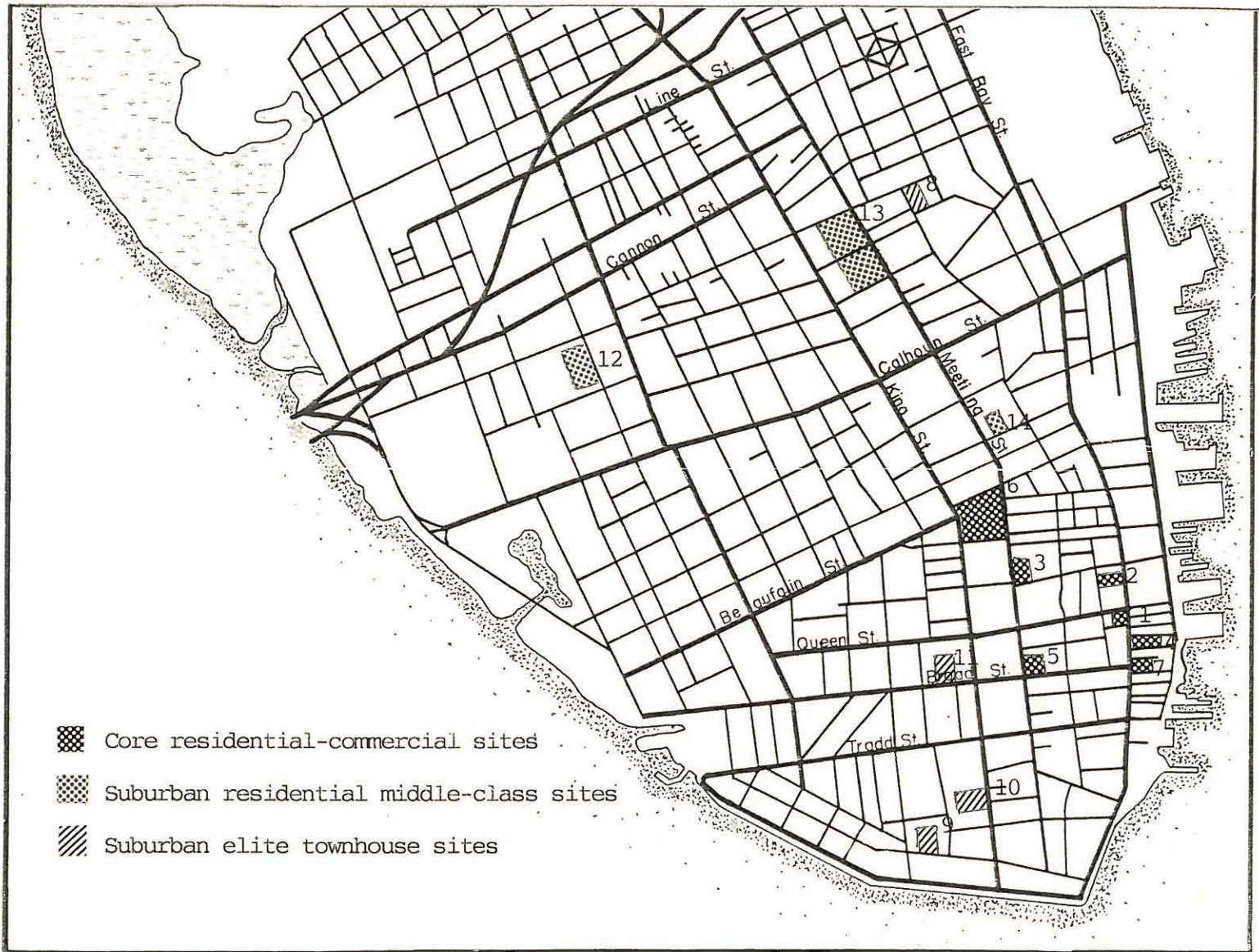


Figure 1: Location of Sites Excavated in Charleston. The John Rutledge House is # 11:
 1) McCrady's Longroom, 2) Lodge Alley, 3) First Trident, 4) Atlantic Wharf, 5) Beef Market, 6) Charleston Place, 7) Exchange Building, 8) Aiken-Rhett House, 9) Gibbes House, 10) Miles Brewton House, 11) John Rutledge House, 12) President Street, 13) Visitor's Center, 14) 66 Society.

materials, these differences were not always consistent (Zierden and Calhoun 1987).

A major breakthrough occurred with the excavation of the Gibbes and Aiken-Rhett houses. These sites were less complex, better documented; thus archaeological patterns were less ambiguous. Located in Federal and antebellum period suburbs, respectively, both sites contain the original standing structures and exhibit the original site boundaries. Extensive documentary information is available; they reveal that owner and occupants were one and the same, and both sites were occupied by wealthy families. The data from these two sites were similar in almost every respect, and both the faunal and cultural remains reflected the high status of the occupants.

Role of the John Rutledge House Study

The correlations found at Aiken-Rhett and Gibbes suggest exciting possibilities for the advancement of archaeological studies on many fronts. The John Rutledge site shares the same features that made the Aiken-Rhett and Gibbes studies so promising, but on an even larger scale. The John Rutledge house is located on Broad Street, a major commercial artery in the oldest section of the city; excavations in this portion of the city have been limited, and the site data will contribute to our understanding of the changing character of the commercial thoroughfare. The materials recovered will also make a major contribution to the Museum's exhibition and education programs, as well as to the study of eighteenth and nineteenth century material culture.

Research issues to be addressed through archaeological excavations include spatial patterning, socioeconomic status, subsistence strategies, and rural-urban contrasts.

1) 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. The urban site is often a complex combination of such events. Site formation processes on suburban sites are expected to be different from those in the densely occupied commercial core.

2) The Urban Landscape- The demands of the urban environment are reflected in the spatial patterning of the urban compound. During the eighteenth and nineteenth centuries, the types of structures found dispersed across the rural plantation site had to be crammed onto the constricted urban lot. Urban compounds, particularly those located in the older, central part of the city, were organized to make the most efficient use of available land. Lots, deep and narrow, maximized the street frontage

available. Houses fronted directly on the street, with the narrow end facing the road. Behind the main house, auxiliary structures were arranged within a fenced compound. The back yard was the focus of many activities, including commercial as well as domestic enterprises. Since many of the structures are extant, the John Rutledge house will greatly enhance our study of spatial patterning on a site-specific level.

The John Rutledge site will also serve as an example for the continued examination of city-wide spatial patterning. Studies have suggested that Charleston's physical growth was a patterned response to certain conditions exacerbated by the urban environment. Other elements to be considered for the urban landscape include architectural trends, lot element patterning, environmental changes, and health and sanitation concerns. The development of the John Rutledge site will be used to examine growth and development in the eighteenth century.

3) Socioeconomic Status - A recent focus of historical archaeology in general and urban studies in particular has been the delineation of socioeconomic status. Using the documentary record as a control, the socially stratified urban center can serve as an appropriate data base for recognizing socioeconomic status and consumer choice in the archaeological record (Deagan 1983; Spencer-Wood 1987; Reitz 1987; Zierden and Calhoun n.d.).

A problem with status studies in Charleston has been the lack of specific documentary information on site inhabitants, and the inability to associate individual site contexts with specific occupants. Recent exceptions are the Aiken-Rhett site and the Gibbes site. The John Rutledge house shares several characteristics with these sites, and is expected to provide important data on the archaeological correlates of high status. The site is expected to provide some direct correlations between status and patterns of material culture, diet, site layout, and site location. Status will also be evaluated relative to architecture, spatial patterning, health and sanitation.

4) Subsistence Strategies - Increasing attention is being focused on the study of subsistence strategies in historic populations, using faunal and botanical remains recovered from historic sites (Reitz and Scarry 1985; Calhoun et al. 1984; Trinkley et al. 1985). The faunal and botanical remains have been used to address a variety of questions, including cultural conservatism, adaptation to local environments, ethnicity, and social variability. Animal and plant food remains have been recovered and examined in a consistent manner to formulate subsistence models; data from John Rutledge will be used to directly examine these models.

CHAPTER II

BACKGROUND

In the seventeenth century, the European powers were busy competing for the possession of colonies in the New World. The province of Carolina was alternately claimed by the French, Spanish, and English. Spain considered the vast tract of uncharted wilderness the logical extension of La Florida. The English, with a similar perspective, viewed Carolina as the southern branch of Virginia. They proceeded to establish the first permanent colony in 1670 and thereafter claimed the area by right of occupation.

The founding of Carolina was a private venture, a gift from the Crown to eight patriotic and profit-seeking English noblemen. The private venture was part of the English government's economic policy of mercantilism, which ensured that they were the ones to benefit from their colonies. Under this system, colonies were expected to provide the Mother Country with needed raw materials, particularly those unavailable in England. Industry was discouraged in the colonies, and they were then dependent on England for manufactured goods. The necessity to secure a favorable balance of trade was enforced by a series of increasingly restrictive acts, which culminated in the rebellion of the American colonies in 1775.

The arriving colonists chose for their settlement,

a point (Albemarle) defended by the main river (the Ashley) with a brooke on one side and inaccessible marsh on the other wch at high tides is ever overflown; joyning itself to the mainland in a small neck not exceeding fiftie yard (Cheves 1897:156-157).

Oyster Point proved attractive to the colonists and, after some exploration of the surrounding area, increasing numbers of them left Albemarle for this new location, approximately four miles away. The leaders of the settlement not only recognized but sanctioned this trend. In December of 1679, the Lords Proprietor sent word to the governing body of the colony that,

We are informed that Oyster Point is not only a more convenient place to build a towne on than that formerly pitched on by the first settlers but that also the peoples Inclinations tend thither. Wherefore wee think fitt to let you know that the oyster point is the place wee doe appoint for the port towne of which you are to take notice and call it Charles towne, and order the meetings of the Council to be there held and the Secretarys Registers & Surveyors offices to be kept

within that town... (Salley 1928:95-96).

Others readily agreed with this judgement. In 1680 an enthusiastic observer marvelled,

the situation of this Town is so convenient for public Commerce that it rather seems to be the design of some skilfull Artist than the accidentall position of nature (Mathews 1954:153).

Nature had certainly provided the founders of Charleston with an enviable position. Situated at the confluence of the Kiawah and Etiwan, renamed the Ashley and Cooper rivers, and the Atlantic Ocean, the town possessed a good, although somewhat shallow, harbor. Large ships were able to sail up the Cooper River for twenty miles while smaller vessels could roam up to forty miles inland from the Bay. A network of rivers provided easy access to the backcountry.

The new Charleston was one of the earliest planned cities in British colonial North America. Following their 1679 decision to move the town, the Lords Proprietor instructed the governor and council of the settlement,

to take care to lay out the Streets broad and in straight lines and that in your Grant of the Towne lotts you do bound every ones Land toward the Streets and in an even line and to 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 300 acres from Oyster Point to what is now Beaufain Street were then surveyed and mapped out in a Grand Model. Utilizing the central square commonly identified with Philadelphia, this plan divided the peninsula into the deep, narrow lots characteristic of seventeenth century British colonial towns (Calhoun et al. 1982:29; Reys 1965:77).

The original settlement encompassed the area bounded by present-day Cumberland, East Bay, Water, and Meeting streets. The seventeenth century town was surrounded by brick and earthen walls. The burgeoning city soon expanded beyond these limits, and by 1717 all but the east wall had been removed.

The early colonists had some trouble in determining what staple crop could best prosper the province of Carolina. Early experiments in the cultivation of such valuable commodities as wine, silk, and oranges proved disappointing. Planters survived chiefly on the production of lumber and naval stores, cattle and hogs, mostly to serve the needs of overcrowded, monocrop Barbados. The most valuable commodities came from the Indian trade, especially deerskins and Indian slaves (Meinig 1986:125). While experiments in husbandry continued, many of the settlers

decided to take advantage of the abundance of deer in the Carolina forests.

The main game animal of the Indian tribes which populated Carolina was the white-tailed deer. The Indians depended on these animals for food, and they artificially increased the number of deer in the area by burning the woods, a procedure which cut down on the amount of underbrush and promoted the growth of grass. As a result, deer sometimes ranged throughout these human-made savannahs in herds of up to 200 head (Weir 1983:16-17).

The colonists readily appreciated the value of this multitude of deer. 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). By the mid-eighteenth century, dressed deerskins accounted for 16% of the colony's exports to the Mother Country and, prior to 1760, tanning was the only important industry in Charleston (Bridenbaugh 1955:76).

The development of this enterprise was abruptly halted in 1715 when the Yemassee Indians living immediately to the west reacted to chronic grievances against Carolina traders and attacked plantations in the Port Royal area. Other tribes joined them which, combined with the chronic threat of the Spanish in Florida, drew a strong reaction from the colony. The Indians were driven beyond the Savannah River (Meinig 1986:177). Although the success of the colonists in the Yemassee War (1715-1716) resulted in increased safety for all, it jeopardized the prosperity of some. The defeat of the Indians caused the tribes to retreat inland. 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 mercantile community of Charleston. These merchants established credit relations with British businesspeople which enabled them to procure and finance the trading goods necessary for the primarily barter exchange carried on with the Indian hunters. The recognition, respect, and wealth which many of these merchants achieved made it possible for them to become involved in other branches of trade, such as slaves, naval stores, provisions and rice (Earle and Hoffman 1977:37).

Rice proved to be the sought-after profitable staple, as the expanses of marsh and swamp were suited to this labor intensive crop. The increased cultivation of rice throughout South Carolina created a voracious demand for African slave labor, all but replacing white indentured servants and Indian slaves (see Smith 1961). Although the Carolina colonists had been 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. It appears that the Africans

provided the early technical knowledge needed by the colonists. African, and African-Carolinian, methods of planting, hoeing, winnowing, and pounding the rice were used in Lowcountry rice production (Joyner 1984:13-14; Wood 1974).

Many of the immigrants who came to South Carolina were already familiar with slave labor and brought bondsmen and women with them. In the English West Indies, large sugar planters were enlarging their holdings and squeezing out those of lesser wealth, often younger sons of established families. Forced to seek their fortunes elsewhere, these Barbadians were attracted by the familiar climate and cheap, abundant land available in Carolina. The majority of these Barbadians came equipped with money and slaves (Dunn 1972:112). They also brought with them the traditions of an older colonial society accustomed to plantations and slavery.

By the 1730s, the planters of Carolina had made rice the major export of the province. Indigo, following a late start in the 1740s, was second, and the products of the backcountry - provisions, lumber, and naval stores - were third (Earle and Hoffman 1977:38).

It was during the decade of the 1730s that Charleston made the transformation from a stable frontier port to a commercial center for a much expanded hinterland. There were several reasons for this evolution. The inefficient proprietary government was replaced with Royal administration in 1719, integrating the colony more closely with the rapidly expanding and increasingly centralized politico-economic system of Great Britain (Lewis 1984). The reduction of aboriginal threat through disease and warfare and the removal of the Spanish threat, partially through colonization of Georgia, opened the backcountry to settlement. The expansion inland was given official sanction with the Township Plan of 1730, which projected a series of frontier settlements to be established by small farmers. With the development of rice as a profitable staple, the plantation economy expanded, bringing with it a financial stability and enough capital to entice merchants and factors to remain in Charleston and reinvest their earnings rather than returning to England (Rogers 1980:chapter 3).

Charleston's location on a good port meant that it served as a collecting point for colonial export commodities and a distribution center for imported goods (Lewis 1984; Sellers 1970:5). In addition, Charleston was the terminus of the British Indian trade in the Southeast (Crane 1981:108). The growth and prosperity that began in the early eighteenth century and mushroomed in the 1730s continued through the eighteenth century.

The commercial expansion of Charleston was matched by remarkable physical growth. The 1739 map of Charleston (Roberts and Toms 1739) indicates that the city had expanded well beyond the original city walls and that growth was primarily to the west. 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 sparsely occupied.

As the eighteenth century advanced, Charles Towne expanded in size, economic importance, and the relative affluence of its citizens. Still, the city limit remained at Beaufain Street until 1783, the year the city was incorporated and renamed Charleston. Within these confines, a growing population was accommodated by subdividing lots and expanding into the center of blocks. The city was oriented on an east-west axis. Charleston's merchants and craftspeople lined the waterfront and three streets, Broad, Tradd, and Elliot, which carried traffic west across the peninsula (Calhoun et al. 1982). Like other eighteenth century cities, Charleston was a pedestrian town. Merchants needed to be near the waterfront for the sake of convenience as well as for economy of transportation.

The Rutledge property is located within the portion of the city that was expanding in the early eighteenth century; the site is located on Broad Street, the major colonial thoroughfare, two blocks east of the original city wall at Meeting and Broad. The 1739 Roberts and Toms map shows seven lots on the block between King and Friend (now Legare) streets. The lot at the corner of King and Broad is relatively wide, but short, and contains the John Lining house, constructed before 1715. The modest wooden house fronting directly on the street still stands. Next to the Lining House was a large lot measuring 154 feet across Broad and 154 feet in depth, which was originally owned by William Harvey, who willed it to his son Benjamin. In 1756, Gabriel Manigault and Sarah Rutledge acquired the property (CCRMCO QQ:676); they immediately resold it to Ralph Izard (CCRMCO QQ:672-678). The house was constructed between 1720 and 1730, and is shown on the 1739 map as a double house on the southeast corner of this large lot. Later, the lot was subdivided, and Ralph Izard's son, also Ralph Izard, began a substantial brick house on the western portion of the lot. It was unfinished at the time of his death, and was devised to a daughter who died unmarried with the house still unfinished. The house was completed in 1829 by Col. Thomas Pinckney, who purchased the property and married another daughter of Ralph Izard (Figure 2).

The property which was the site of the Rutledge House was also owned by the Harvey family in the early eighteenth century. William Harvey willed the tract to his son, John. In 1751, John Harvey sold this land to Jordan Roche (CCRMCO HH:183-184). The tract was listed as,

All that lott of land part of two town lotts, 162 and 169, or part of one of the said lotts. Fronting on Broad street 51 feet or thereabouts, 200 feet in depth butting and bounding to the East on lands of the late William Harvey deceased, to the West on land of the Honorable Benjamin Whitaker, to the South on Broad Street, and to the North on lands of Col. Othneil Beale, together will all and singular houses,

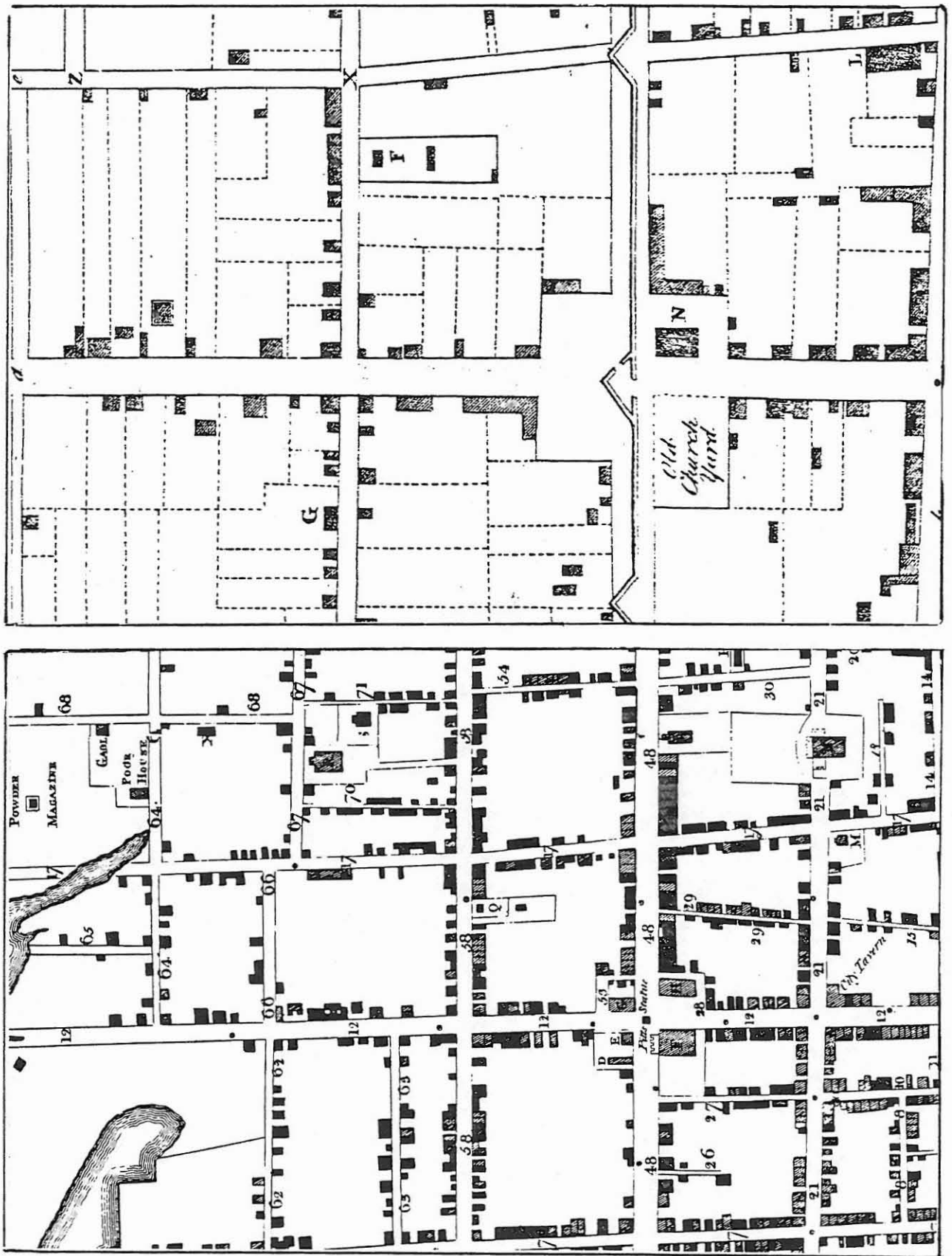


Figure 2: A portion of Charleston, in 1739 and 1788, showing the location of the Rutledge property. Though some of the structures located on them have changed, the configuration of the lots remained the same. The Ralph Izard lot has been subdivided and the Thomas Pinckney house begun. The Rutledge House has replaced an earlier structure and Edward Neufville had built his house and shops.

outhouses, edifices, buildings, yards, gardens, wells, passageways, and appurtenances (CCRMCO HH:183-184).

These dimensions match those of the Rutledge property, and the location of this tract on the 1739 map matches that of the present Rutledge house.

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 the other areas along the Bay became fashionable residential quarters. The development of wharves and streets significantly lowered lightering and hauling charges for the merchants. Buildings were erected upon the wharves and proved to be ideal locations for both the storehouses needed for 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 Street, two of the principal streets delineated in the Grand Model, were highly valued for their proximity to the waterfront. In the 1730s, 20 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; Calhoun and Zierden 1984)(Figure 3).

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, while artisans made increasing use of the more peripheral thoroughfares. Craftspeople who derived their livelihood from such trades as the slaughtering of livestock, soap making and tallow chandlery needed space. The unsanitary conditions and danger of fire made these activities the subject of nuisance persecution. Artisans plagued by complaints and worried about the increased cost of land within the commercial core tended to move from the economic center of town to less congested areas of the periphery.

Due to the demands of trade, Charleston's mainstay, the locations of merchants and artisans are important indicators of movement within a community. During the colonial period, merchants and, to a lesser degree, artisans utilized more intensively those streets which ran east-west, and physical growth during this period was to the west towards the Ashley River, with Broad Street developing first.

Jordan Roche's son, also Jordan, inherited the property from his merchant father. He died "in his minority" in 1761, and at the time of his death owned... "divers house and town lotts and parts of lotts and Buildings in Charles Towne and other plantation parcels and tracts." The younger Jordan Roche's

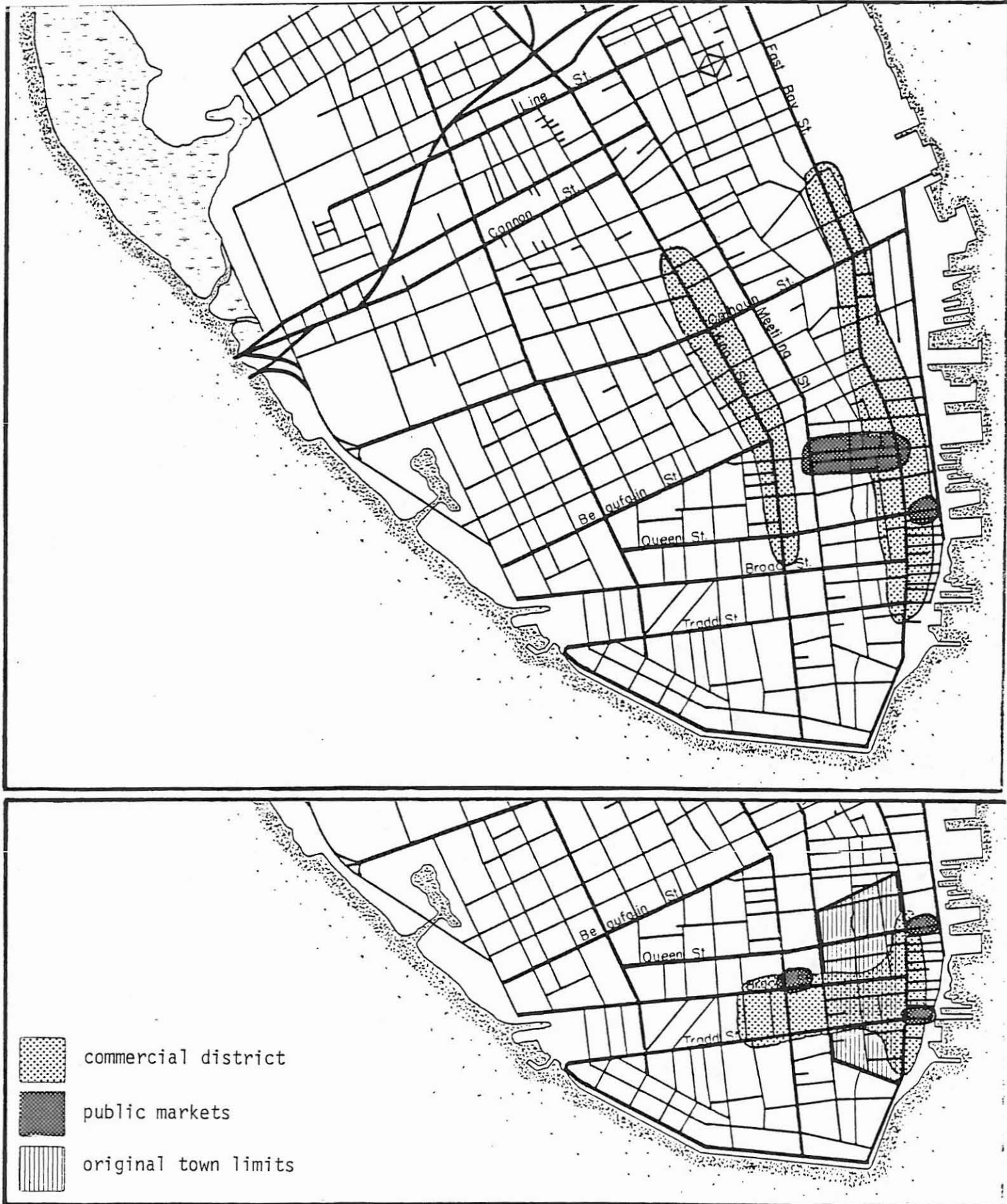


Figure 3: Location of commercial districts in the colonial and antebellum periods. During the colonial period, Broad Street was in the heart of the commercial district. By the antebellum period, the retail district had shifted north to King and Market streets, while Broad Street had become a professional venue. 13

property was held by his uncle, Francis Roche, and his mother, Rebecca.

There is a gap in the chain of title, but it appears that John Rutledge obtained the property from the estate of Jordan Roche. He was in possession of the property by 1763, and had begun construction of his grand house.

By the mid-eighteenth century Charleston emerged as one of the largest and wealthiest cities in the colonies (Weir 1983). Personal wealth poured into the colony from Europe in the form of furniture, silver, tableware, clothing, and paintings which was matched by a rise in the number of local craftspeople producing this finery, particularly cabinetmakers and silversmiths. This ascendancy of personal and collective wealth continued after the Revolution, peaking in the early nineteenth century (Rogers 1980:74).

Personal wealth was matched by a rise in imposing public and domestic architecture. Ironically, 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. Michaels Church, built in 1761, the State House on the opposing corner, and the Exchange Building, built in 1769. On the domestic front, a number of large double houses were constructed during this period, replacing earlier, more modest structures on the same lot. Three of the townhouses investigated archaeologically were constructed during this period; the John Rutledge House (1763), the Miles Brewton House (1769), and the William Gibbes House (1772).

The builder of the house at 116 Broad was the son of an Irish immigrant (Figure 4). Two brothers, Andrew Rutledge and Dr. John Rutledge, arrived in South Carolina from Dublin in 1730 and 1735, respectively. Dr. John Rutledge married 14 year old Sarah Hext, heiress of the Hext estate of 150 slaves and 11,000 acres in Waccamaw. Shortly after their marriage, Dr. Rutledge abandoned his medical career, and the couple lived on Tradd Street. Their first son, John, was born in 1739. Sarah bore six other children, two girls and four boys. In addition to their Tradd Street House, Sarah Hext Rutledge owned a townhouse on Dock Street and one on Coming Street (Barry 1942; Parker 1987:1). Her holdings also included Philips Plantation in Christ Church Parish and two Stono River plantations.

John Rutledge's father died when he was eleven, and as eldest son he became the responsible male. John Rutledge left all of his estate to his wife, for her dedication to their seven children (Wills, vol. 81 (1752-1756):444). An appraisal of the estate included 21 slaves, 40 head sheep, 13 head hogs, 10 head oxen, 55 head black cattle, and sundry furniture at Philips Plantation. Items in their Charles Town house and at two Stono plantations are shown in Table 1 (Inventories, vol. 82-B:765-767).



Figure 4: Sketch of John Rutledge.

A True & perfect Inventory & appraisement of all the Goods & Chattels of JOHN Rutledge Esq. deceased at his Plantation in Christ Church Parish shewn to us by Sarah Rutledge Executrix of the said deceased & Appraised by us on the Second day of January 1756

Tom £ 230. Dandy £ 300. Frank £ 350. Jupiter £ 250	
Dovey £ 300-----	£ 1430-----
Rebecca £ 180. Jenny £ 200 Amsterdam £ 200 Dandy £	
130 Jack £ 50-----	760-----
Jack £ 50 Joan £ 80 Joan £ 60 Dia £ 80 Orentia £ 200	
Hagar £ 230-----	700-----
Mary £ 240 Maria £ 300 Statira £ 240 Statira £ 110	
Dia £ 50-----	940-----
40 Head of Sheep @ 35/ p h. £ 70. 13 Head of Hogs)	
£ 20. 10 head of Oxen @ £ 10 p h. £ 100. 55 head)	
of Black Cattle @ £ 4:10/ p head £ 247:10 Furni-	
ture £ 122-----	559-10---
	<hr/>
	4339-10---

Timothy Crosby

William Whites

Arnoldus Vanderhorst

A True & perfect Inventory & Appraisement of John Rutledges Esq. Goods & Chattels Shewn to us by Sarah Rutledge Executrix of the said John Rutledge Esq. deceased this twenty Eighth day of January 1756 at her House in Charles Town viz.

55 Mahogany Chairs £ 30:10. An Easy Chair & 3 others	
£ 8-----	£ 35-10---
3 Pair of Fire Dogs £ 8. 3 Sconce Glasses £ 33 Chaina	
£ 30-----	71-----
170 Ounces of Plate @ 35/ p O. £ 279:10 7 Mahogany	
Tables £ 28:10-----	308-----
A Schreen £ 100. A Clock £ 40. 50 Pictures £ 40. 1)	
Bedstead Bed & Furniture £ 30. 1 Mahogany Desk & An)	
old Chest of Draws £ 13. 1 Dressing Table & Glass)	
£ 8-----	138-----

1 Mahogany Book case £ 30. a Negro Wench Hagar & 3 children £ 600-----	£ 630-----
2. INDISTINGUISHABLE £ 250 d. Sarah £ 250 d. Amy £ 150.)	
a Negro Fellow Dean £ 250-----	0900-----
	<hr/>
	£ 2100-10---

The above Appraisement amounting to the sum of Two Thousand one Hundred Pounds ten Shillings is just & true as Witness our hands the day & Year above Written

Robert Peirce Henderson
 William Glen
 George Marshall

An Inventory & Appraisement of the Estate of John Rutledge deceased at his two Stone Plantations viz.

At the Upper Plantation

A Negro Fellow Called Caesar £ 50. Ditto Limus £ 350 £ 400-----	
Ditto Cuffee £ 300. d. July & his Wife Cate £ 330.)	
d. Mingo & his Wife Judy £ 750 d. Hercules £ 350.)	
d. Mustee Jack his Wife Cretia & child Mary £ 600)	
d. Chadwell £ 170 d. Myrtile £ 230-----	2750-----
D. Neptune £ 300 d. Cromwell £ 350. d. Prince £ 500	1150-----
d. Jack £ 320 d. Primus £ 400 d. Sam £ 350 a Boy	
Dick £ 220-----	1220-----
A Negro Woman Dia & her two Children Hagar & Joe £ 600-----	600-----
d. Flora & her Child Caesar £ 450. d. Manny £ 280)	
d. Oculley & 5 Children Sarah Dia Dalph Flora &)	
Leuter £ 570-----	1280-----
d. Bebe & Child Clarinda £ 350. d. Sue & Child Jenny	
£ 420-----	720-----
d. Belle £ 100 d. Baph & Children Toby Cromwell)	
Nigger Jack Jacob & Maria £ 650. 60 Head of Cattle)	
£ 500. 10 d. of Horses £ 100-----	1350-----
2 old Guns £ 2. 12 Keaping Hooks & 5 Hedges £ 3 Hoes	
& Axes £ 5-----	10-----
1 Chip saw & a cross cut d. £ 10. Coopers & Carpen-	
tars Tools £ 4:10-----	14:10-----

An old Cart & 1 Hindstone & 1-20. a Fittin-

.....	£ 204-10-00
.....	
A Negro Fellow called Mercury £ 250 d. Sanchez £ 300	550-00-00
d. Brunswick £ 120 d. Jack Wallace £ 220 d. Toney	
£ 20-00-00	300-00-00
d. Titus his Wife Rose & his children Quamina &	
Andrew	650-00-00
d. Tom his Wife Cate & children Bridget & London	550-00-00
d. Samson & his Wife Manny £ 300 A Negro Woman Dinah	
£ 270-00-00	570-00-00
d. Phillis & her child Nat £ 280. d. Sue & her	
children Betty Isaac Tamar & Manny £ 600. d. Daphne	
& her Son March £ 400	1280-00-00
d. Judy her Brothers Will Harry & Jenny & her Sister	
Molly	450-00-00
d. Sarah & her Son Pompey £ 750 D. Diana £ 270. 64	
Head of Cattle £ 320. 3 d. of Horses £ 80. Stock of	
Hogs £ 35. An Horse Cart & Apptes £ 7	1462-00-00
a Plough & Irons £ 5. 2 Cross cut Saws £ 8. 2 old	
Guns £ 7. Carpenters Tools £ 6. Coopers d. £ 6. 14	
Reaping Hooks £ 1:10. 14 Hoes £ 6	39-10-00
Spades & Axes	5-00-00

£ 15725-10-00

We the Subscribers do Certify that the above Estate amounting to
 the sum of Fifteen Thousand Seven Hundred & Twenty five Pounds
 10/ Currency was jointly & truly appraised by us on the 21. &
 22. days of January 1756 as Witness our hands the said Last
 mentioned day & Year

Alexander Ramsdale
 Benjamin Harvey
 Archibald Stanyarne

John already envisioned a career as a lawyer, and spent much of his time at his Uncle Andrew's office. He also followed his uncle into Assembly when Andrew became Speaker of the Assembly. Andrew died in 1754, and John worked for two years in the office of James Parsons. His mother insisted on a proper education, and in 1756 John sailed for England. He studied at Oxford for three years and was admitted to the English Bar in 1760.

At age 20, John Rutledge returned to Charleston and opened a law office at Broad and Church. His mother's financial situation had deteriorated during his absence, and he assumed control of her affairs. In 1761, he shocked his mother by hosting an oyster roast for friends and neighbors at the Christ Church plantation, and then asking them for their vote in the upcoming election for Assemblymen. The reputed menu of this affair included crayfish in aspic, shrimp, watercress salad, red snapper baked whole in Bordeaux sauce, terrapin stew, venison patty, pudding made of palmetto heart and yams, and biscuits made from swamp cabbage (palmetto trunk). The venison was provided by Indian traders (Barry 1942:44). Madeira was provided for the men, and Bordeaux or Schnapps for the women. Rutledge ordered a number of supplies from Henry Laurens for this event. They included:

- 2 turns Madeira
- 4 cases Schnapps
- 4 cases Curacao Cordial
- 2 casks Bordeaux
- 1 bbl molasses
- hardware
- muslins
- dried fruits (Laurens Papers, Barry 1942)

Despite the social boldness of this move, Rutledge was elected to the Assembly and served for the next fifteen years. His law practice grew slowly, however, and he initially divided his time between the city and Philips Plantation. In 1763 he quietly married Elizabeth Grimke and began building a stately townhouse on Broad Street. He moved in with his new bride and twenty of his mother's slaves (Parker 1987).

Rutledge's role as a public figure escalated with the approach of the Revolution. In 1762 the King's Governor appointed him Attorney General. He was known as a clear thinker who kept his political feelings to himself. In 1765, he was chosen as a delegate to the Stamp Act Congress in New York, along with Christopher Gadsden and Thomas Lynch. The Congress sent a violent essay of protest to the House of Commons and, after riots and boycotts, the Act was repealed.

In the ensuing years, Revolutionary sentiment increased in South Carolina. Brothers Hugh and Edward Rutledge became outspoken revolutionists, but John, heavily dependent on overseas merchants for his business, was more slowly swayed. His moderate stance led to his selection as a delegate to the First Continental Congress in 1774, along with Henry Middleton, Thomas

Lynch (conservatives), Christopher Gadsden and Edward Rutledge (liberals). As a delegate, Rutledge helped forge compromises which saved the southern colonies from economic destruction.

Shortly after his return home, Rutledge and the other delegates were reelected to the Second Continental Congress in Philadelphia. Revolutionary fervor was reaching a heated pitch, however; the first shots had been fired at Concord, and many people were ready for war (Weir 1970). Rutledge returned from Philadelphia and, in a reorganization of the colony, he was elected President of the South Carolina colony. Edward Rutledge replaced his brother in Philadelphia. At that point the British Parliament declared the colonies in rebellion.

When the British reached Charles Town in 1776, Rutledge's quick decisions as Commander helped General Moultrie turn a decisive victory (Lumpkin 1987:10). Rutledge resigned as President in 1778 amidst a growing movement for democracy among backcountry residents. Rutledge served briefly as Senator but soon, under a new state constitution, was elected Governor. During the second phase of the War and during the British occupation of the city (1780-1782), Rutledge, working from various locations in North and South Carolina, was recognized as an effective strategist.

On July 4, 1776, the American colonists proclaimed their independence from the British Empire. The first attempt to conquer South Carolina came in 1776 when the Royal Navy attacked Fort Sullivan, later called Fort Moultrie. Repelled militarily, as well as by the unexpected hazardous tidal currents and shoals, the British withdrew. In 1779, the British again attacked the province. American forces, alerted to the danger, began to converge on South Carolina. British General Prevost, alarmed at the prospect of being caught between the troops commanded by General William Moultrie and General Benjamin Lincoln, retired to James and Johns Islands.

Military operations virtually ceased. Fort Johnson had been destroyed by the Americans to prevent its use against the city. the South Carolina militia was leaving for home in large numbers; the North Carolinians' terms of service were due to expire soon. The onset of warm weather rendered the Lowcountry unhealthy and oppressive. British and Hessian troops stationed on the sea islands described them as "infested with venomous snakes and insects. Wolves were too abundant and sixteen foot long crocodiles were common" (Hays 1978:27). The James Island militia, bored with the lack of activity and anxious to return to their crops, fraternized so much with the enemy that they had to be removed to Charleston. The British retained control of the water. They had appropriated most of the boats in the area and easily sailed from island to island as they made their way to Beaufort (Calhoun in Zierden et al. 1986a).

Although repulsed from the city of Charleston, Prevost's invasion had not been without cost. Plate, jewelry, horses, and

other movable property were taken by the British as plunder in the surrounding Lowcountry. Some three thousand slaves appropriated from their owners were sold by the British in West Indies, and a thousand more were lost to sickness or starvation (Wallace 1961:193).

The British returned to attack Charleston in 1780. British General Clinton moved part of his forces overland from Savannah to Charleston. The majority, however, came by sea to the southern end of Johns Island and then over to James Island. By February 14, the British main force had occupied James Island and had begun to deploy towards the city. General Clinton initially had 6,000 men. During the course of the siege, his troops were augmented by another 5,000 and became the largest force employed in any engagement of the war except the capture of Philadelphia. American General Lincoln, badly outnumbered and outmaneuvered, was forced to surrender the city on May 12, 1780. The British occupation of Charleston was to last until December 14, 1782, when the last British troops left to join their comrades in New York for the journey home (Boatner 1975; Hays 1978:26; Pancake 1985:60; Wallace 1961:198).

The loss of Charleston was considered by many Americans to be their greatest defeat in the Revolution. Not only was a major seaport in the possession of the enemy, but nearly 6,000 troops, seven generals, and the lieutenant governor of the state (Christopher Gadsden) had been taken prisoner. With the capture of Charleston, the British hoped to accomplish a number of goals. Militarily, it was to be used as a base from which the rest of the southern colonies could be captured. Psychologically, it was intended as a heavy blow to the hope of the patriots. The British failed miserably in this respect, however. The loss of Charleston became a "ground of hope" (Anonymouns 1800).

During their occupation, many Carolinians suffered sequestration of their property, the quartering of troops in their homes, imprisonment in the "dungeon" of the Exchange, internment 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 totaling 300,000 pounds of sterling. Commissioners of captures were in charge of the booty and assigned it by rule; the share of a major general was around 4,000 guineas. Many soldiers looted solely for their own benefit, virtually guaranteed of immunity from prosecution. Slaves were a highly lucrative commodity and thousands of them were taken by the British and sold in the West Indies. Thousands more who had hastened to join the British sickened and died (Calhoun in Zierden et al. 1986a; Wallace 1961:294).

After the British withdrew in December 1782, the inhabitants of the region struggled to mend their lives. Sequestrations of rebel property were overturned, and the victors turned their attention to estates belonging to Tories. Many of these now suffered confiscation or heavy taxation.

After the War, Rutledge returned to Charleston and public life. Much of his personal fortune, however, was lost during the War. In 1784, he was elected the first Chancellor of the Court of Equity. His salary was small, and from time to time he sold land to pay creditors (Parker 1987:6).

It soon became apparent that the new union needed reorganization. Again, Rutledge was chosen as a delegate to the Convention to develop the Constitution along with the outspoken Charles Pinckney. A major point of contention between the colonies was the importation of slaves. Rutledge fought especially hard to prohibit the federal government from having the right to interfere for twenty years (Weir 1988:84). Though the sessions were held in secret, it is believed that Rutledge's skills as lawyer, judge, mediator, and writer contributed to the streamlining of the document and to the compromises that led to its completion (Parker 1987:7).

Rutledge's political undoing came with the controversy over the Jay Treaty with Great Britain. He had been provisionally appointed Chief Justice under President Washington when the controversy arose. Charles Pinckney spoke against the treaty in Charleston, and Rutledge joined his colleague in a "violent" anti-treaty speech (Rogers 1980:132). The political partisanship resulted in his defeat of obtaining the Chief Justice position.

After this defeat, Rutledge continued his life quietly in Charleston. His wife died in 1793, and his finances remained in a precarious state. There were rumors of mental imbalance. He died intestate in 1800, still a highly respected community member, as reflected in his obituary.

Died, the honorable John Rutledge, esquire. This gentleman was a member of the first Congress in 1765, in which situation, though very young, he displayed talents that excited universal admiration. In the year 1774, when South Carolina delegated unlimited powers to five of her citizens, to meet in congress with the other British Provinces, to take care of their common interest, he was elected one of the five. In the year 1776, when the people of this state adopted their first independent constitution, he was called forth to the exercise of the supreme executive authority. In the year 1779, when the state was about to be invaded, he was again invested with the same high office, with a further delegation, resembling that of the Roman Dictators. These ample powers he possessed and exercised for the good of the state, for three years, and until civil government was re-established in the year 1782. In the times that tried men's souls, and when the greatest abilities were requisite, Carolina looked to her John Rutledge, and confided her most important interests to his talents and virtues. Nor was she disappointed. What could be done by any man

for his country, invaded and distressed and overrun, was done for South Carolina by this her highly favored son. As a public speaker, he charmed and transported all who heard him: his eloquence would not suffer by a comparison with the most famous orators of antiquity. He possessed an irresistable manner of address, which forced its way to the heart, and controlled every power of the soul (City Gazette and Daily Advertiser, July 24, 1800).

Although much is known of Rutledge's political career, there is very little information on his daily affairs and his home life. After his death, his Broad Street property was sold to William Greenwood (CCRMCO S6:437). William Greenwood, as agent for William Higginson, sold the property to General John McPherson on August 5, 1800. The property is described as fronting on Broad Street, measuring "in front 50 feet and in depth about 185 feet, bounded to the north by a lot belonging to John Beale on the east by one of Ralph Izard, south on Broad Street aforesaid and west on a lott of Edward Neufville."

McPherson also acquired other property in this vicinity. In 1801 he purchased the lot of Edward and Eunice Neufville to the west. Edward Neufville and his brother John were prominent colonial merchants. Beginning in the 1750s, they advertised a variety of goods for sale at their Broad Street store (South Carolina Gazette, April 1, 1751, September 12, 1754, November 14, 1754, November 3, 1758). This lot measured 82 feet along Broad and extended through to Queen Street (CCRMCO D7:422-424). The property contained a number of structures at the time of McPherson's purchase. Later, this lot became the site of the St. Andrews Society Hall (Figure 5). McPherson also purchased a number of lots fronting Queen Street.

John McPherson was an extremely wealthy planter, with extensive landholdings in Prince William Parish (Beaufort district) and over 200 slaves. He was "a most prominent figure on the turf in South Carolina. He was one of the large group of historical men to whom is due the credit of improving the stock of horses in the state, and maintaining the high standard of racing, which made the South Carolina Jockey Club famous in the annals of horse-racing in America at a time when it was the sport of gentlemen and not the occupation of gamblers" (Huger Smith 1917:255).

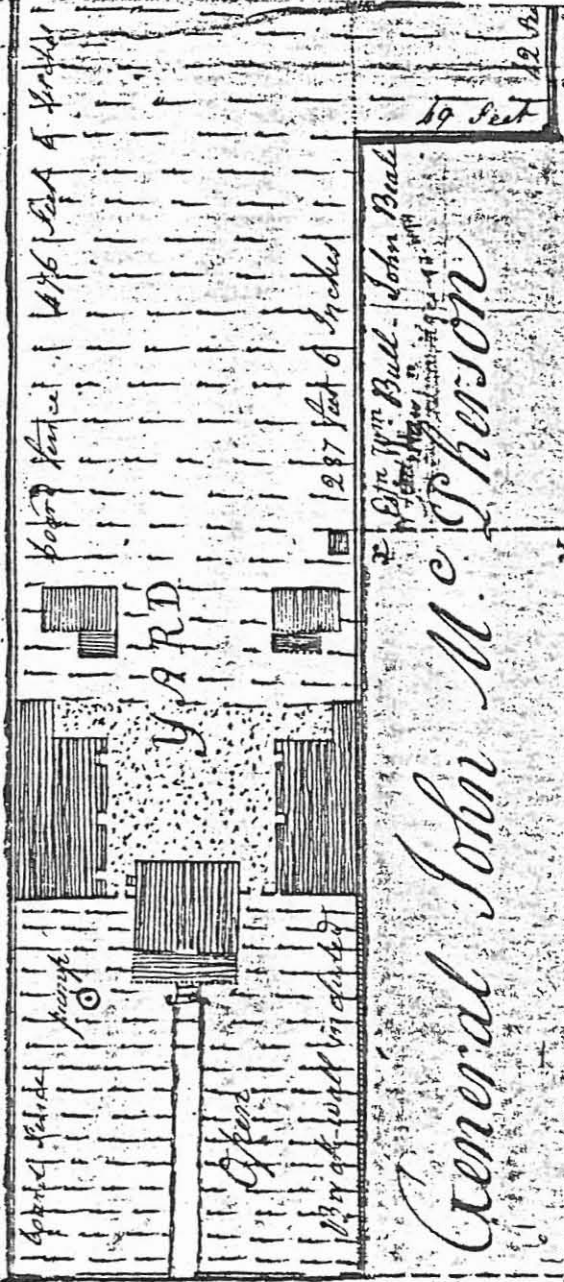
A number of McPherson's slaves were evidently skilled, as revealed in this undated advertisement for his runaway groom, Ned (McPherson papers, South Carolina Historical Society):

John McPherson

Groom Ned One Hundred Dollars Reward

Ran-Away on the 26th May, my mustoe Negro waiting man and hostler NED, well known in and about Charleston and through-out every part of this state, the State of Georgia, and North Carolina, as a keeper of race

Estate Thomas Middleton Esq



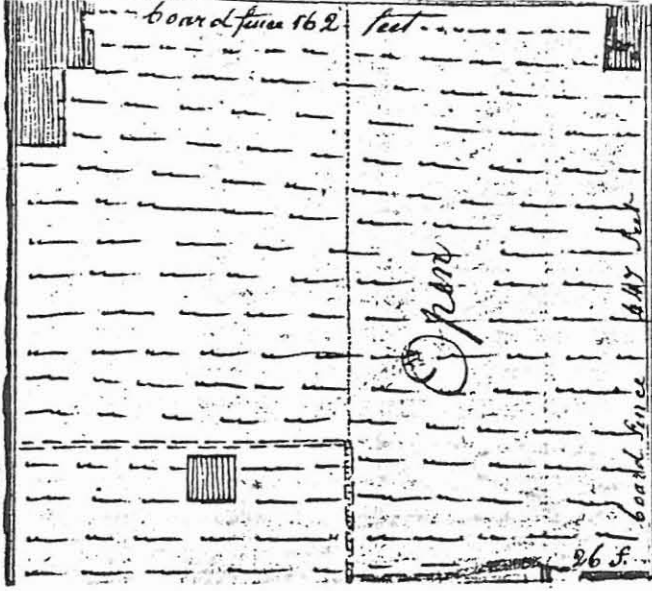
General John McPherson

Respectfully Signed

The

Plan of a lot of Land with the buildings thereon
 belonging to Edward Neufville Esq. situated in the
 City of Charleston on the North side of Broad street
 as a measurement, taken in May 1801. John Diamond Sur.
 belonging to the public & occupied
 as an Engine house.

A Henry



John Clement

John Clement

Added in book D No 7 page 4
 of June 1801 Examined

Stephen R. Orr

J

horses; he is low set, handsome and well made, remarkably bowlegged, with a long and bushy head of hair, frequently parted at the sides and cured; a good countenance, a full manly look; he is about 25 years of age, a hair dresser and compleat butcher. All masters of vessels and others are strictly cautioned against carrying him off, or concealing him, as they may count on being prosecuted to the utmost rigor of the law, he will endeavor to pass as a free man, and to those who know him as if engaged on my business. The above reward of \$100 will be paid on his being secured in either the gaol of Savannah or Charleston, or delivered to me; fifty dollars reward on proof of his being harbored by a free negro or slave, and twenty guineas if by a white man.

If he returns of his own free will he will be forgiven. There is every reason to suppose he has a forged pass.

Retreat, Prince William Parish, John
McPherson

McPherson's will, filed in 1807, details his extensive landholdings. The land he purchased from Edward Neufville was left to his daughter Elizabeth. She also inherited 70 slaves and a plantation on Stony Creek, Prince William Parish. His son James received Cotton Hall Plantation, Prince William Parish, the adjoining Deveaux Plantation, and 100 slaves. The slaves were to be drawn in lots and he specified that the house servants and carpenters would be divided equally. His wife Susan and his "two young children Nancy and Susan" received the remainder of the slaves.

Wife Susan also received the carriages and four draught horses, and "use of my house in Broad Street, in City of Charleston (which formerly belonged to Mr. Rutledge) together with all the furniture therein, during her widowhood." The house and lot was willed to son James. James also received 1100 acre Pine Comfort Plantation, subject to the residence of his mother. The two young daughters received Ponpon Plantation. All his plate, household furniture, stock of horses, mules, cattle, hogs, and sheep were to be equally divided between wife and four children. His lots of land fronting Queen Street were to be sold for payment of debt, including the back portion of the Neufville tract. He specified that what he gave his wife by will "shall be in lieu of her dower" on his estate. He also stipulated that the Negro woman Molly be freed in repayment for her faithful nursing in 1799 when he was seriously ill. She was to be allowed to serve family members for payment if she desired and to remain on any of James' land and raise poultry and provisions (Wills vol. 30 book C:1051-1055).

The McPherson's dual life as city residents and rural plantation occupants was common among the Lowcountry elite. As the major urban center of the Southeast, Charleston was influential in the development of the surrounding Lowcountry.

The urban center's development began with the first British settlers. As Lowcountry plantations developed a profitable staple crop, rice, Charleston developed as a port and marketing center. Because the economic emphasis of the city was on the marketing of staple crops, the urban economy was dependent on the plantation economy, and vice versa. Thus the plantations of the Lowcountry were extensively linked with Charleston, both socially and economically. In fact, it has been suggested that Southern cities in general were more intimately linked with, and influenced by, their agricultural hinterlands than more northern cities (Goldfield 1982:3).

The planters of the Lowcountry often divided their time between their business interests in the city and the oversight of staple crop production on their plantations. Successful planters often diversified their commercial interests by investing in additional operating plantations, or by investing in more urban-based enterprises, such as shipping. Wealthy planters had extensive contact with the city and spent a great part of their time there (Rogers 1980). The distinction between rural and urban citizens of the upper class were further obscured by the fact that successful merchants also invested their earnings in land, becoming absentee planters as well (Stumpf 1971; Zierden 1986).

Poor inland communications, lonely stretches between plantations, and bad roads made it virtually imperative for a planter interested in advancing their social position 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 residences for their families. Although these planters generally chose lots near the rivers for the reputed health benefits, they were also influenced by wealth and taste in their decisions. Some, particularly the rice planters of the mid-eighteenth century, situated themselves along the Battery while others, preferring more spacious lots on which gardens and pleasure pavilions were possible, spread along the banks of the Ashley and Cooper rivers (Zierden and Calhoun 1984:37).

Susan McPherson survived her husband by many years. She remained in the Broad Street house until her death in 1835. Her son James, who actually owned the house, died intestate in 1829 without issue. The property then passed to Mrs. McPherson (CCRMCO L10:469-473). Her will divides her slaves and her silver among her children and grandchildren. Her Beaufort district plantation, Canaan, and the furniture and plantation tools was left in trust to her daughter Susan. The remainder of her estate was sold and the proceeds were divided among the children (Wills vol. 40 book A:248-253). The land was described as "lying and being in the North side of Broad Street, next to the hall of St. Andrews Society, measuring and containing in front on Broad Street 55 feet 10 inches and on the back line 53 feet 8 inches by 335 feet in depth from north to south. Butting and bounding to

the south on Broad Street to the west on the lot belonging to the St. Andrews Society to the north on the lot of Samuel Burger or Mrs. Gabeau and to the east on the lots of Col. Thomas Pinckney, Rene Godard and others."

Mrs. McPherson's executors sold the property to the Catholic Church, under title to the Rt. Reverend John England (CCRMCO L10:467-473). The Church retained the property until 1843. This was one of several properties in this area acquired by the Church. The large lot, formerly Vauxhall Gardens, at the Corner of Broad and Legare was purchased for eventual construction of the cathedral. The Church also owns 114 Broad to the east of the Rutledge house and #89 across the street. The Broad Street property was used as the Convent of the Ursulines (Wills vol. 42 book A:409). Bishop John England died in 1842, and the property he held for the Church was passed to a group of trustees.

The property at 116 Broad was then sold by these trustees to T. Heyward Thayer and Catharine Barnwell Livingston Thayer (CCRMCO L11:371-375). Thomas Heyward Thayer entered into a marriage settlement with his wife Catharine and her sister-in-law, Mrs. Eliza Barnwell Livingston (CCRMCO N11:364). The settlement required a room by room inventory (Table 2). The extensive list of furnishings reveals the opulence of the Broad Street residents. The inventory also names six slaves, obviously in residence at the property. Four are named - Anthony, Cora, William and Jacob. The two unnamed slaves are listed as a "maid servant" and a seamstress. The Thayers are listed as owners on the 1852 Bridgens and Allen map. The map shows the same configuration of outbuildings as the current arrangement (Figure 6a).

By the antebellum period, 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 throughfare throughout the eighteenth 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 attracted wholesalers, factors, and commission merchants. There was a corresponding decrease in the commercial importance of east-west streets, except for Broad Street (Calhoun and Zierden 1984:59) (see Figure 3b).

The character of Broad Street was changing, however. The area now attracted a number of professionals, with a high concentration of lawyers and auctioneers. This clustering was probably a result of these professionals' desire to be in close proximity to both the commercial core, East Bay and Broad, and the governmental and institutional center, Broad and Meeting. The latter intersection was the symbolic center of the city and the embodiment of social control (containing municipal and state governmental buildings, St. Michael's Church, and the guard house), around which residences of the antebellum elite were

Signed, Valued and Delivered
in the presence of
E. M. Livingston
John M. Livingston

J. Heyward Thayer (S)
C. B. Thayer (S)
E. B. Livingston (S)

Schedule

of Household Furniture etc, etc, referred to in the Inventory and

- South East Front Room Down stairs
- 1 Brussels Carpet & Rug 60 yds.
- 8 Mahogany Chairs
- 1 Sofa
- 2 " Divans
- 2 " Ottomans
- 1 " Center Table
- 1 " Marble Top Pier do
- 1 " Hand looking Glass
- 1 Pair Flower Vase
- 2 Astral Lamps
- 2 Mahogany Card Tables
- 1 Colian Harp
- 1 Backgammon Board
- 1 Chess do
- 3 Glass Circassians
- 4 p. Chintz & Muslin Curtains
- 4 p. Gilt Cornices
- 8 p. Bands
- 4 p. Screens
- 2 p. Bell Ropes
- 1 Mahogany Crimson Velvet Rocking Chair
- Handsome Ornament on Center Table
- One Blue Mat
- One Handsome Goate
- 2 p. Stands
- Shovel and Tongs
- Pillows and Bunches
- One Box Dominoes
- South West Front Room (Down stairs)
- 1 Brussels Carpet & Rug 60 yds.
- 8 Mahogany Chairs
- 1 " Sofa
- 1 " Rocking Chair
- 2 " Ottomans
- 1 " Sideboard
- 2 " Dining Tables
- 1 Pair Gilt Shades
- 3 Circassians
- 4 p. Chintz & Muslin Curtains
- 4 Gilt Cornices
- 8 Bands
- 4 Screens
- 1 Door Mat

- 1 Goate
- Shovel and Tongs
- 2 Stands
- 2 p. Bell Ropes
- Bunched & Pillows
- North West Room Back Down stairs
- 40 yds Scotch Carpet & Rug
- 12 Gilt Straw bottomed Chairs
- 1 Mahogany Dining Table
- 1 do Book Case
- 1 " Sideboard
- 4 p. " Cornices
- 2 p. Gilt Lamps
- 2 p. " Lamps
- Pair Goate Shovel and Tongs
- North East Room back Down stairs, Second Hill
- 1 Wace Safe
- 6 Windsor Chairs
- 1 Table
- North West Room up stairs
- One Maple Bedstead
- 2 Mattresses
- 2 Pillows & Bolster and Bedding
- 1 Mahogany Bureau
- 1 Wash Stand Basin and Ewer
- 1 Looking Glass
- 6 Chairs
- 40 yds Straw Matting
- North East Room up stairs
- 40 yds Scotch Carpeting
- 6 Gilt Chairs
- 1 Mahogany Bedstead
- 1 " Bureau
- 1 " M. Top Wash Stand
- 2 Basins 2 Ewers, 2 Soap Boxes
- 2 Brush Boxes
- 1 Hair Mattress
- 1 Wool do
- Pillows Bolster & Bedding & Curtains
- 4 Window Curtains
- 6 Cornices
- 1 Looking Glass
- 1 pair Hoops fine dogs, 10 pins, 10 pins, 10 pins
- South East Room up stairs

7/1 40 Yds Impean Carpet & Rug
 100 Mahogany Chests and Cornice Case
 1 Fine Antiquary
 1 Wood
 2 French Mirrors & Pictures & Recording
 1 Mahogany Bed Steep
 South East Room Continued
 1 Mahogany Bureau
 1 " " " " " "
 1 " do Wash Stand
 1 Fr. Cloths Dress
 2 Looking Glasses
 6 Gilt Chairs
 1 Mahogany Work Table
 2 French China Gilt Ewers
 2 Do. Do. " " " " " "
 2 " " " " " " " " " "
 2 " " " " " " " " " "
 1 " " " " " " " " " "
 1 " " " " " " " " " "
 3 " " " " " " " " " "
 2 " " " " " " " " " "
 1 " " " " " " " " " "
 2 Flowers Vases & Flowers
 2 Fr. Chintz & Madras Window Curtains
 1 Set Bed Curtains
 4 Gilt Cornices, 8 Gilt Cornice Bands
 Gate Tong & Shovels etc
 Saloon
 140 Yds Wilton Carpet & Rug
 5 Fr. Blue Damask Satin Curtains
 5 Fr. White Muslin
 5 Gilt Bands
 3 Cornices
 5 Screens
 Two Pair Ant. Tables with Looking Glasses
 1 Piano and Stool
 1 Large Looking Glass over the above
 2 Fr. Flowers Vase
 2 Small Antiquary
 Saloon Continued
 Signed Seal of & Delivered
 in the Presence of
 E. B. Livingston
 John A. Livingston

1 Large Antiquary Lamp
 1 M. F. Center Table
 1 Fr. China Figures
 1 Gilt Chandelier
 2 Grandoles with Drops
 1 Fr. Gilt Candlestick
 1 Gold Clock
 1 Mantle Looking Glass
 2 Bell Ropes
 2 Door Mats 1 Gate 2 Stands
 Shovel and Tong. 1 Case Basket
 1 Large Souvenir
 8 Blue Satin (Damask French Chairs
 2 So Grecian Lounges
 2 Do. " " " " " " " " " "
 7 " " " " " " " " " "
 1 " " " " " " " " " "
 1 " " " " " " " " " "
 12 " " " " " " " " " "
 Closets Containing
 Glass China & Silver Plate
 Enter
 120 Yds Oil Cloth
 1 Hat Stand
 2 Fr. Blue D. Curtains
 3 Gilt Cornices
 2 Enter Ramps
 1 Slaved
 1 Anthony
 2 Cora
 3 William
 4 Jacob
 5 Maid Servant
 6 Seamstress

The Above examined and
 attested this first day of
 July A. D. 1843.
 By us
 J. Hayward Thayer (d.)
 C. B. Thayer (d.)
 E. B. Livingston (d.)

South Carolina Charleston District personally appeared
 before me Sabi a Compton and made oath that he was
 personally present and saw the within named J. Hayward Thayer
 C. B. Thayer and E. B. Livingston severally sign Seal and deliver
 this Deed of Marriage Settlement also the Schedule annexed

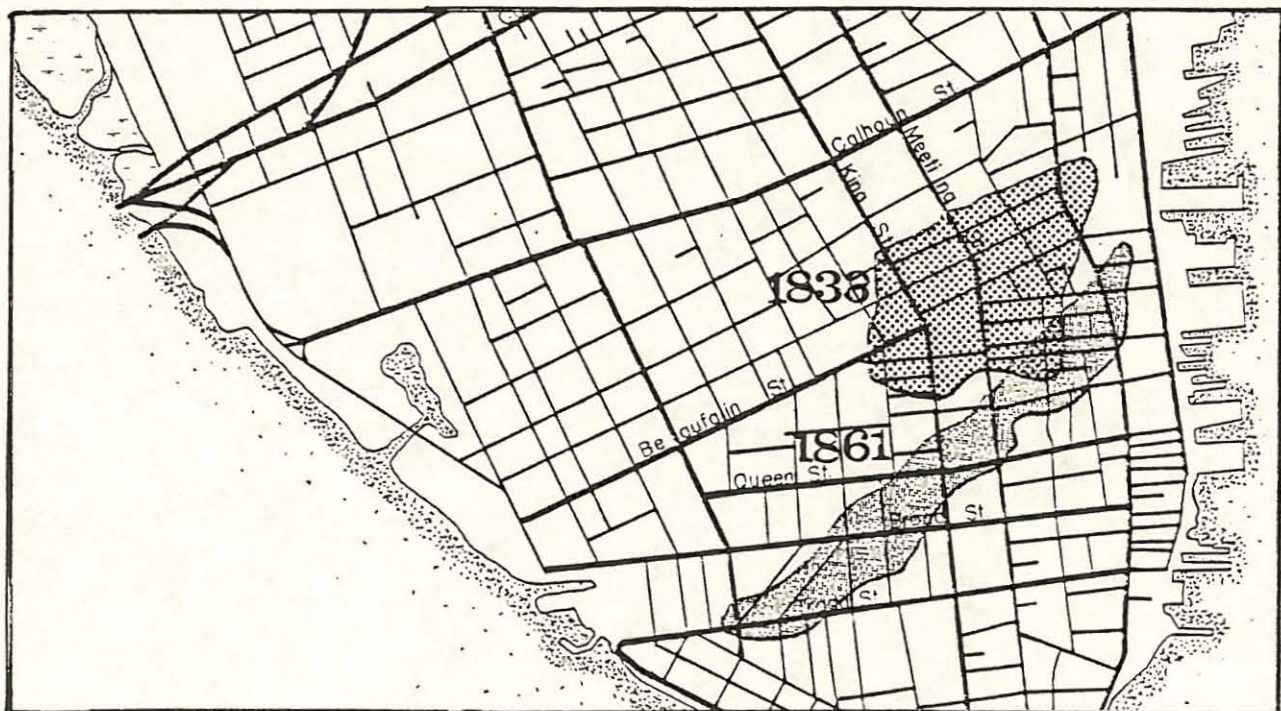


Figure 6a: Configuration of the Broad Street area in 1852 showing The Rutledge House belonging to the Thayers. Also shown is the St. Andrews Society Hall and St. Finbar's Cathedral. The lot and outbuilding configuration, prior to T.N. Gadsden's renovation, are identical to that presently standing.

Figure 6b: Path of the major fires of the 19th century. The devastating fire of 1861 burned the buildings adjacent to The Rutledge House.

clustered (Radford 1974:194-195). Broad Street presently retains this professional character. The Rutledge House was, and is, on the edge of this professional district, and from the antebellum period on, the portion of Broad west of Legare was principally residential.

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 (Radford 1974:155; Rosengarten et al. 1987).

Charleston's commercial bonanza years of 1795-1819 were a victim of the national depression which began in 1819 (Greb 1978:18). The depression brought a halt to the commercial expansion of the city. Although the economy of Charleston stabilized thereafter, the city had begun a steady 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) has noted distinct and separable forces of aspirations for Charleston; "civic renaissance in the 1820s, commercial hegemony in the 1830s, and flirtation with modern industrialism in the 1850s."

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 restrictions, access to deep water harbors, as well as proximity to these railways, attracted large-scale manufacturing enterprises. Iron foundries, car manufacturers, and a new gas works were strategically situated between the tracks of the two railroads (Rosengarten et al. 1987:116). In less than half a century, the Neck was transformed from the "country", a sparsely settled suburban haven for planters, to the center of Charleston's industrial future, home to both new industries and their workers. These efforts were ultimately unsuccessful, however, as Charleston failed to live up to their 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 (individuals), rather than institutional (Banks, Railroads, etc.), ties remained the fabric of Charleston's commerce.

In Charleston, slavery was synonymous with labor. 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 often 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 the 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 feasible 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).

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 (merchants began to sell single types of items), 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 nineteenth 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 facilities.

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, crime-ridden, unhealthy city (Goldfield 1977:67).

The safe and efficient movement of people and goods depended on road improvement and street lighting. Street lighting was recognized as important for personal safety early in the eighteenth century, when the City began to appoint Commissioners of Streets and Lamps. Lighting of the major thoroughfares, including Broad, first by oil and later by gas, was a top priority. By 1837, the lower city contained 1,722 lamps, maintained by private contract. With its central location, Broad Street was always one of the first areas to benefit from municipal improvement efforts.

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 (Figure 6b). 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).

In 1853, Thomas N. Gadsden acquired the 116 Broad Street property. T.N. Gadsden was a speculator in land and slaves, and was one of the wealthiest men in the city. He owned extensive rental and speculative property in the East Side (Real Property Assessments 1852, 1853, 1864), and his city real estate was valued at \$134,700 in 1859 (List of Tax Payers 1859). In that year, only six Charlestonians owned real estate valued over \$100,000. Gadsden also paid taxes on 20 slaves, 1 carriage, and 3 horses. All of these were housed at his Broad Street address.

In 1853, Gadsden embarked on major improvements to the Broad Street home. P.H. Hammarskold, an architect, redecorated the property. He added the third story, probably changed the orientation of the chimneys, and built or revamped the two-story kitchen/carriage outbuilding with Gothic windows. He also added the iron balconies, fences, stair rails, and the iron pillars which flank the rear steps. The ironwork was by Christopher Werner, perhaps Charleston's most outstanding iron craftsman.

The configuration of structures which characterized the block at the turn of the nineteenth century were present in 1853 (Real Property Assessment 1853). Isaac Davega owned the Lining House, valued at \$5,000. The Izard house and lot, measuring 100

by 93 feet, was owned by Mrs. J.R. Poinsett and valued at \$8,000. Col. Thomas Pinckney's widow, Elisa, was next door. Her lot measured 100 by 94 feet and was valued at \$10,000. T.N. Gadsden's house and lot measured 56 by 330 feet and was valued at \$14,000. The remaining properties included the St. Andrews Society Hall, the Sisters of Mercy, and St. Finbar's Cathedral.

St. Andrews Society Hall was built on McPherson's former property in 1811. It was here that the city entertained Lafayette when he visited Charleston in 1825, the building having been arranged and furnished for his temporary residence. Here too, on December 20, 1860, was passed the Ordinance of Secession, which was formally signed on the evening of the same day in the hall of the South Carolina Institute on Meeting Street, afterward called Secession Hall (Huger Smith 1917:255).

The St. Andrews Society Hall and St. Finbar's Cathedral were two of the many structures destroyed in the disastrous fire of 1861 (Figure 7). The Rutledge house and the other three homes in the eastern half of the block miraculously survived. On the night of December 11, 1861, some slaves who had accompanied their master from one of the outlying plantations allowed a small cooking fire to get away, and before daylight some 540 acres of prime real estate had been laid waste (Rosengarten et al. 1987:132).

The fire began behind the sash and blind factory of H.D. Russell, at the foot of Hasell Street, just east of East Bay. Mr. Russell went home to supper with nothing amiss, and it was later in the evening that the slaves' cooking fire ignited the factory. The alarm sounded from the steeple of St. Michaels at 8:30, but most thought it a minor blaze. However, the wind rose and carried the flames in a southwesterly direction. The fire jumped East Bay and the by-now gale force winds carried the fire to Market Street. Some of the houses were saved by fire companies, but confusion about orders to blow up buildings in the fire's path meant that the inferno continued, fanning out as it progressed. The gas works on Church Street exploded, and the Apprentice's Library, the Charleston Theater, and the Circular Church were next. So too was the South Carolina Institute Hall next door.

A slight rain raised hopes for containment, but these were short-lived. By early morning, the fire continued with renewed fury. Though fourteen houses on the north side of Queen Street were blown up to save the Roman Catholic Orphan House and the Marine and Roper Hospitals, sparks ignited the Cathedral. It burned furiously, taking with it the household goods many people had stored there, thinking it was fireproof. The insurance on the building had lapsed the previous week. The intense heat from the Cathedral ignited St. Andrews Society Hall, but the Rutledge House was spared.

The fire continued on both sides of Broad, from Legare down to Tradd, and destroyed some houses on Limehouse, Council,



Figure 7: The St. Andrews Society Hall and St. Finbar's Cathedral in ruins after the 1861 fire (from Whitelaw & Levkoff, 1926, pp. 9, 31, photos courtesy of National Archives).



National Archives, Brady Collection

Greenhill, Savage, and New streets. By daylight it had subsided, there was nothing else to burn (Burton 1970:80-83).

The chimneys left standing were a stark reminder of the disaster for many years. Charleston Neck began filling with people displaced from the "utter desolation" of the burnt district (Rosengarten et al. 1987:132). For years, the burnt district lay in ruins, its "charred timbers...crumbling walls, broken pillars, and fallen spires" symbolic of a ravaged civilization (Mazyck 1875:38,43). The area recovered "so slowly that 30 years later small dairy herds still were pastured among its chimney-stumps and cellar-holes" (Stoney 1976:47). By 1870, the "ruins" had become a tourist attraction. A visitor's guide to Charleston, published that year by the South Carolina Institute, suggested a "cold, raw, damp, misty, cloudy, gusty day, is the time of all times to seem them in perfection." Such days were rare in Charleston, but if one happened to occur, a visitor should "by all means select it for a tour among the ruins" (Mazyck 1875:38; Rosengarten et al. 1987:27).

Though the 1861 fire dealt a much harsher physical blow to the city, the Civil War delivered the final economic blow. The city's economy had become dependent on the cotton market, and the local economy became vulnerable to international 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 (Rosengarten 1986: passim), and this, coupled with the loss of the labor force following emancipation, forced a new order of things.

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 warfare. Every afternoon", reported a new recruit to the South Carolina Rangers in July 1861, "the Battery and King Street are thronged with equestrians and pedestrians gaily dressed and in high spirits" (Tennent Family Papers, July 18, 1861). 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 continued to move into the upper wards until the city was finally evacuated in February 1865. Strolling through the shelled area, D.E. Huger Smith found "the lower part of the city...terribly battered" (Smith 1950:96). By the time of the final assault, shells were falling as far north as John Street. Although the damage caused by these shells was limited, the impact of the War on the lives of Charleston residents was nonetheless profound.

The configuration of the Broad Street block remained the same through the War. In 1864, W.G. Toll owned the Lining House, valued at \$5,000. Mitchel King had inherited (bought) the property that included the Ralph Izard house, valued at \$9,000. Mr. R.E. Izard owned the Thomas Pinckney house, and it was valued at \$16,000. These properties retained their prewar value. Thomas Gadsden's 116 Broad property declined from its prewar value of \$20,00 to \$17,000. The 1861 fire had destroyed the St. Andrews Society Hall, and the word hall had been replaced with the term lot. The Sisters of Mercy and St. Finbar's were still listed, though they also suffered in the blaze. (Real Property Assessments 1852, 1864).

Thomas Gadsden died in 1868, and the property remained in the hands of his descendants for many years (CCRMCO D15:229, H18:3, H20:349, H20:372). Arthur Barnwell Rhett acquired the property from Gadsden's family in 1885. He made additional changes to the interior, including Italian marble mantles from England and parquetry floors. In 1902 the property was purchased by R. Goodwyn Rhett (CCRMCO X23:315). Mr. Rhett was Mayor of Charleston and President of Peoples Bank; he and his wife entertained extensively. Among his many guests were President William Howard Taft and Mrs. George Vanderbilt (Figure 8).

Charleston's economy, debilitated by the Civil War, remained stagnant during the postbellum period. This was embodied in a lack of construction and expansion. While the Neck experienced a building boom, the lower city, particularly the burnt district, stayed in ruins for many years.

Charleston had entered the nineteenth 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 after the War. 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 the series of hurricanes around the turn of the century, struck devastating blows. Antebellum cities needed to centralize in order to modernize, and Charleston had dutifully expanded the municipal government. By the early twentieth century, the Board of Health was demanding improvements. This time, it was lack of funds, rather than lack of interest, that kept Charleston's civic improvements from moving ahead.

Many of the grand houses of the eighteenth and nineteenth centuries, including the Rutledge House, 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 the misuse and neglect of such structures as the Joseph Manigault House that resulted in the birth of the preservation movement in Charleston in the 1930s (Cohen 1987), as the Society for the Preservation of Old Dwellings worked to save these structures. Charleston continues to be at the forefront of

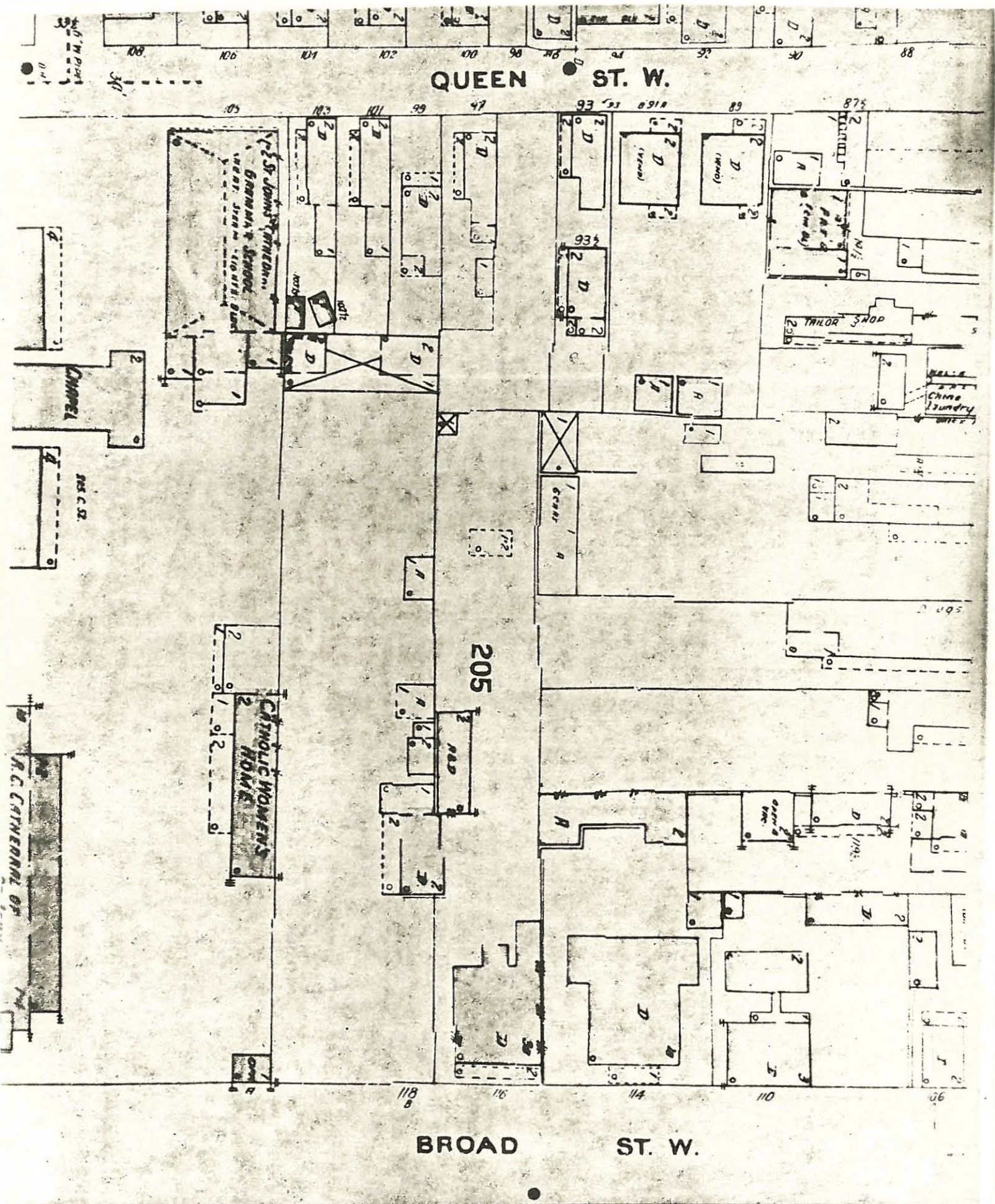


Figure 8: The Rutledge House and adjacent properties, 1888

historic preservation, as a record number of structures are preserved through adaptive reuse.

The Rutledge House's grandeur declined after the Rhett period, and it saw a variety of uses. In 1936, the house was purchased by Dr. Harley B. Lindsey (CCRMCO N38:417), and by Mrs. Minnie Colyer in 1951 (CCRMCO U53:371) (Figure 9). The house was divided into apartments, and in 1961 it was purchased by Berkeley Grimball (CCRMCO X72:104) and used by Gaudé School for several years. It was converted into law offices by Paul Uricchio Jr. in 1965 (CCRMCO N82:288) until it was sold to David Ewing in 1984 (CCRMCO V139:891). The building has been vacant since this date, and is currently being restored to its former grandeur as an inn by John Rutledge Associates (CCRMCO T174:497).

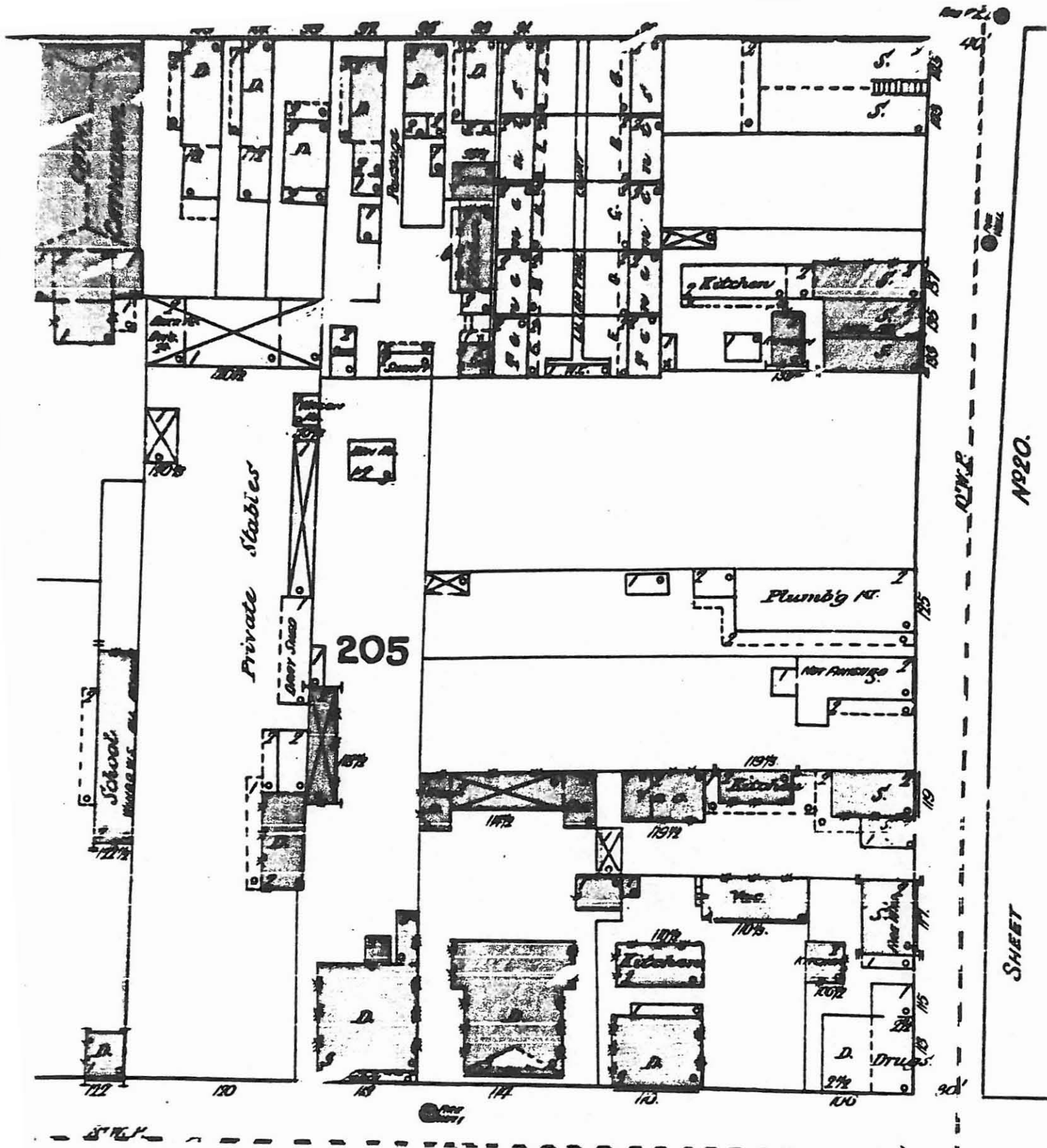
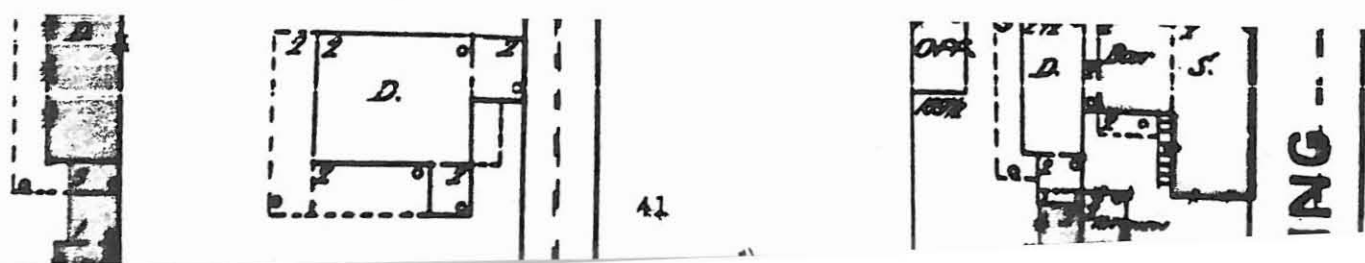


Figure 9: The Rutledge House and adjacent properties, 1942
Sanborn Fire Insurance Map.



CHAPTER III

FIELDWORK

Site Setting

The John Rutledge House is an imposing structure located at 116 Broad Street, between King and Legare streets. The three-story brick double house fronts directly on the street, with a sweeping wrought iron and stone step entrance and a parquetry sidewalk of black and white stone. The lot is long and narrow, 56 feet wide, and is presently just over 200 feet deep (Figure 10). Originally it measured 335 feet, and at times stretched to Queen Street.

The existing double house was built in 1763, but Rutledge's home was radically altered by subsequent owners. Major changes occurred in the 1850s when the property was purchased by Thomas N. Gadsden. Gadsden added the third floor and the iron balconies, the fences, and the stair rails. He also remodeled the rear exit with its massive iron columns and the kitchen building with its gothic windows. Gadsden also made substantial changes to the interior. The present house measures approximately 45 by 50 feet (Figure 11a, 12a).

A two-story kitchen/carriage house is located in the northwest corner of the lot. The structure measures 18 by 55 feet and is in an advanced state of disrepair. The interior had been stripped, and the east wall was held in place by steel rods. Efforts to rework the interior were evident. The floor was covered in concrete, but portions were in disrepair (Figure 12b).

The rear yard is accessed by a narrow driveway along the western side of the property, and the yard is enclosed by brick walls. The back wall, as well as the driveway, was secured with a chain link gate. A brick cistern along the eastern wall had been removed with power equipment in recent years, and there was evidence of indiscriminate digging along the eastern wall. The rear yard contained some large trees, and was overgrown with weeds (Figure 12a).

Excavation Methodology

Excavations were conducted for nine field days between January 22 and February 4, 1988. Excavations were limited to test units in the rear yard and beneath the carriage house and main house. A total of five units were excavated. These were designated as Test Units and assigned an ordinal number (see Figure 10).

Because of the limited nature of the project, no Chicago grid was established. Units were instead located relative to known landmarks. Units were placed relative to the true curb (a southerly point) and the western brick wall. Units were oriented

Archaeological Investigations
THE JOHN RUTLEDGE HOUSE

116 Broad Street

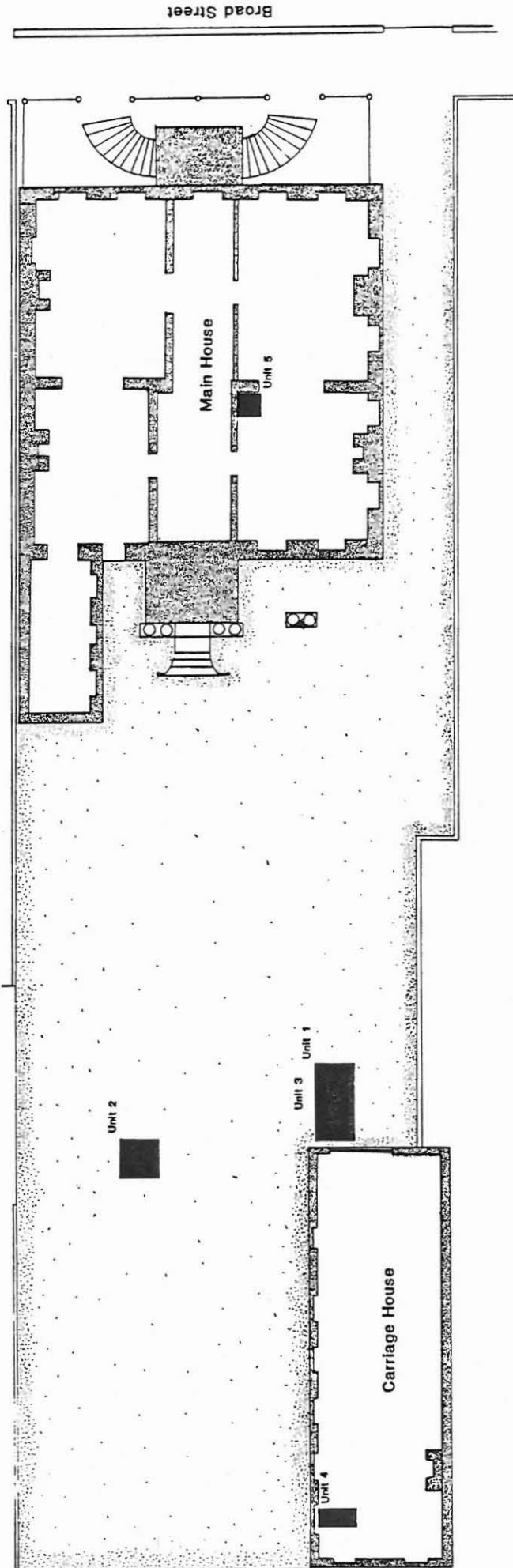


Figure 10: Site Map, The John Rutledge House.



Figure 11a: Front of The John Rutledge House, facing northeast.

Figure 11b: Excavation in progress: mapping Unit 1.



Figure 12a: Rear of The John Rutledge House, facing south.

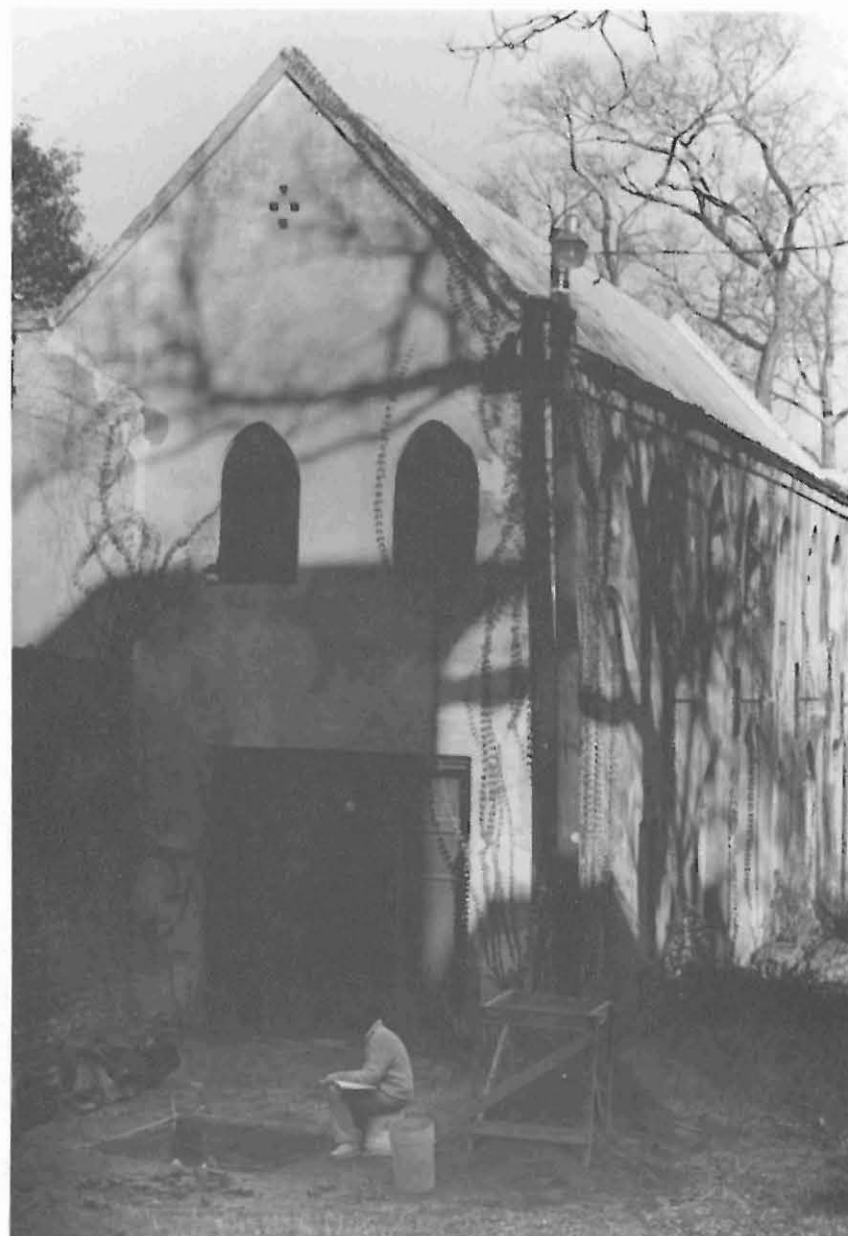


Figure 12b: View of the kitchen/carriage house, facing northwest.

parallel to the west wall.

Unit 1 was a 5 by 5 foot square. The southeast corner of the unit was 129.8 feet north of the edge of Broad Street and 8.0 feet east of the west brick wall. Unit 3 was also a 5 foot square, directly adjoining Unit 1 to the north. Unit 2 was a 5 foot square; the southeast corner of Unit 2 was 139.8 feet north of the curb and 38.0 feet east of the west wall.

Unit 4 was located inside the carriage house. The unit measured 2.5 by 5 feet, with the long axis oriented east/west. The southeast corner of this unit was 187.3 feet north of the curb and 8.0 feet east of the west wall. Unit 5 was a 3 by 3 foot square, and was located adjacent to the southeast corner of the northwest room of the main house.

Vertical control was maintained with the use of a transit. Relative elevations taken on a daily basis were tied to a datum point located on the concrete foundation at the northwest corner of the house. The absolute elevation of this point was established as 11.98 feet above mean sea level during land survey of the property. All elevations in this report are listed in absolute terms, as feet above mean sea level (MSL).

All excavation was accomplished by hand using shovels and trowels. All profiles and features were mapped and photographed (Figure 11b). All units were photographed in black and white and color. Narrative notes as well as a variety of field forms were maintained on a daily basis; a Field Specimen Number (FS#) was assigned to each provenience in ordinal fashion. All excavated materials were dry screened through 1/4 inch mesh. The materials were bagged and tagged separately. Cultural, faunal, charcoal, and ferrous materials were separated in the field, and conservation of the ferrous materials began immediately. Soil samples, flotation samples for ethnobotanical analysis, and coal samples were retained for each organically rich provenience.

Description of Excavated Proveniences

Unit 1 was deliberately located adjacent to the standing outbuilding. Previous excavations on townhouse sites have revealed a concentration of refuse adjacent to the outbuildings. This idea was strongly supported at the Rutledge House; Unit 1 revealed seven zones and over 5.3 feet of cultural materials (Figure 13a).

Excavation began with Zone 1. These soils were a mixed deposit of black humus with gravel, followed by a layer of yellow-tan building sand. Beneath this first level were multiple pockets of tan mortar sand, coal and ash deposits, black sand, and coal and coke. The mixed soils of Zone 1 were excavated in two arbitrary levels, and were .4 feet deep.

Zone 2 was also highly mottled, but was distinguished from

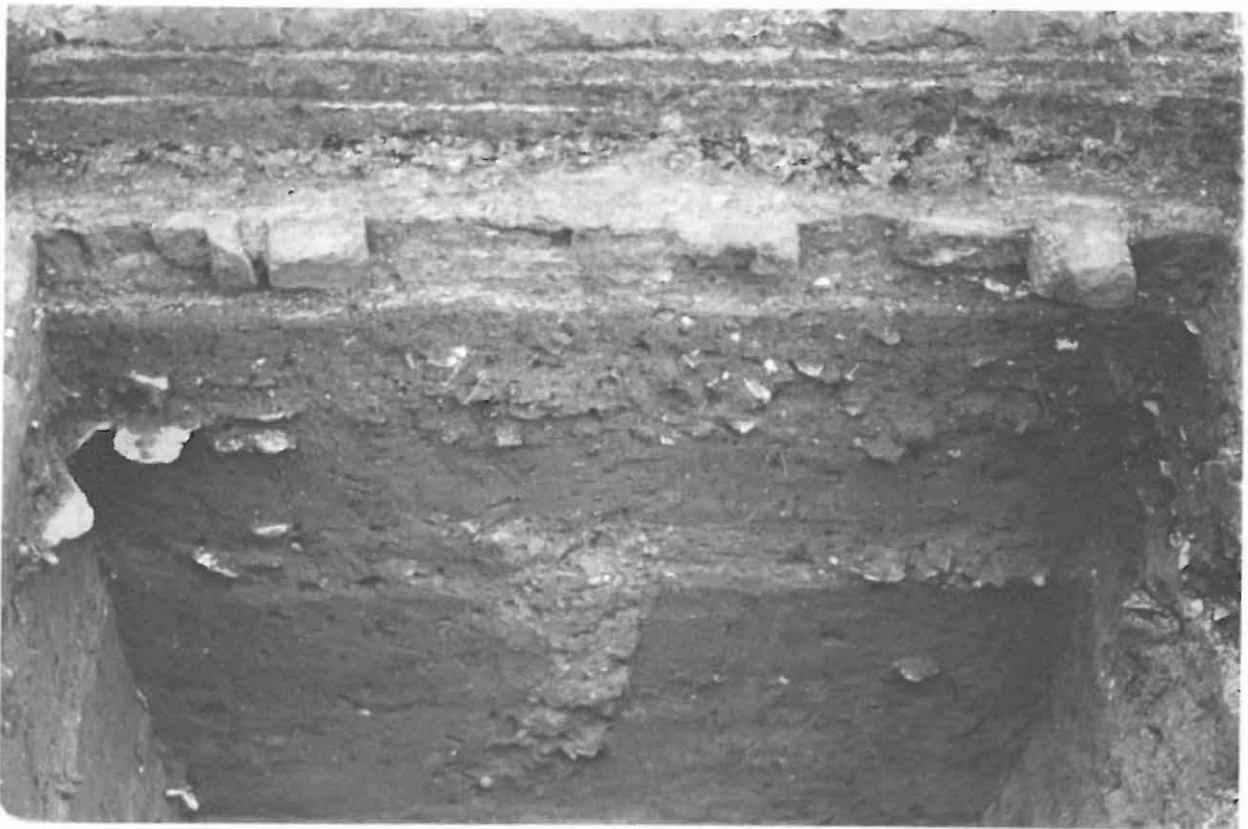


Figure 13a: West profile, Unit 1.

Figure 13b: Top of Feature 3.

the above deposit by a predominance of yellow sand. This yellow sand contained large chunks of coal, along with the grainy, pinkish-grey sand, characteristic of coal residue. This zone measured .3 feet in depth, and was excavated in a single level. Beneath this zone, Feature 1 was encountered. Feature 1 was a sewer pipe and associated construction trench. The pipe consisted of sections of vitrified brown stoneware, which was common sanitation hardware after the 1870s. The builders trench consisted of highly mottled tan, grey, and yellow sand with large brick fragments. The construction trench initiated at 11.13 feet MSL and intruded into lower zones to a depth of 10.6 feet MSL. The feature was bisected along the pipe, and only the western half of the feature was excavated.

Elsewhere in the unit was an even zone of compacted yellow sand. This was excavated as Zone 3, and was .05 feet deep. It proved to be a compaction of builders sand on top of a paved brick walk/driveway, which was designated Feature 2. The walkway was laid in a running bond, oriented east-west. The bricks were larger and thinner than most housing brick used in Charleston. The surface was quite worn, suggesting extensive use. The brick flooring extended the entire base of the unit, so edges and dimensions of this feature were not determined. The jumbled brick contained in Feature 1 were evidently from the intrusion of the pipe trench into this brick pavement.

After they were photographed and mapped, the bricks were removed. Beneath Feature 2 was a thin (.3 feet) zone of grey loamy sand with quantities of shell fragments (Zone 4). Zone 4 was excavated in a single level to a depth of 10.63 feet MSL. The subsequent deposit, designated Zone 5, was similar to Zone 4, but was darker, loamier, and contained larger and denser cultural materials. This zone was 1.8 feet deep, and was excavated in four arbitrary levels. The lowest level was a transitional zone; here the soil was a mottled yellow-tan with quantities of charcoal. The content of the soil was quite different, characterized by whole clam shell and bone. A concentration of these materials was noted along the west wall of the unit. This was designated Feature 3, and proved to be a narrow, deep pit of loose tan soil (Figure 13b). The pit contained whole clam shells, green bottle glass, and over two dozen musket balls. Such a concentration of these materials is highly unusual for Charleston, and the composition of the feature suggests a special function. The feature initiated at 8.48 feet MSL and continued to a depth of 6.82 Feet MSL.

The subsequent deposit was a zone of medium grey-brown loamy sand with some charcoal and shell. This was designated Zone 6; it initiated at 8.48 feet MSL and continued to a depth of 7.52 feet MSL. It was excavated in two arbitrary levels. Zone 7 consisted of mottled brown and yellow soil with some shell and very sparse artifacts. This deposit initiated at 7.52 feet and was excavated in three arbitrary levels to a depth of 6.5 feet MSL. At this point, yellow-tan sterile soil was encountered, and excavations were halted (Figure 14).

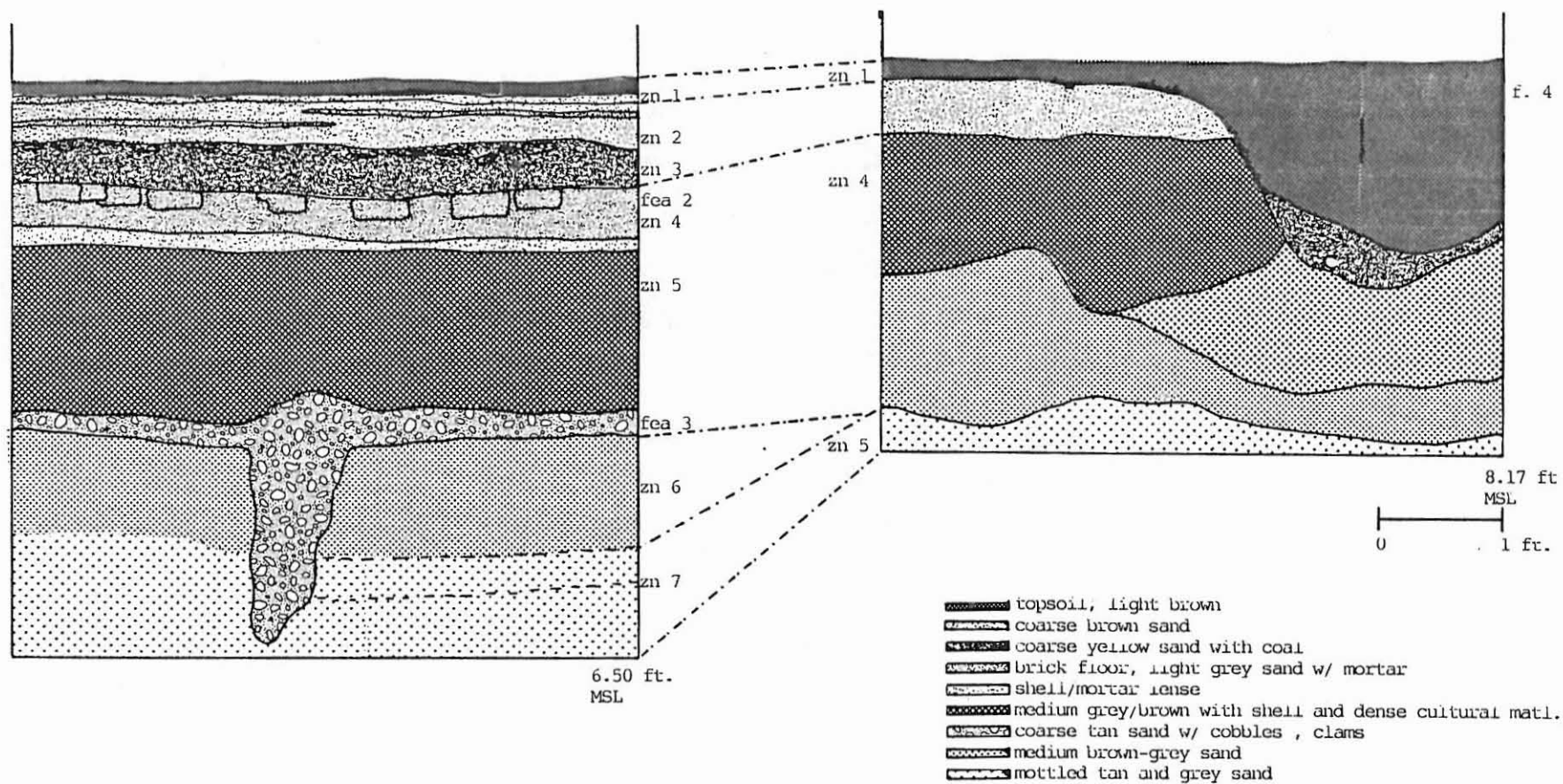


Figure 14: West profile, Unit 1; south profile, Unit 2.

Because of the concentration of materials encountered in Unit 1, Unit 3 was laid out to the north. Stratigraphy in Unit 3 was identical to that in Unit 1. Zones 1-3 were excavated and discarded. Features 1 and 2 were photographed and mapped, and the western half of Feature 1 was excavated and discarded. Screening began with Zone 4, which initiated at 11.27 feet MSL and continued to a depth of 10.24 feet. Once again, this zone was excavated as a single provenience. The subsequent Zone 5 initiated at 10.24 feet and was excavated in three arbitrary levels to a depth of 8.97 feet MSL. At the top of Zone 5 level 2, a concentration of loose soil and small artifacts was noted along the west wall of the unit. Although there were no definite boundaries or soil color changes, this was defined as Feature 6. These soils were excavated separately, and retained for flotation. It is likely that this was simply a concentration of refuse within the midden, rather than a discrete deposition. Mottled materials defined as Zone 5 level 4 in Unit 1 were encountered, and excavations were halted due to time constraints.

Unit 2 was located to test the central back yard in contrast to the courtyard area. The unit revealed a similar stratigraphy to Units 1 and 3, but in general was more shallow, less complex, and contained sparser artifacts. The majority of the artifacts were quite small, suggesting trampling. Zone 1 consisted of topsoil, dark brown-grey sand. It initiated at 11.04 feet MSL and continued to a depth of 10.44 feet MSL. At this level, a feature was visible, and was designated Feature 4. The feature was a large pipe trench of highly mottled black and brown soil with mortar flecks. The large trench was evidently excavated to lay a PVC water line, and is of recent construction. The trench was quite large, initiating at 10.44 feet and continuing to a depth of 9.6 feet MSL.

Elsewhere in the unit, a zone of medium brown-grey soil was present. This soil was similar to Zone 4, Unit 1 in appearance and elevation, and was thus designated as such (Zone 4). This deposit was quite deep, and was excavated in four arbitrary levels. Zone 4 initiated at 10.44 feet and continued to a depth of 8.63 feet. Zone 4 in Unit 2 was indeed similar in soil composition and artifact content to Zones 4 and 5 in Units 1/3, but cultural materials were smaller and sparser (Figure 14).

Beneath this, a zone of mottled brown and yellow sand was designated Zone 5. However, it more closely corresponded with Zone 6 in Unit 1. Sterile subsoil was encountered at 8.17 feet MSL. An additional stain was noted intruding into sterile subsoil. This circular area of brown soil was designated Feature 5. It proved to be a tree stain and to contain no cultural materials.

Unit 4 was located in the carriage house, in order to examine the sequence of construction events within this structure. The interior of the building had been radically altered in recent years, and the majority of the carriage house

floor was covered with a concrete cap. Unit 4 was placed in a portion of the structure where this flooring had been removed.

Zone 1 consisted of dark grey soil with quantities of crumbled cement flooring. It initiated at 10.99 feet MSL and was excavated in two levels to a depth of 10.78 feet. At this point a laid brick floor in running bond was encountered. These bricks were different from those encountered outside, in that they were smaller, more regularly proportioned, and redder. The brick floor, designated Feature 7, appears to be an interior floor to the structure, and not associated with the outside paving.

These bricks were removed, and the soil beneath, designated Zone 2, was a hard-packed medium grey-brown soil. It was excavated in a single level to a depth of 9.79 feet MSL, whereupon a thick floor of tabby/mortar was encountered. This was designated Feature 8. Beneath this was a zone of homogenous grey-brown soil (Zone 3). The upper portions were compacted, while the lower portions were softer and more friable. Sterile subsoil was encountered at 8.89 feet MSL.

Unit 5 was located beneath the main house, and was excavated to answer architectural questions. A 3 by 3 foot unit was located adjacent to the southeast corner of the northeast room of the basement. The top two feet of soil had been removed from this basement area in recent years. Excavations initiated at 9.15 feet MSL. Zone 1 consisted of loose sand with heavy brick rubble. The soil matrix was very dry and mortary. At a depth of bottomed onto orange clay subsoil, although the foundation continued below this. A foundation was encountered in the center of the unit, which proved to be a portion of a former chimney foundation suggested by architects Evans and Schmidt. On the west side of this foundation (the interior of the chimney), the brick rubble continued to an unknown depth. Excavations were halted at a depth of 8.62 feet MSL.

Dating the Proveniences

Proveniences were dated on the basis of the Terminus Post Quem (TPQ) and stratigraphic point of initiation. Terminus Post Quem is the date after which a provenience must have been deposited, and is determined by the initial manufacture date of the latest dating item in the provenience. Stratigraphic point of initiation is most effectively used within a single excavation unit, but absolute elevations across a site can also be an effective dating method.

The John Rutledge site is situated on the major eighteenth century thoroughfare just outside the original city limits, and has been occupied since at least the 1730s. A major building episode occurred when John Rutledge acquired the property in the 1760s. Thomas N. Gadsden also made major changes to the property in the 1850s. It was expected that proveniences from the early

eighteenth century through the mid twentieth century would be encountered.

The late eighteenth to early nineteenth century, the era of the Rutledge family's and the McPherson family's ownerships (both were wealthy Charlestonian families), is most strongly represented in the archaeological site. The majority of the proveniences, and those containing the bulk of the artifacts, are associated with this period. The deposits predating this era are few in number and contain sparse artifacts, suggesting a low density occupation during the mid eighteenth century. Likewise, the post-1820 occupation is poorly represented archaeologically, with few proveniences and few artifacts. Based on the documentary record, the archaeological record accurately reflects the range of occupation for the site but does not accurately reflect the relative density of site occupation.

Based on the TPQ and point of initiation, the Rutledge house proveniences are divided into three assemblages; post-1820, 1760s to 1820, and pre-1760. The 1760-1820 assemblage is also referred to as the "Rutledge era." This time period includes the McPherson occupation at the site (1800-1835) also, but for brevity only the name Rutledge is used.

The post-1820 assemblage includes materials from Zones 1-3, as well as Features 1, 2, and 4. The Zone 1 materials date to the twentieth century, but the majority of artifacts contained within these proveniences were manufactured in the eighteenth and nineteenth centuries. Zones 2 and 3 have TPQs provided by ginger beer bottle and whiteware, respectively. These materials suggest that these proveniences were deposited between the 1830s and 1870s. Feature 1, the sewer pipe trench, had a TPQ of 1850, provided by white porcelain. It is likely, based on the history of sanitation in Charleston, that the feature was deposited twenty to thirty years later. Feature 2, the brick floor, appears to have been constructed in the later antebellum period, based on the presence of transfer printed whiteware. Construction of this feature may be associated with Thomas Gadsden's renovation of the property. Feature 4, the pvc pipe trench, had a TPQ of 1867, provided by molded panel bottle glass, but, based on initiation in Zone 1, dates to the twentieth century. Soil accumulation from the 1820s to the present was 1.1 feet in Unit 1.

Proveniences associated with the 1760-1820 period include Zones 4 and 5 in Units 1 and 3, Zone 4 in Unit 2, and Zone 3 in Unit 4. Feature 3 was also deposited during this period. Pearlwares provided the TPQ for Zone 4 and the upper levels of Zone 5. This suggests deposition after 1780 (for hand painted pearlware). Zone 4 and Zone 5 level 1 in Unit 1 both contained transfer printed pearlware, which was manufactured after 1795. The lower levels of Zone 5 contained creamware, providing a TPQ of 1760. Zone 3 in Unit 4 also contained creamware. The deepest provenience, Feature 6, contained agate ware, providing a TPQ of 1740; however, Zone 5 level 4 contained similar soil and

material, suggesting a single event. The TPQ for Zone 5 level 4 was 1760, provided by creamware.

The pre-1760 proveniences included Zones 6 and 7 in Unit 1 and Zone 5 in Unit 2. Zone 6 contained creamware, suggesting a 1750-1760 date of deposition. Zone 7 as well as Zone 5 Unit 2 contained brown salt-glazed stoneware and slipware, suggesting a pre-1740 date of deposition.

Table 3
Provenience Guide - John Rutledge House

FS #	Provenience	TPQ
1	Unit 1 Zone 1	plastic top
2	Unit 1 Zone 1 level 2	hand painted pearlware
3	Unit 1 Zone 2 level 1	sewer tile
4	Unit 1 Feature 1	white porcelain
5	Unit 1 Zone 3 level 1	ginger beer bottle
6	Unit 1 Feature 2	transfer print whiteware
7	Unit 1 Zone 4	transfer print pearlware
8	Unit 1 Zone 5 level 1	transfer print pearlware
9	Unit 1 Zone 5 level 2	hand painted pearlware
10	Unit 1 Zone 5 level 3	creamware
11	Unit 1 Zone 5 level 4	creamware
12	Unit 1 Feature 3	agate ware
13	Unit 1 Zone 6 level 1	shell edged pearlware
14	Unit 1 Zone 6 level 2	creamware
15	Unit 1 Zone 7 level 1	creamware
16	Unit 1 Zone 7 level 2	brown saltglazed stoneware
17	Unit 1 Zone 7 level 3	slipware
18	Unit 2 Zone 1 level 1 (hand collected) --	
19	Unit 2 Zone 1 level 2	whiteware
20	Unit 2 Zone 4 level 1	transfer printed pearlware
21	Unit 2 Zone 4 level 2	annular pearlware
22	Unit 2 Feature 4	molded bottle glass
23	Unit 1 profile	transfer printed pearlware
24	Unit 2 Zone 4 level 2 west 1/2	creamware
25	Unit 2 Zone 4 level 3	hand painted pearlware
26	Unit 2 Zone 5 level 1	slipware
27	Unit 2 Feature 5	no artifacts
28	Unit 2 south profile	pearlware
29	Unit 3 Zone 4	transfer printed whiteware
30	Unit 3 Zone 5 level 1	transfer printed whiteware
31	Unit 3 Zone 5 level 2	hand painted pearlware
32	Unit 3 Feature 2	brick sample only
33	Unit 3 Feature 6	creamware
34	Unit 3 Zone 5 level 3	hand painted pearlware
35	Unit 3 south profile	creamware
36	Unit 4 Zone 1	white porcelain
37	Unit 4 Zone 1 level 1/2	black transfer printed whiteware
38	Unit 4 Zone 1 level 2	black transfer printed whiteware
39	Unit 4 Feature 7	brick sample only
40	Unit 4 Feature 8	tabby floor sample only
41	Unit 4 Zone 2	whiteware
42	Unit 4 Zone 3	creamware
43	Surface collection under main house --	
44	Unit 5 Zone 1	whiteware

CHAPTER IV

ANALYSIS OF THE MATERIALS

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, and stabilization of metal artifacts. Ceramic and glass vessels were restored with DAP China and Glass Mender or B-72, non-yellowing glues soluble in acetone. Ferrous materials were separated in the field and stabilized by placing them in successive baths of distilled water to remove chlorides, then were oven-dried and bagged. 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 amperes. Upon completion of electrolysis, 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 amperes. They were placed in the distilled water baths to remove surface chlorides and dried in ethanol before being coated with Infracalac to protect the surfaces.

All excavated materials are curated in The Charleston Museum storage facility according to standard museum policy. Artifacts were packed by provenience in standard-sized low acid boxes, labelled, and stored in a climate controlled environment. Field records and photographs are curated in The Charleston Museum library in the high security section. Copies on 100% rag paper are available in the general research section of the library.

The first step in the analysis of the materials was the identification of the artifacts. The Museum's type collection, Noel Hume (1969), Stone (1974), and Deagan (1987) were the primary sources used, although other references were consulted for specific artifacts. Lorraine (1968), Huggins (1971), Kechum (1975), and Switzer (1974) were used to identify bottle glass. Epstein (1968) and Luscomb (1967) were used in button identification, and Fontana and Greenleaf (1962) was consulted concerning tin cans.

Following identification, the materials were grouped by functional categories, based on South's (1977) and Garrow's (1982) models for the Carolina Artifact Pattern. South's methodology has been widely adopted by historical archaeologists, allowing for direct intersite comparison; all of the data from Charleston have been organized in this manner. The proveniences

in the present analysis are divided into three assemblages: pre-1760 (before John Rutledge lived at the house), 1760-1820 (the Rutledge era), and post-1820.

Pre-1760 Assemblage

Kitchen

Six proveniences dating to the pre-Rutledge years yielded 364 artifacts of which 192 (52.9%) were kitchen artifacts. Ceramics were the most numerous kitchen artifact at 66% (127 artifacts), with glass accounting for the rest at 34%. Seventeenth to mid-eighteenth century ceramic types dominated the ceramic assemblage of which the majority were Chinese porcelains (18%), Colono wares (17%) and delft wares (15%) (Table 4).

Ceramics were divided into table and utilitarian wares. (Colono ware was excluded from the count due to ethnic differences in food preparation and consumption practices). With the majority of the ceramics fragmentary, ceramic type rather than vessel form determined a sherd's placement. Tablewares comprised 76% of the ceramics, and included delft, white salt-glazed and Nottingham stonewares, slipware, porcelain, creamware, Nottingham-like earthenware, Jackfield, mottled ware, and one small fragment of green-edged pearlware.

The earliest tableware recovered was delft (19 sherds). Manufactured from the 1500s to the 1800s in Great Britain, delft was available in a variety of table, medicinal, and chamber ware forms. Recovered from the pre-Rutledge assemblage were fragments of plates, bowls and galley pots (Beaudry et al. 1983)(Figure 16j-n). Makers of delft tried to compete with the Englishman's desire for Chinese porcelain, but they were unsuccessful since delft's paste was soft and easily damaged. Small vessels such as tea cups lost their glaze at the lip and so were never popular; other vessel forms such as the larger tablewares held their glaze better and were used more readily until white salt-glazed stoneware, a more durable ceramic, replaced delft in the 1740s (Noel Hume 1969).

Two white salt-glaze stoneware fragments were recovered in the pre-1760 assemblage along with one piece of Nottingham stoneware. Not only were stonewares more durable than delft, but by the 1730s the creation of block molds allowed white salt-glazed plates, teapots, tankards, and caddies to be cast in elaborate relief. Most common were the "dot, diaper and basket" pattern and the "barley" pattern. Later, rims decorated with floral patterns in relief, and rim edges with "rope" or "bead and reel" designs were popular. Nottingham stoneware, a smooth brown stoneware with a glossy surface, were made primarily in mug, bowl or pitcher forms (Noel Hume 1969). The one fragment recovered in the pre-1760 assemblage appears to be part of a mug.

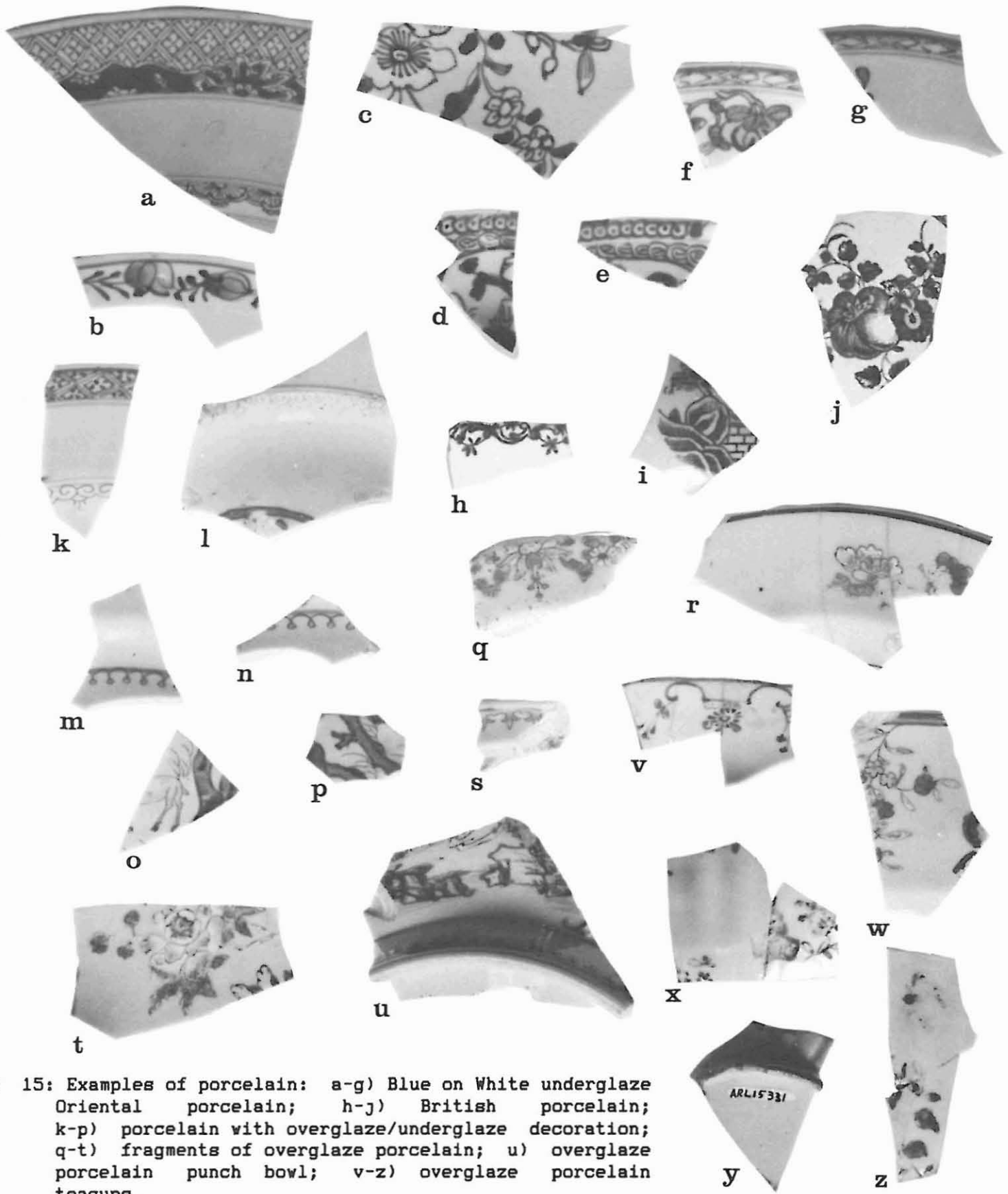
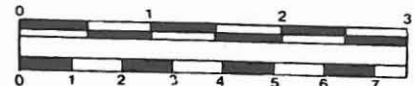


Figure 15: Examples of porcelain: a-g) Blue on White underglaze Oriental porcelain; h-j) British porcelain; k-p) porcelain with overglaze/underglaze decoration; q-t) fragments of overglaze porcelain; u) overglaze porcelain punch bowl; v-z) overglaze porcelain teacups.



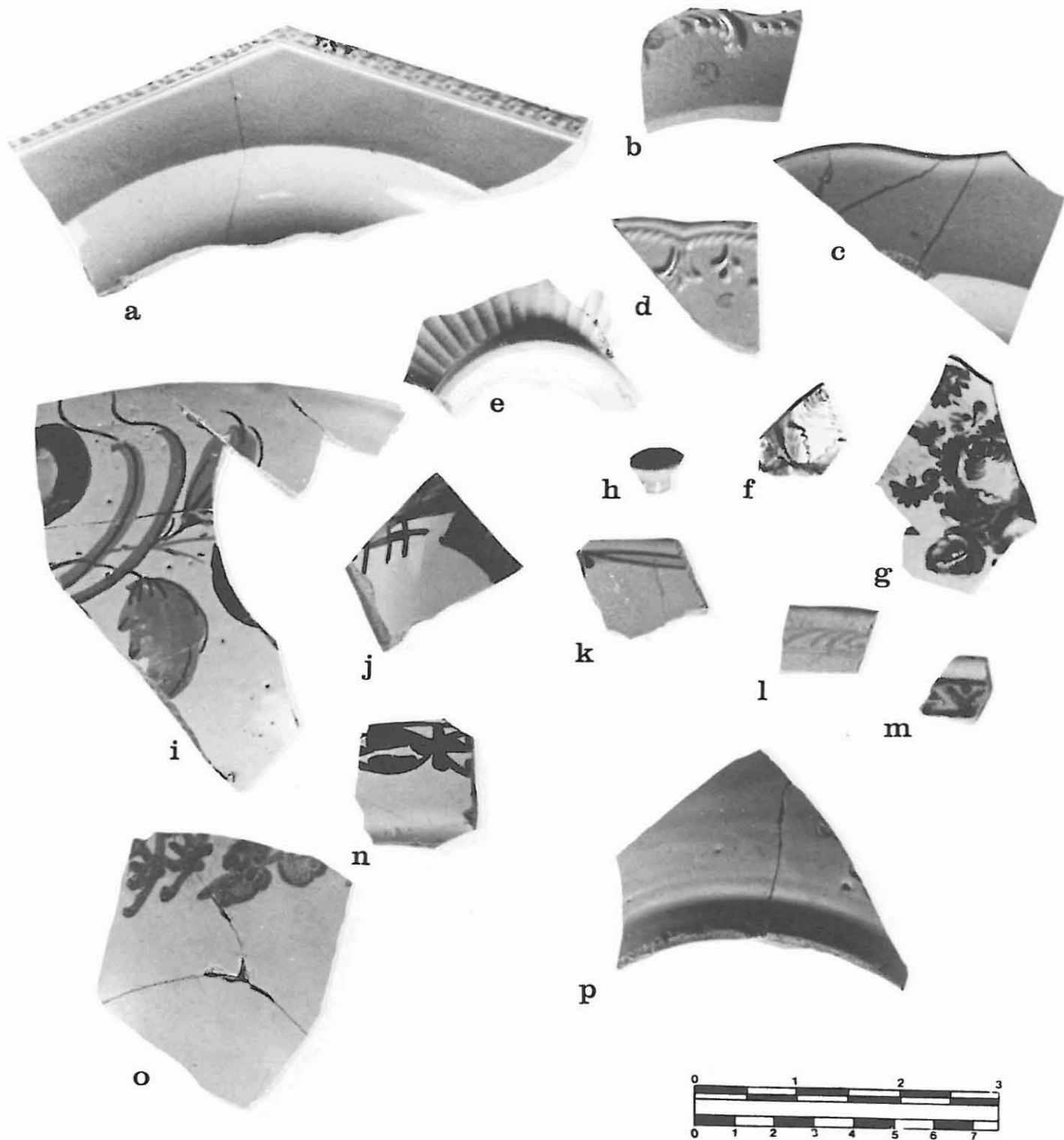


Figure 16: Examples of creamware and delft: a) creamware, octagonal pattern; b) creamware, feather-edged pattern; c) creamware, royal pattern, d) creamware, spearhead rim; e) creamware, ridged bowl; f,g) overglaze hand painted creamware; h) creamware finial; i) polychrome delft bowl; j-n) examples of delft plate fragments; o,p) blue on white delft bowl.

Twelve fragments of slipware recovered included combed & dotted decoration on the cup form (Figure 17a); combed & trailed and bat-molded designs were primarily on plate forms with one rim having the pie crust edge. Slipware was a traditional form of pottery decoration in which a whitish or colored cream-like slip is trailed over an earthenware vessel. It dates to the seventeenth century in England; however, the method was used through the late nineteenth century, especially by country potters during the latter years (Godden 1972:xxvii).

The most numerous type of ceramic in the pre-1760 assemblage was Chinese porcelain (see Figure 15). Of the twenty-three porcelain fragments recovered, 13% were the overglazed enamelled type and 87%, underglazed blue. Porcelain is a component of historic assemblages from the sixteenth through the nineteenth centuries. Until the nineteenth century, Chinese porcelain was an expensive, fine, thin ware, often in tea forms. Its presence is considered an indicator of high status (Lewis 1985; Stone 1970:88). During the nineteenth century when porcelain was directly imported into the United States in enormous quantities, the ware became inexpensive and its quality deteriorated sharply. Thus nineteenth century porcelain is not a reliable indicator of high financial status (Herman et al. 1975:66; Lewis 1978:104).

Mottled ware with a buff paste was produced in southeast England in the seventeenth century (Stone 1970). Its primary form is the drinking mug. Five pieces were recovered in the pre-1760 assemblage.

The rest of the tablewares accounted for 17% of the assemblage and date to the mid to late eighteenth century. A thorough description of these types is in the Rutledge era section.

Ceramic types considered to be utilitarian in nature (used in food preparation and storage) included stonewares and coarse earthenwares. Manufactured in the eighteenth and nineteenth centuries, the imported Rhenish, brown, grey, and blue/grey salt-glazed stonewares commanded a considerable part of the utility ware market. Stonewares comprised 64% of the utilitarian-type ceramic for the pre-1760 assemblage. The lead-glazed, coarse earthenwares and the unglazed earthenwares comprised the remainder.

Twenty-two locally manufactured Colono wares were recovered. Colono wares are a low-fired, unglazed earthenware, produced by black slaves, historic Indians and/or both (Anthony 1986; Ferguson 1985; Wheaton et al. 1983). Colono wares form a major component of eighteenth century Lowcountry plantation slave sites, and to a lesser degree planter sites; they are also consistently represented on eighteenth century urban sites, averaging 5% of the ceramics. The wares declined rapidly in the early nineteenth century, however. The pre-1760 ceramic group contains a high percentage of Colono wares, 17% suggesting a

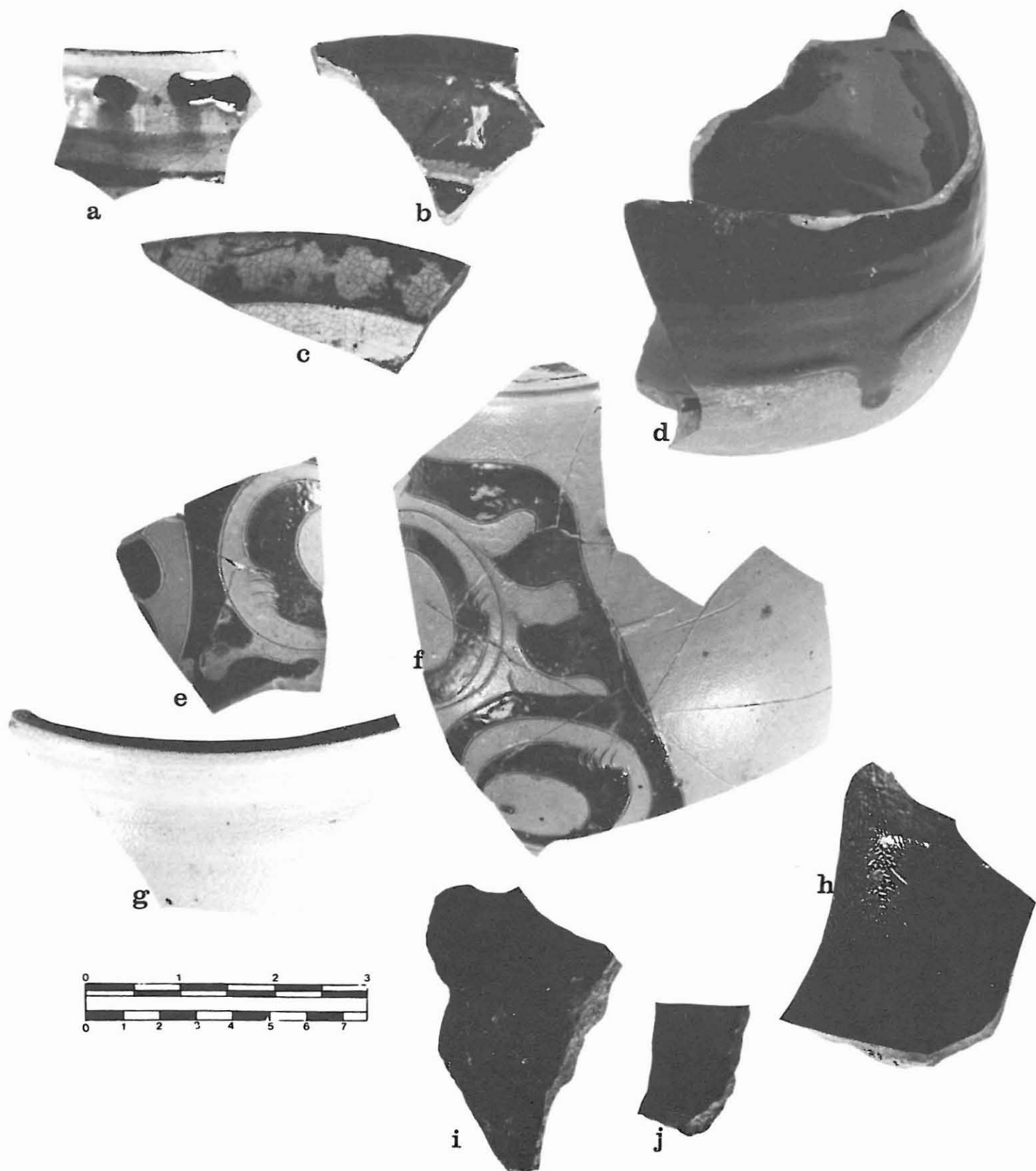


Figure 17: Earthenware and stoneware vessels: a) Staffordshire combed & trailed slipware; b) American slipware; c,d) lead glaze earthenwares recovered in 1981; e,f) Westervald ewer; g) grey salt glaze stoneware crock; h) brown salt glaze stoneware jug; i,j) Colono ware.

strong African occupation at the site during the eighteenth century (Figure 17i-j).

Glass artifacts comprised 34% of the kitchen assemblage of which 72% were dark olive bottle glass fragments and 17%, clear bottle glass pieces. The rest of the glass were three fragments of thin green glass, three of yellow glass and one of table glass, a broken wine stem. In the early to mid eighteenth century, ceramic jugs and bottles were the preferred vessel type for storing and serving liquids. Glass containers were not as common.

Architecture

Architectural items comprised the second largest artifact group in the pre-1760 assemblage with 134 artifacts, 36.8%. Common building rubble such as brick, mortar, and slate were not retained. The architectural group consisted almost entirely of nails (70%) and flat glass (27%). Two hinges, two shutter hooks and one tack were also recovered.

Pipes

Twenty-four pipe stem and bowl fragments comprised 6.6% of the assemblage. Thirteen were stems and nine, bowls, all made of white kaolin clay. Since the method of calculating dates from kaolin pipe stems is accurate when date of deposition is prior to 1780, bore measurements were taken and produced a mean date of 1740.55 (Binford 1961).

Arms

The arms group included two musket balls. Arms have always comprised a relatively small percentage of urban assemblages; for the pre-1760 assemblage, the arms comprised .55% of the overall assemblage.

Clothing

Clothing items accounted for 1.37% of the assemblage. One whole and one half ferrous buckles were recovered along with a blue tubular glass bead (Figure 23a), a glass button, and a brass and glass cuff link.

Activities

The activities group accounted for 1.92% of the pre-1760 assemblage. One orange clay marble (Figure 23w), one lead strip and five ferrous unidentified objects were recovered.

Personal/Furniture

No personal or furniture items were recovered in the pre-1760 assemblage.

1760-1820: The Rutledge Era Assemblage

Kitchen

Nineteen proveniences dating to the Rutledge era yielded 7759 artifacts. Kitchen artifacts accounted for more than half of the assemblage (60.2%, 4672 artifacts) of which ceramics comprised 64.4% (3011) of the group, glass 34.7% (1623), and metal .8% (38). The ceramic group contained a wide spectrum of ceramic types with creamware and Chinese porcelain dominating the ceramic assemblage, at 38% and 26.5%, respectively.

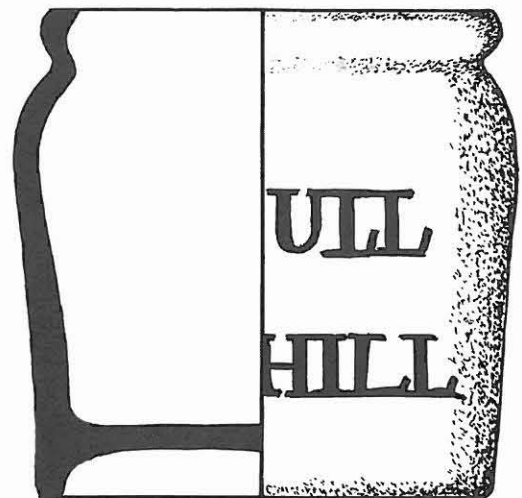
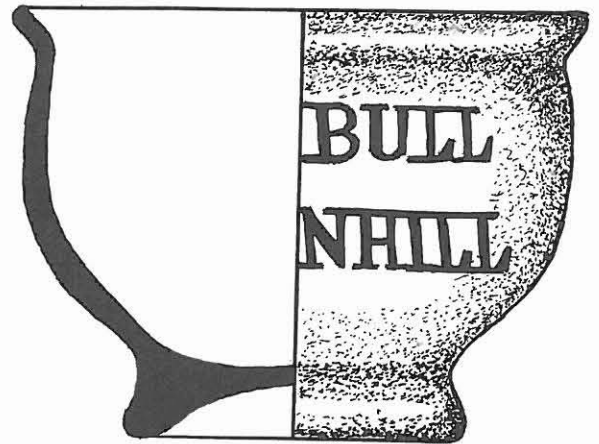
Tablewares included delft (8.1% of the overall ceramic assemblage), slipware (3.8%), Staffordshire (.2%), Nottingham-like earthenware (.3%), Elers (.2%), black basalt (.1%), mottled ware (.2%), white salt-glazed stoneware (1.9%), Nottingham stoneware (.07%), Astbury (.13%), Agate (.03%), Jackfield (.2%), Whieldon (.06%), majolica (.06%), creamware (38%), pearlware (8.7%), whiteware (.8%) and porcelain (26.5%).

Several delft fragments were reconstructed to form part of a beautiful polychrome bowl (Figure 16i), a blue bowl with gold hand painting (Figure 16o-p), and two apothecary jars, or galley pots (Beaudry et al. 1983). The two apothecary jars were quite unusual for Charleston. One exhibited straight sides and a flat bottom, while the other featured curved sides and a pedestal base with an everted rim. These styles were popular throughout the eighteenth century, with variations increasingly common toward the end of the century (Noel Hume 1969:204), and were used for dry salves such as eye ointment and cosmetics. The two recovered vessels were undecorated except for the inscription, "Turnbull.. No. 41 Cornhill" hand painted in black (Figure 18). Noel Hume notes that delft galley pots "are occasionally found bearing inscriptions in blue giving the names and addresses of the shops from which they came" (Noel Hume 1969:205). The Cornhill location is not a Charleston address, and most certainly this is the inscription of a London firm. It is interesting to note, however, that Dr. Alexander Turnbull practiced medicine down the street at the Lining House (106 Broad Street). He arrived in Charleston in 1781 after the dissolution of the Minorcan colony at New Smyrna, Florida. He imported, prepared, prescribed, and dispensed his own remedies, and worked with the Medical Society to reform the apothecary business. He practiced in Charleston until 1792 (Charleston Museum files).

The percentage of Rutledge era porcelain, similar to that in the pre-Rutledge era, is high for Charleston sites, even those of wealthy households; moreover, it contains a large amount of the overglazed enamelled type (27% of the porcelain), the most expensive of Chinese porcelains. Most of the porcelain recovered from the Rutledge era assemblage was fragmentary, making it



Figure 18: Delft galley pots from Zone 5.



difficult to determine vessel form, much less sets. At least fourteen different styles were present, based on rim decoration. Blue on white underglazed styles included teacups and saucers of British porcelain (ca. 1760-1790) (Figure 15h-j), and teacups, saucers, and a variety of flatware pieces in Oriental porcelain (Figure 15a-g). Overglazed wares included fragments of at least three styles which featured red and gold overglaze hand painting in combination with blue on white underglaze. These combined decorations were popular from 1700 to 1780 (Noel Hume 1969:258) (Figure 15k-p).

The Rutledge era collection also contains a number of porcelains decorated entirely in overglaze colors (Figure 15q-z). These wares are most common in the second half of the eighteenth century. The earlier overglaze wares are often elaborately decorated, while those from the end of the century are minimally embellished, featuring small floral sprays and a simple rim decoration (Noel Hume 1969:261). The Rutledge collection featured at least five overglaze patterns. Most elaborate was a fragment of a large punch bowl, which featured a highly detailed oriental landscape in red and gold (Figure 15u). At least three plates had elaborate floral designs. Two delicate teacup styles were recovered; one set contained cup and saucer fragments which featured a sparse floral decoration and a single red line along the interior rim (Figure 15w-z).

In the mid-eighteenth century in Europe, new techniques were developed in the ceramic industry. Two Dutch silversmiths turned potters developed a hard dry-bodied redware called Elers ware, bearing the brothers' name. At the same time, a comparable dry-bodied stoneware in black (fired in a reducing atmosphere) called black basalt was brought to prominence by Josiah Wedgwood. Teapots were the most common form for both. Elers ware was represented by one sherd and black basalt, by seven, in the Rutledge era assemblage.

A revolution occurred in earthenware manufacture in the 1750s also, when Josiah Wedgwood developed his cream colored refined earthenware, called creamware. People desired a white colored tableware and so creamware soon became popular due to its solidity, its fine glaze, its inexpensive price and most importantly, its availability in a wide variety of vessel forms and in matched sets. In the eighteenth century, the upper class chose creamware for their everyday ware. After 1820, it was relegated to large, utilitarian forms such as bowls and chamber pots and was considered an inexpensive ceramic (Miller 1980). Creamware is a common component in historic sites after 1760 (Deagan 1975). Of the 1144 creamware pieces recovered in the Rutledge era assemblage, decorations included hand painted, black transfer printed, green-edged, aqua-marine blue in grooves, a marbled pattern, feather-edged rims, spearhead rims, royal pattern rims, and queen's shape rims (Figure 16a-d). One creamware teapot lid finial was also recovered (Figure 16h). Other recognizable vessels included several plates, a small bowl

with molded horizontal bands (Figure 16e), and a scalloped serving bowl.

Another important development in the mid-eighteenth century ceramic industry was the application of a dipped glaze to thin, hard-fired earthenwares which allowed the application of new ornamental techniques to produce tea wares of various colors. These tea wares, cast in naturalistic, rustic and ruccho designs, became loosely classified as "Whieldon" ware after the potter Thomas Whieldon of Staffordshire. Also at this time, Astbury, Agate and Jackfield wares appeared on the market. Astbury ware was a hard, red-bodied with a light chocolate-brown lead glaze, generally decorated with sprig-molded birds, squirrels, flowers, and royal arms, in white pipeclay. The pieces recovered from Rutledge, however, contained no decorations. Agate ware was achieved by the mixing of two or more clays of different colors to create veins that went through the ware and could be seen both inside and out. The body of Jackfield was fired to a purple or gray color and coated with a shiny black glaze.

From 1765 to the 1770s, Josiah Wedgwood continued experimenting to produce a whiter ware than creamware which, in 1779, he succeeded with the creation of a new ware he termed "pearlware" (Noel Hume 1969:128; 1973). By adding cobalt to the lead glaze to negate its natural yellow tint, the vessel took on a bluish-white caste. Available in a variety of styles, by 1795, some pearlware motifs (shell-edged, transfer printed, banded, hand painted, and no decoration) can be associated with specific vessel forms and price scales (Miller 1980; Otto 1977). Annular or banded ware, with its stripes of many colors and bowl or mug forms, has been associated with low status; transfer printed styles, available in matched sets with a variety of flatware and service styles, with high status (Otto 1977). Pearlware sherds comprised a small amount of the Rutledge era ceramics (8.7%), but included the spectrum of types: hand painted, transfer printed, undecorated, shell-edged, and annular.

During the 1820s to 1830s, the manufacturing process was refined to achieve an even "whiter" ware, named whiteware, which replaced pearlware as the preferred tableware. The same decorative motifs continued on whiteware vessels. Prior to 1830, transfer printed designs were available only in blue; afterwards, they were available in a variety of colors. The Rutledge era assemblage contained a few whiteware sherds, half undecorated and half transfer printed, with one hand painted piece.

Utilitarian ceramics comprised a smaller percentage (7.2% vs. 24%) than the pre-1760 assemblage which probably reflects the increase availability, and thus use of new tablewares, rather than an actual decrease in the use of utilitarian wares. Two hundred eight (208) utilitarian ware sherds included brown, grey, grey/blue, scratch blue and tan stonewares (48% of the utilitarian wares) (Figure 17e-h), and North Devon, black lead glazed, a variety of brown lead glazed, and unglazed earthenwares, including four Olive jar pieces. The North Devon

fragments were the large cream pan or bowl form (Beaudry et al. 1983). Scratch blue stoneware is actually white salt-glazed stoneware, incised and filled with cobalt before firing, resulting in patterns of thin blue lines. Originally, it was used to ornament cups and saucers or to inscribe pitchers and loving cups. But in the 1760s, English potters made a strong bid to oust German utilitarian wares which had a stronghold on the market by producing chamber pots, mugs, etc. in scratch blue. Several scratch blue fragments from the Rutledge era assemblage mended to form part of a chamber pot (Figure 19a-b, 20).

Olive jars, Mediterranean in origin, are an unglazed or lead glazed storage vessel used in shipping (Goggin 1960). They represent a small but consistent component of Charleston sites even though they most likely arrived through illicit trade, since the Navigation Acts of 1651 and 1660 forbade colonists to trade directly with anyone but Mother England. Another example of a Spanish ceramic found at Rutledge was majolica. Majolica is the Spanish counterpart to English delftware in use and design (South 1977; Deagan 1987). The two tin enamelled fragments recovered in the Rutledge era assemblage were aqua-blue colored.

One hundred seventeen (117) Colono ware sherds were recovered, comprising 4% of the Rutledge era assemblage, consistent with the urban average for eighteenth century sites. What is interesting is its decline in percentage from the pre-1760 assemblage. This could be indicative of a decline in the use of these wares as the nineteenth century begins, and/or the percentage could be diminished by the abundance of other material goods (especially tablewares) associated with the wealthy white persons living there during the 1760-1820 period.

Glass artifacts comprised 34.7% of the kitchen artifacts and 21% of the overall artifact assemblage. The most common type of glass were hand blown or dip molded vessels. Free blown glass bottles were manufactured from the mid seventeenth century through the early nineteenth century. Contact molded olive or black glass manufactured with a pontil, was produced in a dip mold, or later a three piece mold. Used on wine bottles from 1790 to 1810, the contact mold process gradually replaced the free blown method. Dip molded glass has no seams, as it was manufactured in a one piece mold, open at the top. After the base and body were formed, the shoulder, neck, and lip were hand finished. This method was used primarily for wine bottles (Teague 1980:81). Later, molded bottles included raised lettering and recessed panels (Lorraine 1968).

The overwhelming majority of the Rutledge era assemblage glass was hand blown dark olive wine bottles, comprising 81% of the glass recovered and 29% of the kitchen group (Figure 19c-e). Other container glass included fragments of clear, light green, aquamarine and amber, as well as identifiable fragments of medicinal glass (Figure 19f-g). One piece of frosted glass was also recovered. A variety of tableglass fragments included tumbler pieces, wine glass stems and wine glass bases (Figure

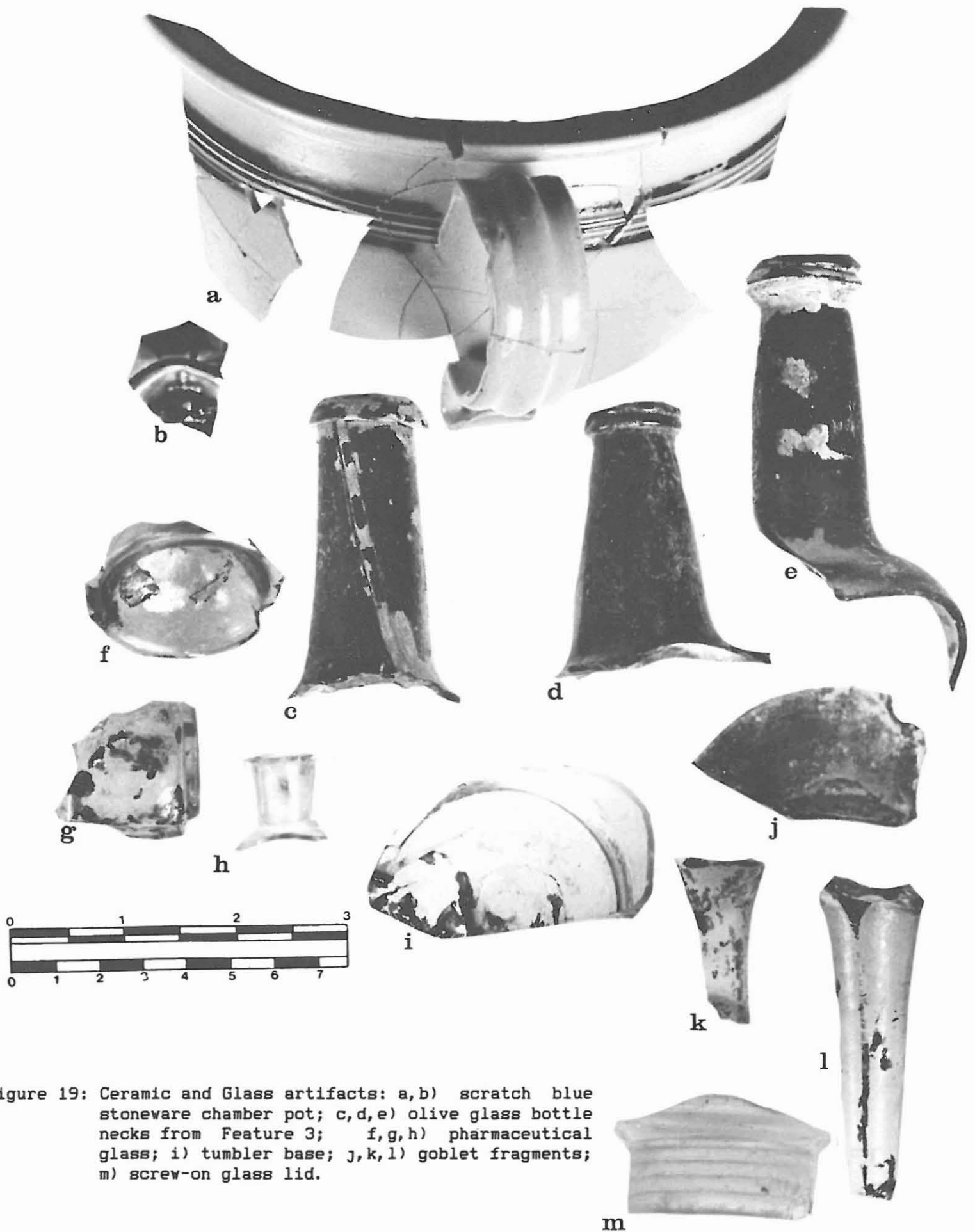


Figure 19: Ceramic and Glass artifacts: a,b) scratch blue stoneware chamber pot; c,d,e) olive glass bottle necks from Feature 3; f,g,h) pharmaceutical glass; i) tumbler base; j,k,l) goblet fragments; m) screw-on glass lid.

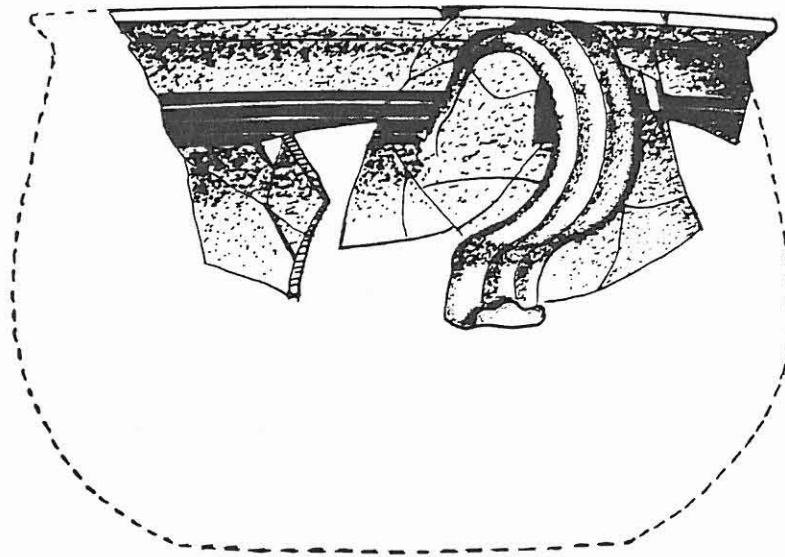
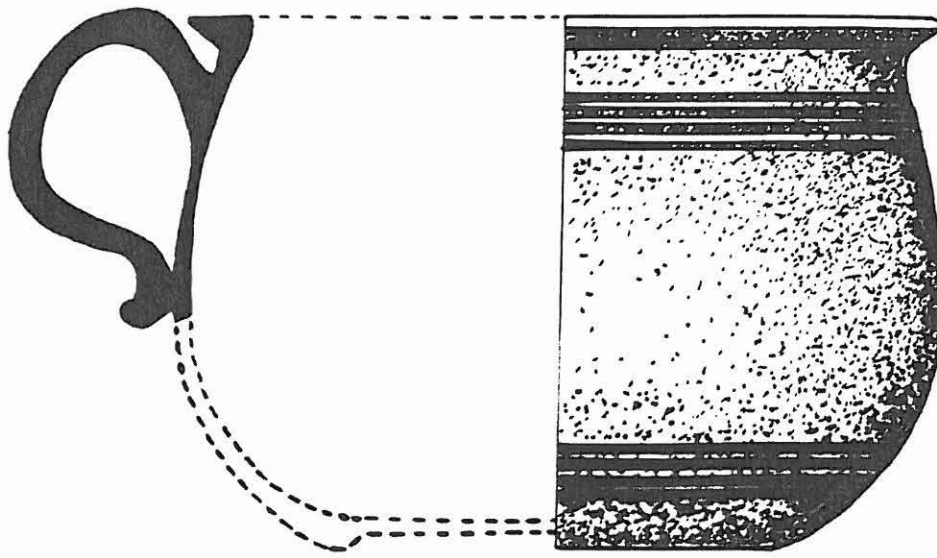


Figure 20: Reconstruction of scratch blue stoneware chamber pot.

19i-1). One clear glass jar lid appears to be the type used in the early nineteenth century for scientific specimens (Figure 19m).

The other kitchen items found were of ferrous material or composite bone/ferrous and accounted for .8% of the kitchen group: tin can fragments, kettle fragments and cutlery items. The two cutlery items were both bone handled forks. Although tin cans were not patented until 1810, the manufacturing of tinware in America actually began in 1770 in Berlin, Connecticut. After the Revolutionary War, American mills began mass producing it. The word "can" originally comes from the Greek word "kanastron" meaning "basket woven from reeds;" in Latin, it changed to "canistrum" from which we derived the word "canister." The bookkeepers of William Underwood Co., of Boston shortened it to "can" and soon the name became popularized (Fontana and Greenleaf 1962). Beginning in the 1800s, tin cans were first made by cutting the can from a tin plated sheet iron by hand or foot powered scissors, then forming the body around a cylinder, and soldering the seam. Separate pieces were cut for the top and bottom, and soldered. The food was added through a small hole left in the top of the can, and then a smaller cap was soldered in place after filling. This basic method persisted until the mid-1880s, with improvements being continually invented (Fontana and Greenleaf 1962). Popular canned products included oysters, lobsters, and salmon. Most fruits, vegetables, pickles, jellies, and sauces were eventually packaged and shipped around the world from eastern seaports (Fontana and Greenleaf 1962).

Architecture

Similar to the pre-1760 assemblage, architectural items comprised the second largest artifact group with 2611 items (33.7%). Once again, the group was comprised almost entirely of nails (63%) and flat glass (35%). Nine hinges, one door lock, one bolt, two spikes, ten tacks, one shutter pintel, one hook, one fence staple, and three pieces of delft tile form the rest of the architectural group (Figure 21a-f).

Pipes

Two hundred twenty-five pipe fragments accounted for 2.9% of the Rutledge era assemblage. One hundred sixty-five were stems, the rest, bowl fragments. Decorations included a bowl with the initials "WG" on it (Figure 21j), one with fish scales design, one with a strip design and one with an "R." One stem mouthpiece was dipped into a brown glaze; this was an eighteenth century innovation, but it was by no means common (Noel Hume 1969:302).

Arms

Fifty-one arms materials equaled .66% of the Rutledge era

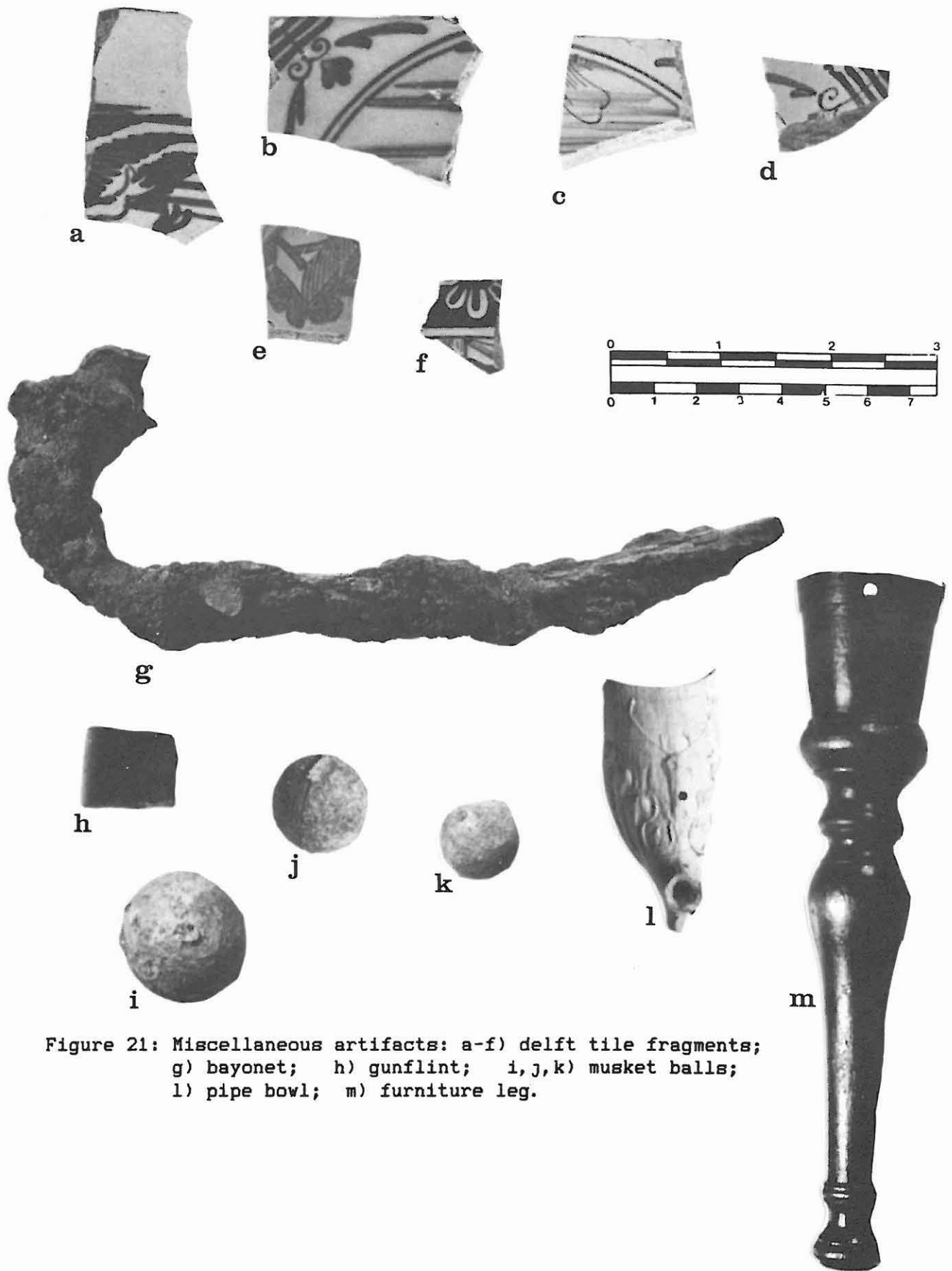


Figure 21: Miscellaneous artifacts: a-f) delft tile fragments; g) bayonet; h) gunflint; i, j, k) musket balls; l) pipe bowl; m) furniture leg.

assemblage. Part of a Revolutionary War bayonet and rifle stock were recovered along with musket balls, shot, pistol bullets, gunflints, a flint grip and a percussion cap (Figure 21g-h, 22). One feature, a small pit, contained what appears to be a cache of 25 musket balls with clam shells and olive bottle glass (Figure 21i-k).

Clothing

Ninety-seven clothing artifacts comprised 1.24% of the Rutledge era assemblage. The most numerous clothing item were 60 straight pins, followed by 18 bone buttons, seven brass buckles (one, a shoe buckle; the others, shoe or belt), seven beads, four brass buttons, and one thimble (Figure 23b-h). The seven beads were all tubular or round in shape and made out of various colored glass: black, turquoise-green, white and bluish green, shiny opaque, blue, and red. The brass buttons were plain and were either originally undecorated or the decoration had completely eroded away.

In the late eighteenth century, craftspersons followed french styles and methods in creating brass, fine porcelain, and enamel buttons; they also fashioned buttons out of natural materials such as shell and bone. Most bone buttons were strictly utilitarian, such as underwear or trouser buttons; the bone primarily used for them was cow. At the turn of the nineteenth century, brass buttons became very popular and soon filled the market. More buttons have been made out of brass than any other material (Luscomb 1967:25-26).

Personal

An array of personal items, some quite unusual, were recovered which equaled .23% of the assemblage. A garnet gem, a paste diamond, an elegantly carved bone fan and a brooch most likely belonged to the women of the house (Figure 23q, l, i). Other personal items included a watch fob, a jews harp, an umbrella strut, a bone ring, a domino, a brass book latch, a bone toothbrush, a coin, and six slate pencils (Figure 23m, n, v, q, u, o, r). Although the coin is badly eroded, it seems closest to a King George half penny; the toothbrush had "RUSPINI" engraved on one side.

Furniture

The smallest artifact group at .17% is the furniture group, consisting almost entirely of brass furniture tacks (85%). One brass chair or small table leg (Figure 21m) and one brass decorative piece for furniture were also recovered.

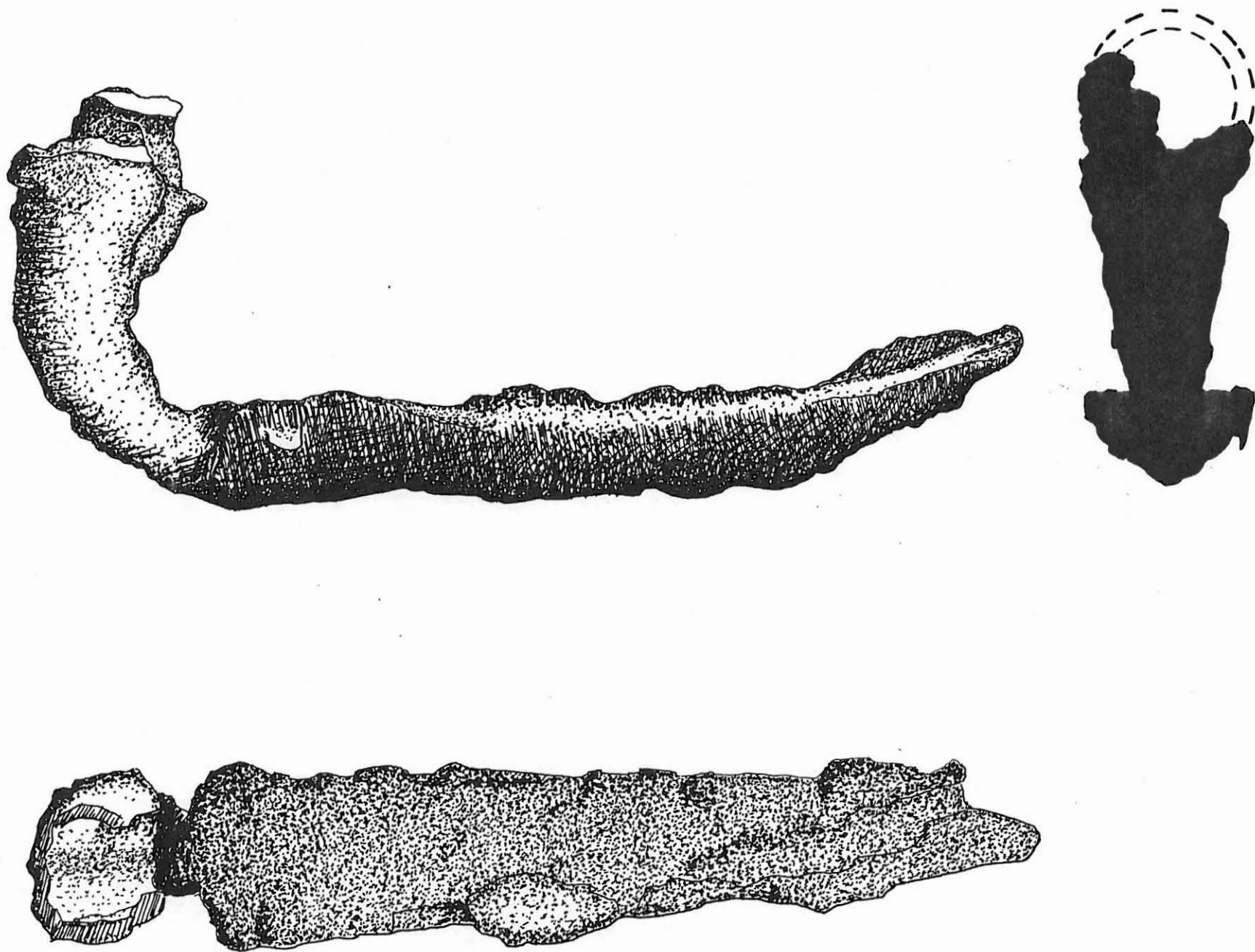


Figure 22: Artist rendition of Revolutionary War era bayonet. The artifact was in an advanced state of decomposition and was too fragile to undergo electrolysis; it was stabilized in baths of distilled water.

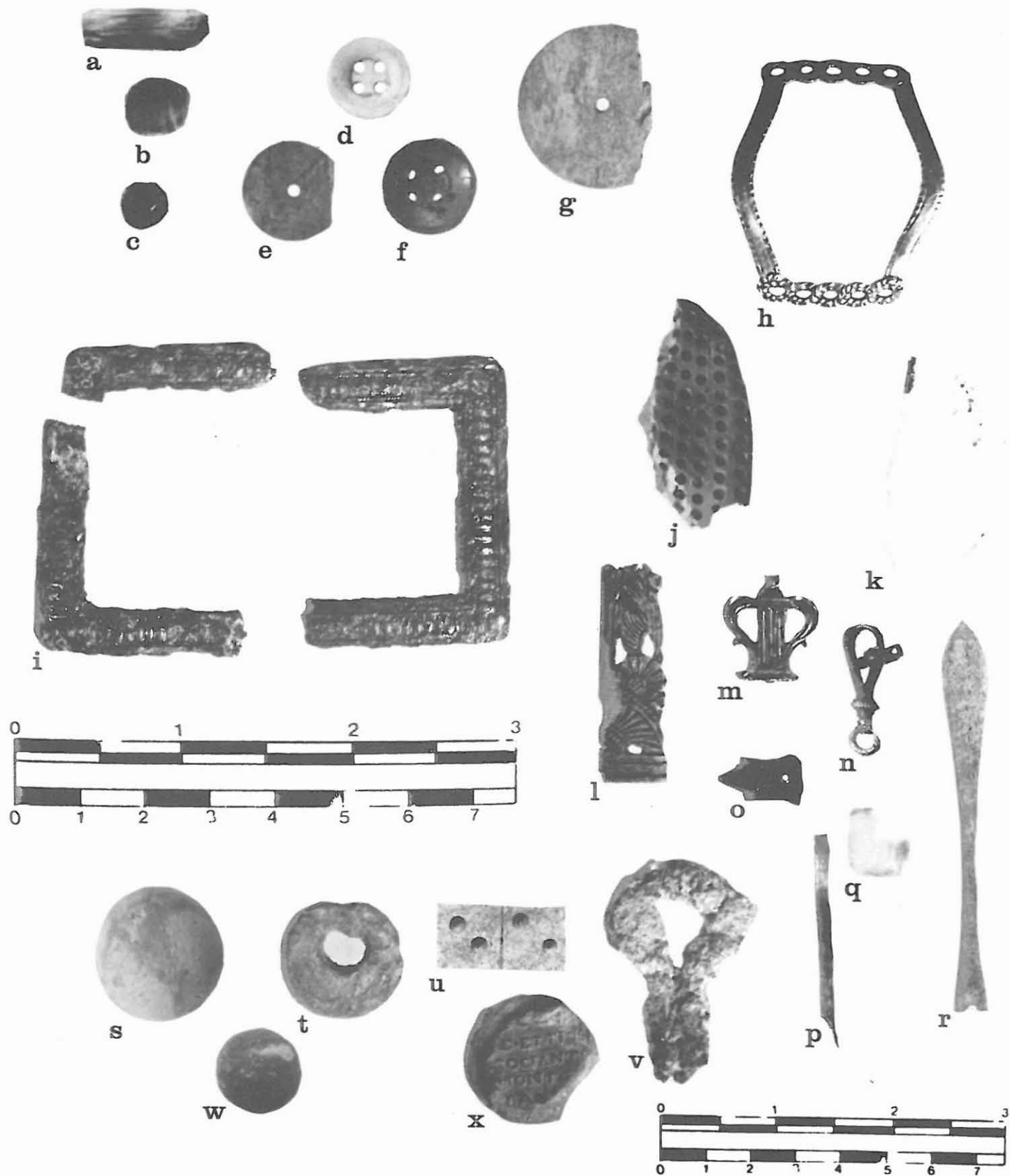


Figure 23: Clothing, Personal, Activities artifacts: a-c) glass beads; d-g) buttons; h) buckle; i) buckle; j) bone brush recovered in 1981; k) eyeglass lens; l) bone fan slat; m, n) watch parts; o) book latch; p) umbrella strut; q) paste diamond; r) bone tooth brush; s, w) marbles; t) possible lead weight; u) bone domino; v) jews harp; x) lead bale seal.

Activities

Seventy-one activity artifacts comprised .92% of the assemblage. Most of the items are metal straps, wires, and other unidentified ferrous objects. One tool, one lead bale seal, and three lead weights were also identified (Figure 23t,x).

Post-1820 Assemblage

Kitchen

One thousand one hundred one (1101) artifacts in 13 proveniences dated after 1820; this is a significant drop in the amount of material deposited on site, compared to earlier deposits. Unlike the two previous assemblages, kitchen artifacts comprised the second, rather than first, largest artifact group, accounting for 44.23%. Ceramics were still most numerous at 58.3% (284 sherds), although there were fewer types represented. Glass ranked second at 39.2% (191 fragments) and metal, 2.5%.

Almost all of the ceramics were tablewares (92%). Half of the tablewares were porcelains (25%) and creamware (25%). The majority of porcelains were Chinese; however, white American- or British-made porcelains, manufactured after 1850, are present. Creamware types were undecorated, except for one hand painted piece. Undecorated, transfer printed, annular, hand painted and shell-edged pearlware sherds comprised the third largest ceramic group at 23%. Undecorated and transfer printed whiteware, white salt-glazed and ginger beer stonewares, delft and slipware comprised the rest of the tablewares. (The two Colono ware sherds recovered, again, were not included in this division.)

Utilitarian wares (8% of the ceramics) of the post-1820 assemblage were the same as in the two previous assemblages. Two-thirds were the coarse earthenwares, lead glazed and unglazed; the other third were the stonewares, brown, grey, grey/blue, and scratch blue.

Unlike other nineteenth century Charleston assemblages, the amount of glass did not exceed the amount of ceramics. Variation in color and types did increase, however. Dark olive and aquamarine bottle glass comprised 33% and 31% of all glass, respectively. Bottle glass also came in clear, amber, blue, and milk colors. Only two pieces of table glass were recovered, one clear and one red.

Six fragments of thin clear glass could be from patent or proprietary medicine bottles (Figure 19n). The medicines were marketed for fevers, aches, cramps, or almost any kind of ailment, sold by "medicine men" (salesmen who traveled across the land, making their sales pitch from street corners or out of wagons). As the nineteenth century progressed, the patent medicine business prospered until Colliers magazine revealed that

most of the medicines contained a high amount of alcohol, and some, arsenic, opium and morphine. The U.S. government responded with the passage of the 1907 Pure Food and Drug Act, and the patent medicine business soon died (Ketchum 1975).

Although metal kitchen artifacts (12) represent a higher proportion of the kitchen group than in the Rutledge era assemblage, their actual number is quite less. This is surprising when compared to other nineteenth century Charleston assemblages, in which metal artifacts continue to increase in number as time progresses. Tin cans were in common use by 1860, reflecting the increased use of processed and preserved foods. By this time, not only fish, vegetables and fruits were canned but a variety of meats as well (ducks, geese, turkeys, chickens, beef) (Rock 1984). The post-1820 assemblage contained 10 tin can fragments and two bottle caps.

Architecture

Architectural items comprised the largest artifact group for the post-1820 assemblage at 53.04% or 583 artifacts. Nails equaled 66% of the group and flat glass, 33%. One staple, one screw and five pieces of white porcelain insulator comprised the remaining architectural group.

Pipes

Thirteen pipe fragments, ten stems and three bowls, comprised 1.18% of the post-1820 assemblage. The use of kaolin pipes declined in the nineteenth century and the pipe data from the Rutledge assemblages demonstrated the decrease.

Clothing

Clothing items accounted for .91% of the post-1820 assemblage. Four buttons were the typical nineteenth century white porcelain variety; one button was bone, one brass, and one, pearl. One unusual button recovered was made out of a polished grey stone. Two round glass beads, aqua blue and pink, were also recovered.

Personal

One eyeglass lens comprised the personal group. It accounted for .09% of the post-1820 assemblage (Figure 23k).

Activities

Activity artifacts equaled .54% of the assemblage. A large orange swirled clay marble (Figure 23s), three pieces of mica for a lens, a ferrous strap and a hard rubber fragment were recovered. The mica lens pieces were the second "scientific" artifact found along with the glass jar lid.

Arms/Furniture

No arms or furniture items were recovered in the post-1820 assemblage.

Table 4
Quantification of the Assemblage

	<u>Pre-1760</u>	<u>1760-1820</u>	<u>Post-1820</u>
<u>Kitchen</u>			
Colono Ware	22	117	2
Porcelain, Blue on White	20	504	38
Porcelain, Oriental overglaze	3	219	9
Porcelain, Canton		4	1
Porcelain, undecorated		71	
Porcelain, white			22
Stoneware, brown sgs	2	23	4
Stoneware, white sgs	2	56	8
Stoneware, grey sgs	4	12	
Stoneware, grey/blue sgs	5	33	2
Stoneware, scratch blue		23	1
Stoneware, black basalt		7	
Stoneware, Nottingham	1	2	
Stoneware, ginger beer			1
Stoneware, alkaline-glazed-like	5	9	
Majolica		2	
Delft, blue	5	128	
Delft, polychrome		21	
Delft, undecorated	12	85	7
Delft, apothecary	2	10	
Slipware, combed	12	110	15
Slipware, american		5	
N. Devon gravel tempered	1	7	
Staffordshire		5	
Creamware, undecorated	14	1125	69
Creamware, hand painted	1	11	1
Creamware, transfer printed		5	
Creamware, green-edged		3	
Whieldon		2	
Jackfield	1	5	
Agate		1	
Astbury		4	
Elers		1	
Pearlware, undecorated		86	26
Pearlware, hand painted		46	5
Pearlware, transfer printed		97	22
Pearlware, annular		18	10
Pearlware, shell-edged	1	14	3
Whiteware, undecorated		10	21
Whiteware, hand painted		1	
Whiteware, transfer printed		13	3
Black lead glazed earthenware	3	36	1
Lead glazed earthenware	4	42	5
Mottled ware	5	7	

Nottingham-like earthenware	1	8	
Unglazed earthenware	1	19	8
Olive jar		4	
Olive bottle glass	47	1338	68
Clear bottle glass	11	134	38
Aquamarine glass		36	62
Thin green glass	3	67	
Amber bottle glass		1	6
Yellow glass	3		
Frosted glass		1	
Blue bottle glass			7
Milk glass			2
Clear table glass	1	43	1
Red table glass			1
Pharmaceutical glass		3	6
Tin can		5	10
Cutlery		2	
Kettle		31	
Bottle cap			2
<u>Architecture</u>			
Nail	93	1655	385
Flat glass	36	927	191
Fence staple		1	1
Tack	1	10	
Screw			1
Porcelain insulator			5
Hinge	2	9	
Door lock		1	
Bolt		1	
Spike		2	
Shutter pintel		1	
Shutter hook	2	1	
Delft tile		3	
<u>Pipes</u>	24	225	13
<u>Arms</u>			
Percussion cap		1	
Flint grip		1	
Shot		2	
Musket ball	2	39	
Bayonet		1	
Rifle stock		1	
Pistol bullet		3	
Gunflint		3	
<u>Furniture</u>			
Tack		11	
Leg		1	
Decorative piece		1	

<u>Clothing</u>			
Buckle	2	7	
Bead	1	7	2
Button	1	22	8
Cuff link	1		
Straight pin		60	
Thimble		1	
<u>Personal</u>			
Eyeglass lens			1
Jewelry part		5	
Fan part		1	
Jews harp		1	
Umbrella strut		1	
Domino		1	
Book latch		1	
Bone toothbrush		1	
Coin		1	
Slate pencil		6	
<u>Activities</u>			
Marble	1		1
Mica lens			3
Carpenter tool		1	
Lead bale seal		1	
Lead weight		3	
Lead strip	1		
Brass wire		29	
Brass ring		1	
Ferrous strap		12	1
Ferrous UID	5	24	
Hard rubber UID			1

Summary: Artifact Patterning

To date, all of the Charleston assemblages have been quantified by grouping the artifacts into functional categories, according to South's methodology (South 1977). Under this technique, artifacts are grouped by their presumed function in the daily affairs of the site occupants. By utilizing data from a number of British colonial sites, South proposed a range of variability that can be expected for the frequency percentages of artifact classes and groups. He named this range of variability the Carolina Artifact Pattern; this pattern is presumed to represent an averaging of domestic behavior. By establishing the range of normal variation, it should be possible to recognize aberrant activities as variations from these ranges.

Comparison of the Rutledge assemblages to Charleston mixed residential-commercial sites (dual-function profile), Charleston residential-only sites (townhouse profile), and the Carolina pattern is shown in Table 3. The mixed residential-commercial sites include the homes and businesses of merchants and craftspeople from the core of the old city. These sites reflect a general conformity to the Carolina pattern. The major difference

is in the activities group, which averages 4.14 percent for these sites, compared to 1.7 percent for the Carolina pattern.

Research on the dual-function sites has suggested that commercial enterprises that transfer, rather than produce, goods (such as retail shops) are likely to produce little in the way of byproducts which would be recovered archaeologically. In contrast, sites characterized by craft oriented, or combined craft-domestic occupations appear to generate at least some discarded byproducts indicative of site function (Lewis 1977:177; Honerkamp et al. 1982:17,145-155; Honerkamp 1980; Zierden and Hacker 1987). The slightly elevated activities group in the dual-function profile, then, is a reflection of commercial activity at these sites.

In contrast, data from Gibbes (Zierden et al. 1987), Aiken-Rhett (Zierden et al. 1986a), and Rutledge were used to derive a pattern for domestic-only sites (townhouse profile). These sites, however, are not representative of all Charleston residential sites. Rather they represent federal/antebellum townhouses owned and occupied by wealthy and prominent planter/merchants (i.e. the upper class). Only data from the 1760-1820 Rutledge assemblage was included in the townhouse profile. Artifact patterning is one tool used in addressing some of the archaeological issues stated in Chapter 1.

Table 5

Comparison of Rutledge Assemblages
to Composite Artifact Profiles

	Pre-1760 Assemblage	1760-1820 Assemblage	Post-1820 Assemblage	Townhouse Profile	Dual-Function Profile	Carolina Artifact Pattern
	% (#)	% (#)	% (#)	%	%	%
Kitchen	52.89 (192)	60.20 (4672)	44.23 (487)	58.38	63.10	63.0
Architecture	36.63 (134)	33.70 (2612)	53.04 (584)	36.00	25.03	25.5
Arms	.55 (2)	.66 (51)	0 (0)	.32	.20	.5
Clothing	1.37 (5)	1.24 (97)	.91 (10)	.91	1.18	3.0
Personal	0 (0)	.23 (18)	.09 (1)	.24	.14	.2
Furniture	0 (0)	.17 (13)	0 (0)	.21	.08	.2
Pipes	6.61 (24)	2.90 (225)	1.18 (13)	2.79	5.97	5.8
Activities	1.92 (7)	.92 (71)	.54 (6)	1.10	4.14	1.7

CHAPTER V
INTERPRETATIONS

The Data Base

Since the beginning of this decade, archaeological research in Charleston has been guided by a series of long-term research goals. These research topics were formulated through archival research. This two year study served as an initial archaeological survey of the city, and was used to predict site location, type of activity, and length of occupation throughout the city (Zierden and Calhoun 1984a; Calhoun et al. 1985). A second study focused on the city's suburban development (Rosengarten et al. 1987). Research focused on documentary evidence of the formation of human adaptive patterns, and the ways in which the patterns are manifested in the community and reflected in the ground (Deagan 1983:13-14). These include:

1) information relevant to an understanding of social variability in the city, such as population demography, occupations, income ranges, social and ethnic classes.

2) information relevant to the material world and economy of Charleston. This includes studies of Charleston's economic system, its position in the world economy, the range of activities in the commercial sector of Charleston's population, descriptions of the range of imports available to the city's citizens, the local production of goods, and the mechanisms and manifestations of distribution and exchange in the city.

3) information relevant to the physical formation of the archaeological record. This includes information on the physical landscape of Charleston, such as patterns of growth and development, location of different activity areas, and the nature of the physical environment prior to intensive utilization. Physical contributions to the record such as architecture and building construction methods, cultural and natural disasters, disposal and sanitation practices, and public works are also important.

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 1984b), 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 is based on the scale of the project, as well as the temporal and functional affiliations of the site. The unified research

approach gives weight to small projects such as Rutledge, as each project, regardless of scale, enlarges the Charleston data base.

To date, fourteen sites comprise the Charleston data base. These are utilized in the present study for comparative purposes, both individually and in groups. Initial archaeological efforts focused on sites within the historic city core. These sites were dual function residential-commercial properties, characterized by intense use, several episodes of rebuilding, changing property lines, and use as rental property for a variety of activities. They were occupied since the early eighteenth century.

The five residential-commercial sites include McCrady's Longroom (Zierden et al. 1982), Lodge Alley (Zierden et al. 1983a), First Trident (Zierden et al. 1983b), Charleston Place (Honerkamp et al. 1982; Zierden and Hacker 1987), and Visitors Center (Grimes and Zierden 1988). Three additional sites served a primarily commercial function, but contained domestic artifacts; these include the Beef Market (Calhoun et al. 1984), Exchange Building (Herold 1981; Zierden and Hacker 1986), and Atlantic Wharf (Zierden et al. n.d.). Data from these sites have been lumped to form an artifact assemblage termed the Dual Function Profile. These sites span the eighteenth and nineteenth centuries. Proveniences dating to the first three quarters of the nineteenth century dominate the assemblages at Charleston Place and Visitors Center, while materials associated with the Revolutionary and Federal periods (ca. 1780-1820) are most numerous at the other sites. Status affiliation of the occupants was not always apparent on these sites. Those with the most clearcut associations include Lodge Alley, home of lower class citizens, and the early nineteenth century assemblage at First Trident, apparently occupied by a prosperous citizen.

In 1985, Museum research expanded to include residential-only sites built in Charleston's late eighteenth and early nineteenth century suburbs. Investigation of these portions of the city began with excavations at two townhouse sites, homes of wealthy merchant-planters, the Aiken-Rhett Mansion (Zierden et al. 1986a) and the William Gibbes House (Zierden et al. 1987). Data from these sites were used to derive a profile of high socioeconomic status in an urban setting (Zierden and Calhoun 1989). The John Rutledge House represents a third example and the Miles Brewton House a fourth. The Miles Brewton site was excavated immediately after completion of the Rutledge fieldwork, and is still in analysis. Data from the John Rutledge and, when available, from the Brewton site, will be used to reexamine the urban elite model. Data from Rutledge have been grouped with that from Aiken-Rhett and Gibbes to form the Townhouse Profile.

Two other suburban residential sites have been investigated; President Stret is located on the western side of the Neck (Zierden and Raynor 1988), while 66 Society Street is located in Ansonborough (Zierden et al. 1988). Both sites are presumed to be owned and occupied by middle class citizens.

Site Formation Processes

Investigation of site formation processes is a basic component of ongoing archaeological research in Charleston. In order to most fully interpret an archaeological site, it is first necessary to understand the processes responsible for the formation of that data base. In an urban situation, this can be a formidable task. Because of the frequently intensive use, and reuse, of most urban lots, the stratigraphic record is often a deep jumble of deposits. Urban archaeologists have been chided for searching in vain for "layer cake sites" and criticized for not developing methodologies compatible with the real urban situation (Honerkamp and Fairbanks 1984:65).

Cultural materials are introduced into the ground by three basic methods; discard, loss, and abandonment (Schiffer 1977). In some cases, it is possible to distinguish proveniences resulting from specific depositional processes. Once in the ground, they 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.

Our research suggests that sheet midden, or zone deposits, characterize rural sites, specifically Lowcountry plantations. This pattern has been noted on plantation sites in coastal Georgia (Singleton 1980; Mullins Moore 1985), and in South Carolina (Drucker and Anthony 1979; Wheaton et al. 1983; Zierden et al. 1985, 1986a). Although the bulk of the coastal plantation sites have been altered by plowing (producing a post-depositional "sheet midden"), features below this plowzone are frequently intact. Data recovery at Lesesne and Fairbank plantations, Daniels Island, revealed a large number of small features. The bulk of these, however, contained sparse artifacts. Exceptions to this were large, recycled features used secondarily for refuse disposal, including a well and abandoned brick foundation (Zierden et al. 1986a). Another common depositional practice during the colonial and antebellum periods seems to have been the use of adjacent swamps and marshes for refuse disposal. With the availability of large, open areas, rural residents were able to deposit refuse on the ground surface, or in lowlying areas, a convenient distance from the habitation area.

The congestion and population density of the urban center required different strategies. Although there is considerable overlap, reuse of subsurface features for refuse disposal appears to be more common on urban sites. The back yard was the locus of refuse disposal. Although considerable refuse was scattered on the ground as sheet midden, much of it was deposited into recycled features such as wells and privies.

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 viable real estate (Sapan 1985; Zierden and Calhoun 1986; Zierden et al. 1983b, n.d.).

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 seems to reflect this activity (Lewis and Haskell 1981; Zierden and Hacker 1987). Artifact deposits resulting from loss have been manifested as deposits beneath a present or former wood floor (small items swept through cracks between boards) and in the small artifacts accumulated in drains. Loss and abandonment deposits can often be distinguished from discarded deposits by the artifact profile (South 1977; Zierden and Hacker 1987:93), as well as 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, i.e., removal of refuse by scavengers, and later municipal crews, 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 management of such basic needs as water procurement and storage, sanitary waste management, and trash disposal (Honerkamp and Council 1984; Rosengarten et al. 1987; Zierden and Calhoun 1986).

Excavations at the Rutledge House provided additional information on site formation processes in Charleston. Excavation of Units 1 and 3 revealed substantial accumulation of artifacts in sheet midden at the site, with a dearth of trash-filled features. Of particular interest is the deep, rich refuse accumulation manifested in Zone 5. Refuse filled features, in contrast, were rarely encountered, Feature 3 being the only such provenience.

Though in sheet form, refuse was not evenly distributed across the back yard; instead, it was concentrated in the vicinity of the outbuilding. This is evident through a comparison of Units 1 and 2. Unit 2 exhibited similar stratigraphy and artifact content as Unit 1, but in abbreviated form. Unit 2 was 3.1 feet deep with three zones, while Unit 1 was 4.5 feet deep with seven zones. The artifacts in the two units were generally the same type and dates, but were smaller in size and fewer in number. This suggests some general dispersal of refuse across the yard, but a concentration of refuse disposal activities adjacent to the outbuildings. Evidence of this deliberate concentration was also encountered at Aiken-Rhett and Brewton.

The Rutledge site, then, diverges from the model of urban/rural contrast. Here, refuse accumulated primarily in sheet middens, rather than in features. The middens, though, were dense and concentrated in the vicinity of the outbuildings. This evaluation is based on a very small sample size, and more complete excavation of the rear yard may have revealed a higher number of refuse-filled features.

Studies of suburban Charleston sites suggest that two additional factors may affect both the methods and quantity of refuse disposal on domestic sites; relative size of the open areas of the lot and nearness to a marsh or creek. The large townhouse lots, including Rutledge, reveal a concentration of refuse near the service buildings. The small 66 Society lot in Ansonborough, for example, revealed a concentration of large refuse-filled pits in the center of the small back yard. Unlike 66 Society and Rutledge, most of the suburban sites studied to date have been located near areas of marsh that were actively and gradually filled during the nineteenth century. Gibbes and President Street were adjacent to waterfront expanses, while Aiken-Rhett, Brewton, and Visitors Center were adjacent to or located on one of the many small creeks which bisected the peninsula.

The present cumulative data suggest that nearness to low land may affect refuse disposal practices in the city. Obviously, this cannot be proven archaeologically; it is not possible to excavate these areas of marsh and discern individual households. Likewise, it has not proven possible to document the amount of off-site refuse disposal. It is only possible to assess on-site discard behavior. This may be quantified by calculating the number of artifacts per cubic foot of excavated soil, bearing in mind the bias of sample size. This bias may be manifested by both a low percentage of site excavated and the placement of the small, dispersed units, although attempts were made to sample a variety of areas at each site, within the limits of the project. The resulting figures are shown below.

Table 6

Relative Artifact Density by Site

site	cubic feet	no. artifacts	no. bone	total no. / cubic feet
Aiken-Rhett	377.5	4990	956	15.75
Gibbes	225.0	2407	1109	15.62
66 Society	135.0	2009	528	18.79
Rutledge	366.75	9219	3384	34.36
Beef Market	175.0	7863	10378	104.23
MUSC Pres. St.	73.0	4817	398	71.43
Lodge Alley	120.0	6634	3070	80.86

These figures suggest a lower density of refuse (artifacts and bone) at those suburban sites adjacent to open water - President Street, Aiken-Rhett and Gibbes. The MUSC figures include materials excavated from the marsh fill as well as proveniences from the higher ground of the site. Those sites farther removed from these lowlying areas, 66 Society and Rutledge, contained a greater density of materials, even though no large features such as privies were excavated at any of the sites. It is also interesting to note the great density of materials on sites that were vacant, public spaces in the eighteenth century - Lodge Alley and the Beef Market. Refinement of this avenue of inquiry may provide additional clues to urban refuse disposal.

Finally, temporal divisions in the Rutledge assemblages provide clues to off-site refuse disposal. The site has been continuously occupied from the 1730s through the 1970s. Dense refuse accumulation began during Rutledge's occupation (ca. 1763) and continued through the 1820s. After that date, refuse quantity drops dramatically, and the last 100 years is reflected only in an occasional lost or discarded item. The architectural improvements of the property suggest that Thomas N. Gadsden's occupation was an opulent one, but this is not reflected in the archaeological record. It is possible that materials from this occupation were discarded elsewhere on site, perhaps further to the rear of the property (such a pattern is indicated at the Brewton house). The present data argue for increased off-site refuse disposal by the mid-nineteenth century, with an almost complete shift to this method by the end of the century.

The Urban Landscape

"Landscape" is defined as a portion of land that the eye can comprehend in a single view. Stilgoe (1982:3) has defined the term in the following manner: "Landscape means shaped land, land modified for permanent human occupation, for dwelling, agriculture, manufacturing, government, worship, and for pleasure. A landscape happens not by chance, but by contrivance, by premeditation, by design." Stilgoe separates landscape, essentially rural, from the complete alteration of urban areas, which he terms cityscape. "Landscapes display a fragile equilibrium between natural and human force; terrain and vegetation are moulded, not dominated." For research purposes in Charleston, however, the term landscape includes the urban center. The urban landscape thus refers to natural (unaltered by human activity) as well as cultural features. Cultural features can include human alteration of the terrain, introduction of some plants and removal of others, as well as the construction of buildings and other features. Creation of the urban landscape thus includes deliberate as well as non-deliberate actions, and the deliberate actions were often guided by aesthetics: ideas about 'proper' and 'attractive' redefinition and reshaping of the

land (Handsman 1987). Archaeological research on landscapes focuses on the spaces between buildings as well as the buildings themselves; these areas might include gardens, streets, or public domain. Following the lead of Leone (1989:38) and Harrington (1987), a basic premise of such studies is that landscape helps generate social life as well as reflect it; the landscape shapes and reshapes these as social meanings and relationships are continually negotiated within the forms and spaces of the urban environment. Studies of landscape have included site-specific investigation of town and country gardens and other site features, as well as broader studies of regional landscapes, settlement patterns, and, specifically, ways in which these reflect ideology and class structure (Leone 1984; Harrington 1987).

In the broadest sense, archaeological research in Charleston is aimed at understanding the urban landscape. Many aspects of research have been subsumed under this domain. Foremost among these is a study of spatial patterning; the arrangement of people, resources, and institutions across the landscape. Spatial patterning may be considered on an individual lot or city-wide level, and includes examination of architectural styles (public and domestic) as well as the distribution of service structures, activity areas, and refuse. Additional aspects of this investigation are diachronic, and include archaeological manifestations of environmental changes resulting from urbanization, changes in the architectural fabric, and the health and sanitation considerations of urban citizens. Studies of spatial patterning have been conducted on a variety of historic sites (King 1988; King and Miller 1987; Kelso 1984; Deagan 1982; Lewis 1985; Orser and Nekola 1985), as well as on a regional level (Paynter 1982; Lewis 1984; Herman 1986) and are considered an important avenue of inquiry (Hodder and Orton 1976).

Any examination of urban land use must consider the relationship between space and the forces which influence its utilization (Mrozowski 1988:19). As anthropologists, archaeologists have used spatial patterning to explore social structure and social organization. In cities, changes in social structure are consistent with urbanization, and these changes are reflected in land use. It is assumed that land will be used with increasing intensity and specialization as the community becomes more urban (Rothschild 1985:163).

Rothschild (1985) has suggested that urbanization is reflected in the degree to which land in a community is formally integrated into that community by being built upon or defined in some formal way. Such processes in Charleston and elsewhere include construction of public and private dwellings, functional definition and separation of activity areas, and physical definition and segregation of these spaces (Herman 1988). Increasing urbanization will in turn result in physical changes in the landscape (Mrozowski 1987:3). Such changes include landfilling and terrain alteration, introduction of Eurasian plants and reduction of the natural vegetation, construction of

drainage and other municipal systems, and increasing regulation of daily needs such as water procurement, livestock maintenance, food procurement, and sanitary waste management (Calhoun et al. 1984; Leone et al. 1989; Mrozowski 1987; Ostrogorsky 1987; Honerkamp and Council 1984; Rosengarten et al. 1987; Fries 1977; Trinkley, this volume).

Ethnobotanical and palynological studies have provided primary data on environmental changes in the Charleston area. Through ethnobotanical analysis, Trinkley has documented the presence of "weedy" plants associated with disturbed habitat on many Charleston sites (Trinkley, this volume). Through his analysis of wood charcoal and coal, Trinkley has also found evidence of reduced forests in the Charleston area and the filling of lowlying areas, as well as an increasing amount of disturbed, or cleared, land, colonized by weedy species. Historical research has likewise documented the deforestation of the Charleston area through the increased expense and scarcity of firewood by the end of the colonial period (Weir 1983:44).

Palynological research has provided further definition of these environmental changes (Reinhard, this volume). Unit 1 zone 6, which predates the construction of the Rutledge House, contained pollen derived from a forest containing willow, elm, maple, pecan, chestnut, oak, sweetgum, and birch. There is a low level of disturbance plants. The above zone 5, associated with Rutledge's occupation, evidenced a very different environment. The pollen spectrum indicates a deforested environment in which disturbance plants largely replaced forest vegetation. This may be due in part to the clearing of the lot and construction of the Rutledge house; however, this decline suggests environmental changes more widespread than just a single lot, as the pollen spectrum can reflect arboreal species from as far away as a few miles (Karl Reinhard, personal communication). The trees that continue to grow during the Rutledge era include chestnut, hackberry, and oak; these may have been retained for dietary or ornamental purposes. The dramatic decline in tree species associated with moist areas suggest the draining and/or filling of lowlying areas in Charleston.

Palynological analysis of soil samples from tightly dated archaeological proveniences has refined our knowledge of environmental change in the urban center. Evidently, dramatic deforestation of the Charleston area occurred between 1760 and 1800. Clearly, palynological studies can provide valuable data for environmental reconstruction of historic sites.

The spatial patterning of individual domestic lots reflect the evolution of the urban environment, and adaptation to these changing conditions. Structures and facilities necessary for the maintenance of daily life were similar for urban and rural peoples of the eighteenth and nineteenth centuries; plantations and urban lots, therefore, contain similar support features, although those on the urban lot were placed in closer proximity to each other. The assemblage of house plus support structures

and activity areas, termed the urban compound (Castille et al. 1982:5) or the urban enclosure (Herman 1989), were organized to make the most efficient use of available land.

Urban lots were deep and narrow, to maximize the available street frontage. Houses fronted directly on the street, with the narrow end facing the road. By the mid-eighteenth century, two architectural styles dominated Charleston domestic architecture, both borrowed from England but reflecting a Caribbean influence. The Charleston single house was one room wide and usually two deep; the narrow end fronted the street while the south or west side contained piazzas facing the yard. The single house was a response to both the scarcity of urban space and the humid subtropical climate. Severens (1988:7) suggests that "single houses were sensitive compromises between the public need for urban density and the private desire for domestic seclusion." Typically, the gable end fronted the street, and entrance was through a false front door onto the piazza. The true entrance was then located in the center of the long wall, and opened onto a central hall. A variation of this style featured an entrance on the northern side of the house, resulting in a suite of rooms along the south side (Rogers 1980:66).

The double house, as its name implies, contains four rooms to a floor, with a central hall, and was often more elaborate than the simpler single house (Coclanis 1985:612). The larger Charleston houses, particularly the double houses, were often elevated with an above-ground basement; the second floor was then the first living floor. This cooled the house, gave protection from flooding, and provided social distance from the public streets. This sense of distance was further enhanced by the presence of forbidding brick walls or wrought iron fences that often stood between the double houses and streets (Coclanis 1989:8; Weir 1983). The Rutledge House embodies many of these features. The imposing structure is a three-story double house, set on an above-ground basement. A double flight of stone stairs lead from the sidewalk, individualized by the placement of black and white marble. A wrought iron fence separates all but the staircase from the street. While the present configuration is clearly that of Thomas Gadsden, rather than John Rutledge, the basic arrangement of house, entrance, and street remained the same. Certainly, the front of the Rutledge house reflects formality, elegance, and social position.

Behind the main house, auxiliary structures were arranged within a fenced compound, and often included slave quarters, kitchen, stables, well at mid-lot, and privy in a rear corner. Gardens, both ornamental and functional, might be planted and livestock might be kept. While there was some variation in the size, content, and arrangement of these structures, they were considered basic functional components of urban life and were present in some form. The urban compounds of the wealthy often contained substantial brick structures for all of these activities (Zierden et al. 1986b; 1987). The properties of less affluent residents might contain less substantial structures, or

fewer outbuildings; such residents owned fewer horses and fewer, if any, slaves, for example. More than one household might share privies, wells, and passageways (Zierden and Hacker 1987:99). The support structures were often aligned along one or both walls to the rear of the house. The Aiken-Rhett yard, which never contained a garden, suggests the deliberate location of livestock facilities and privies away from the main house, while the Gibbes and Miles Brewton yards, with support structures along one side, reflect attempts to segregate the working yard from the formal gardens.

These seemingly spacious yards thus quickly became cramped, as an owner's family, as many as twenty slaves and a variety of livestock - horses, cows, and assorted fowl - lived and worked within a restricted area. As the nineteenth century progressed, Charlestonians became seriously concerned with the health and sanitation problems resulting from such population pressure, and worked to offset the inherent dangers of these conditions. Cisterns to collect rainwater and brick drains designed to remove waste water are tangible archaeological evidence of attempts to make the yard more liveable.

This fairly static pattern can serve as a basic outline of lot element patterning in Charleston, but continuing research on residential-only sites suggests that this pattern evolved through the eighteenth and early nineteenth centuries. Architectural and archaeological investigation at the Miles Brewton house, for example, suggests fewer outbuildings and a less formal arrangement of structures in the eighteenth century. In particular, the existing brick walls which surround the urban compound and separate the formal garden from the working yard, as well as several outbuildings, appear to be nineteenth century additions. Refuse disposal was initially concentrated near the outbuildings, but these areas were later paved in an attempt to keep them clean.

Studies of lot element patterning at Rutledge house is hampered by a lack of existing structures, sale of the rear portion of the yard, and lack of earlier maps and plats. The Rutledge lot is an interesting case, in that the lot served as a residential-only townhouse from the time of Rutledge's purchase, but is located adjacent to the commercial core, in a portion of the city that was intensively utilized by the first quarter of the eighteenth century. The property currently contains the main house directly on the street, with rear yard access along the west side. Late nineteenth century maps made before the rear portion was sold show a hen house in the extreme rear yard and a privy in the rear corner. Later, a large cistern was located along the east wall. This is a mid-nineteenth century configuration, however, as Thomas Gadsden is recorded as having constructed the outbuilding. The configuration appears to be the same in the year before his purchase (Bridgens and Allen 1852), but this is the only earlier cartographic reference. Certainly, late eighteenth/early nineteenth century residents required such amenities, minimally including kitchen, quarters for Rutledge's

slaves, and some sanitary features. Like much of the city, the above ground architectural fabric and landscape reflect nineteenth century life, rather than that of the colonial period.

Excavations at Rutledge did provide additional information changing refuse disposal practices. Excavations at Aiken-Rhett initially revealed that refuse was concentrated near the outbuildings, rather than generally dispersed across the yard. Stratigraphy was nearly 2 feet deep behind the Aiken kitchen, and only .4 feet deep in the middle of the yard. Extensive excavations at Miles Brewton provided more details on the pattern. Refuse was concentrated in the vicinity of the outbuildings and near the house through the early nineteenth century; over 2 feet of materials accumulated in roughly 100 years in a combination of zones and small trash pits. By the second quarter of the nineteenth century, this area was paved and kept clean; only .6 feet of refuse and soil accumulated over the next 150 years. Refuse from the mid to late nineteenth century was instead deposited in the rear yard.

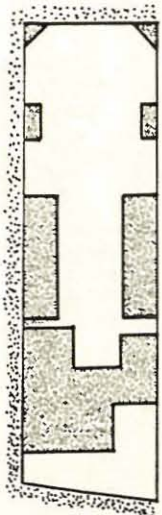
The limited excavations revealed a similar pattern at Rutledge; Units 1 and 3 were deliberately located adjacent to the outbuilding to test this idea, and the pattern was strongly supported. Units 1 and 3 contained over 4 feet of refuse in four zones, deposited from the early eighteenth to early nineteenth centuries. The bulk of the refuse dated to the Federal period. By the 1830s, this area had been paved, and refuse accumulation after that activity amounted to only .5 feet. Excavations in the middle of the yard, in contrast, revealed less than 3 feet of soil accumulation with a much sparser artifact assemblage. Artifacts were of similar types, but were fewer and more fragmentary. Due to the sale of the rear portion of the original lot, it was impossible to examine this area for later refuse accumulation. In the areas tested, refuse from the mid to late nineteenth century was very sparse.

The Rutledge site, then, supported the proposed refuse disposal pattern. Like central dual-function sites, soil deposits were generally deeper and more complex than at more peripheral suburban townhouses. Refuse from the eighteenth century was concentrated near the outbuildings while the central yard was kept cleaner. Later, the outbuilding area was paved and refuse was disposed elsewhere. Later nineteenth century refuse may have been deposited farther to the rear of the house or, given the central location, may have been carted off-site.

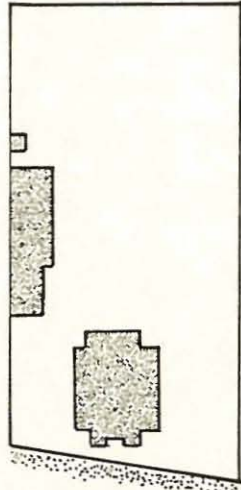
This upper status pattern is in contrast to that of the middle class site at 66 Society. Here, construction of house and outbuildings on a much smaller lot left little room in the yard for other activities (Figure 24). Archaeological evidence suggests that what in essence was the center of the yard was the scene of refuse disposal, in contrast to the more spacious suburban lots where refuse disposal was relegated to a working section of the yard.

Relative Lot Size and Structure Distribution

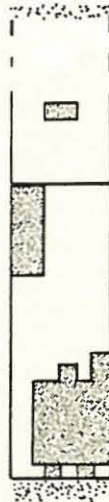
19th Century Charleston



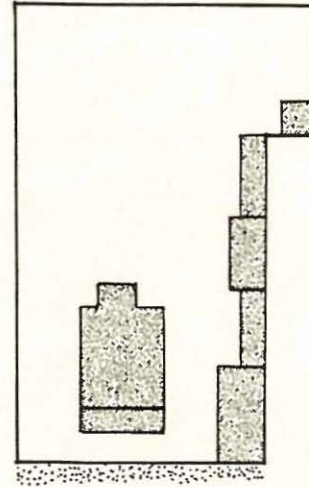
Aiken-Rhett



Gibbes



John Rutledge



Miles Brewton

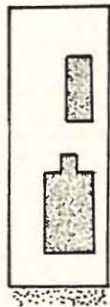
Upper class suburban residential



66 Society



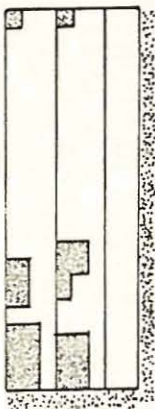
President Street



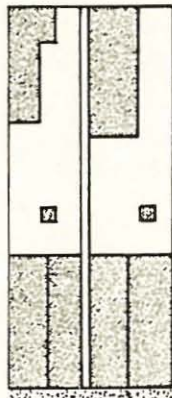
VRTC Meeting Street



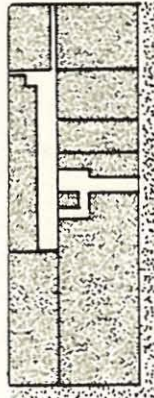
Middle class suburban residential



1808



1850



1902

city core commercial-residential

(multiple lots)



McCrady's Longroom

Charleston Place

Figure 24

Lot size is another important aspect of urban spatial patterning. Continuing research suggests that lots in Charleston tended to be a standard depth, extending from the street to the center line of the block (200 to 300 feet, depending on the dimensions of the block). Lots in the commercial core were increasingly subdivided longitudinally until they were as narrow as 30 feet (Honerkamp et al. 1982; Zierden and Hacker 1987). Suburban lots, in contrast, were often more spacious, and their size tended to remain constant. Unlike the narrow commercial properties, Aiken-Rhett is 82 feet wide and Miles Brewton and Gibbes are well over 100 feet wide. By their very nature, the grand double houses required a wider lot. These data suggest that street frontage was the valued commodity and the width of the lot reflects the buying power of the owner (Figure 24).

The Rutledge lot reflects a combination of both processes. The initial lot size was 154 feet by 154 feet. Eighteenth century population pressure resulted in early subdivision of lots in this area. Rutledge acquired a 54 feet street frontage and built an imposing double house which covered the entire lot width. The lot size was later enlarged with the purchase of land to the rear, extending to Queen Street. Many decades later, this portion was sold, and the lot may have been expanded a few feet to the west to allow access from Broad Street.

The townhouse studies have provided information on adaptation to the unique conditions of the urban environment. Through the examination of such bits of data as fences, trash pits, walls and builders trenches, we may discern the social and political relationships embodied in manipulation of the urban landscape (Coclanis 1985; Handsman 1987; Herman 1988, 1989; Leone et al. 1989). While suburban land use differed from that of the central city, individual lots were laid out in similar ways. Responding to the same daily needs and confined to a comparable amount of space, suburban residents turned their single houses sideways, built kitchens and stables behind them, and put as much distance as possible between their wells and privies. When urban density made these sanitation efforts ineffective, residents constructed cisterns and drain systems, and paved offensive areas in close proximity to the dwelling. Where possible, refuse disposal and other maintenance activities were segregated in side portions of the yard. Residents of modest single houses closed their houses to the street by shutters and false entrances, but opened their houses to nature via piazzas which faced a portion of their own yard before the abrupt interruption of a neighbor's house. The elevated double houses stood as visible testimony to the occupants' wealth and status in the community, but an elevated entrance and imposing walls and gates separated them from those below.

Socioeconomic Status

The investigation of class differences, or socioeconomic status, has been a central concern of historical archaeologists

in recent years (Binford 1972). Pioneering investigations of the archaeological manifestations of status have focused on southern plantation sites (Otto 1977; L.Lewis 1985; Drucker 1981) and Spanish colonial sites (Deagan 1983), where occupants of the site, and their social and ethnic affiliations are known.

Urban centers are characterized by distinct social groups living and interacting within a prescribed area. For this reason, status studies are an important aspect of urban archaeological studies (Baugher and Venables 1987; Garrow 1987; Shepard 1987; Spencer-Wood 1987). A major problem with status studies in Charleston has been a lack of specific documentary information on site inhabitants, and the inability to associate individual site contexts with specific occupants (Zierden and Calhoun 1987). Exceptions to this are the Aiken-Rhett, Gibbes, Rutledge and Miles Brewton sites, federal/antebellum townhouses owned and occupied by wealthy and prominent planter-merchants. (Historical archaeologists have long recognized the bias in the documentation of white, wealthy, male history to the neglect of other groups in this country [Glassie 1977]) Excavations at the four elite townhouse sites in Charleston have provided data for a preliminary model of suburban residential land use by the Charleston elite and the material correlates of high status within an urban setting in the late eighteenth and early nineteenth centuries (Zierden and Grimes 1988). This data has also been compared to the one known lower status site, Lodge Alley, and one middle status site, 66 Society St. (Zierden et al. 1983a; Zierden et al. 1988) (Table 5).

Based on this model, status should be reflected in four aspects of the archaeological record: patterns of material culture, diet, housing, and site location. Comparative data suggests that site location was a conscious, value-laden choice, deliberately made for a number of reasons, one of them being status-related. For example, wealthy planters chose suburban lots for their relative spaciousness and access to "healthy breezes." House and lot size choices were made on the basis of the owner's buying power. With street frontage the prized commodity in Charleston, upper status lots are two to four times wider than lower or middle class site lots (see page 92).

The material culture, another status indicator for elite sites, reflects the elegant (and thus, costly) lifestyle in the late eighteenth/early nineteenth centuries. Artifact groups and types examined for clues to socioeconomic status include architecture, kitchen, clothing, furniture and personal items. Kitchen items include glassware and tableware of which higher percentages of porcelain and transfer printed ceramics, and decorative table glass relative to the other kitchen items are most indicative of high status. The high percentage of architectural items in the upper status sites reflects more substantial housing and greater attention to building maintenance, as well as additions and improvements (L.Lewis 1985).

The percentages of porcelain at the Rutledge site for all three time periods is high for Charleston, even those of wealthy households. Moreover, the Rutledge era porcelain contains a large amount of the overglazed enamelled type (27% of the porcelain) in which at least fourteen different styles are present. Overglaze decorating, as the name suggests, represents an extra step in production, and thus was the most expensive of the Oriental porcelains. The Rutledge assemblage also contains transfer printed wares with overglaze hand painting and several pieces of hand painted creamware. The percentage of tableglass for the Rutledge era is lower than the townhouse profile, but it contains a variety of tumbler and wine glass fragments. The pre-1760 tableglass percentage, .52%, appears to be high (although we lack comparable data from the same time period), since glass artifacts are rare during this period. The percentage is higher than the later Lodge Alley site and similar to the later middle class (pre-1830 66 Society) site. All the Rutledge assemblages contain many architectural materials. For the post-1820 period, the architecture percentage increases, reflecting the extensive remodeling of the house and outbuildings by T. Gadsden (Table 7).

Status should also be reflected in clothing, personal, and furniture items. Research on lower class sites reveals a dearth of personal or luxury items, with an emphasis on subsistence and shelter (kitchen and architecture) (Singleton 1980; Trinkley and Caballero 1983). Wealthy people, in contrast, would have had large proportions of these items. However, we may not see these items in the archaeological record since most would have been highly curated and rarely discarded. Rather than looking at the percentages of these artifact groups, we may have to simply examine individual items that comprise the groups for clues to socioeconomic status.

The clothing, personal, and furniture groups percentage for the Rutledge era is slightly higher (1.66%) than the townhouse mean (1.36%). While numerically these percentages are less reflective of the higher status of our upper class sites, the individual items recovered in these categories do reflect their status. At Rutledge, a large amount of jewelry and other items of personal adornment were recovered: a garnet gem, a paste diamond, a gold watch fob, a cuff link, carved fan parts, part of a brooch and many glass beads. These items of personal adornment worn by Rutledge occupants symbolize materially their wealth and indicate high status for the site.

Research at nineteenth century sites, VRTC, President Street site and 66 Society Street site indicate that the material correlates of status for sites of the late eighteenth/early nineteenth centuries, are inappropriate to use for the determination of status at the nineteenth century sites (Table 7). The rise of industrialization in the nineteenth century resulted in the mass-production of goods; this increased availability and lowered costs, allowing different social groups access to what was previously considered elite goods. One reason given for lower status groups wanting the elite goods is the

process of emulation, where material items associated with an elite are purchased by non-elites to improve their position in the social group (Miller 1982).

Up until the nineteenth century, the presence of Chinese porcelain is considered an indicator of high status in the United States (Stone 1970:88). However, during the nineteenth century, porcelain was directly imported into the United States in enormous quantities; the ware became less expensive and its quality deteriorated sharply. Thus, the recovery of Chinese porcelain from a nineteenth century site is not a reliable indicator of high financial status (Herman et al. 1975:66; Lewis 1978:104). At the same time, less expensive American- and British-made porcelains are also introduced into the market (Kovel and Kovel 1953). In the nineteenth century, transfer printed wares, available in matched sets, seem to have replaced porcelain as the upper status tablewares (Otto 1977).

The overall percentage of ceramics relative to other kitchen items declines as the nineteenth century progresses due to an increase in the production of glass products and the development of other storage containers using metal materials, such as tin cans. Comparison of the nineteenth century components of the President Street, 66 Society Street, and VRTC sites reveals that ceramics comprise the majority of kitchen artifacts, followed by glass. In the later assemblages of those sites, the proportions are inverted and the amount of tin cans increase.

With an increase in glass products, the relative percentages of table glass also increase in nineteenth century sites. In fact, the percentages of table glass at the middle status mid-nineteenth century suburban sites are greater than the elite suburban federal/antebellum townhouse mean (Table 7). Once again we see that temporal differences in Charleston sites are a major factor in discerning socioeconomic status indicators. Whether or not table glass could continue to mark status differentiations in the nineteenth century (i.e. that upper status sites would have an even greater percentage of table glass than the above mentioned sites) is unanswerable at this time. To date only one site investigated, Rutledge, contains a mid to late nineteenth century upper status component which could be used for comparison. However, it appears that the Gadsden/Rhett refuse was deposited off-site (see page 91). Thus, the post-1820 Rutledge assemblage contains earlier refuse mixed with a limited amount of later refuse and is not representative of the site's later wealthy occupants' trash. It is suspected, however, that with table glass increased availability, types of table glass (such as crystal) rather than an overall percentage of table glass will have to be examined for indicators of socioeconomic status.

TABLE 7
Percentages of Status Indicators

	Porcelain/Transfer Printed Wares (% of ceramics)	Table glass (% of kitchen)	Architecture	Clothing, Personal, Furniture
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<u>Rutledge</u>				
pre-1760	18.11	.52	36.63	1.37
1760-1820	31.4	.95	33.7	1.66
post-1820	33.4	.20	53.04	1.09
<u>Late 18th/Early 19th Sites:</u>				
Townhouse Profile (upper status)	21.97	2.32	36.0	1.36
Lodge Alley Site (low status)	9.00	.04	17.8	.88
66 Society site, pre-1830 (middle status)	18.8	.69	67.47	1.09
<u>19th Century Sites:</u>				
Middle status profile	22.7	3.3	30.0	1.14

The material culture of the Rutledge site reflects the high status of the owners in both quantity and variety of certain artifact categories. Zooarchaeological research at Rutledge supports this data and status indicators will be discussed in the Subsistence Strategies section. While the archaeological signature of socioeconomic status for all classes in Charleston remains somewhat elusive, it is now possible to propose a model of upper status in the urban setting. Tentative patterns of spatial patterning and high status consumption proposed from the Aiken-Rhett and Gibbes studies were supported and expanded by work at Rutledge. While the model will no doubt be refined with additional work, it presently serves as a guide for study and reassessment of less well-documented sites.

Subsistence Strategies

Investigation of subsistence strategy is an important aspect of archaeological research in Charleston. Since 1982, consistent methods have been applied to the recovery and analysis of faunal and botanical remains. These have been used to address a number of research problems, including cultural conservatism, adaptation to local environments, resource utilization, ethnicity, and social variability.

Research on subsistence practices on the southeastern Coastal Plain has been aimed at delineating a regional pattern of animal utilization, using vertebrate remains from a variety of sites (Reitz 1979; Honerkamp and Reitz 1982; Reitz and Honerkamp 1983, 1984; Reitz and Scarry 1985). The pattern is characterized by heavy dependence on beef, and utilization of a variety of wild species indigenous to the local environment. This archaeological

model is in contrast to the documentary evidence, which suggests a heavy dependence on pork (Genovese 1974; Hilliard 1972; Gray 1933). The model is also in contrast to the traditional Old World English diet (Anderson 1971; Reitz and Honerkamp 1983). The Charleston data fit the model of resource utilization for the southeastern Coastal Plain (Reitz and Honerkamp 1984).

Recently, subsistence research has focused on two topics, with promising results. The first is rural-urban contrasts. Based on research on a number of sites, it appears that there are basic dietary differences between rural and urban sites, which cross-cut temporal, ethnic, and social boundaries (Reitz 1986). Urban citizens relied more heavily on domestic fauna, mammals and birds, than did their rural neighbors, most likely because of the function of the market in the urban setting. Domestic meats may have been more available to urban citizens because of the market (Calhoun et al. 1984). In contrast, wild game would have been more difficult to obtain for the average urban citizen. Wild game was more easily obtained by rural citizens, while domestic fauna would have been available less often. Data from recently excavated sites, including Aiken-Rhett, Gibbes (Ruff 1987), and Charleston Place (Carder 1987) all conform to this model. Although data is less extensive, similar trends are noted in floral remains. Wild plant foods are extremely rare in urban samples, while cultigens such as corn and wheat have been noted (Trinkley 1987; Trinkley et al. 1985).

Another trend emerging from this recent research involves indicators of socioeconomic status (Reitz 1987; Ruff 1987). Zooarchaeological research on sites in the Southeast indicates that diet is sensitive to status (Reitz and Cumbaa 1983; Schultz and Gust 1983). High status should be reflected in a diet that was varied, expensive, or difficult to maintain. Domestic fauna appear to be the mainstay of the urban diet, while wild taxa provided variety.

Faunal data from Gibbes, Rutledge, and Aiken-Rhett (Ruff 1987; Reitz, this volume; Zierden and Grimes 1988) conformed to this model. All were heavily dependent on domestic fauna, primarily cow, and have higher percentages of caprines, which are rare on other Charleston sites. The elite diet was quite diverse, and contained a large amount of wild taxa, including estuarine and offshore fishes, and wild birds. Alligator was recovered from the Aiken-Rhett site, and the three sites contain a number of turtles, all of which were considered delicacies (Rogers 1980). While these sites exhibited greater diversity in food animals, they also contain a lower amount of commensal taxa, suggesting the financial and physical ability to provide a more sanitary environment. Rutledge has one of the lowest percentages of commensal taxa in Charleston. Another marker of upper class faunal assemblages is the presence of sawed and sliced bones in eighteenth century contexts, suggesting that the use of individual cuts of meat prepared with a saw may have begun as an upper class habit. Basically, wealthy Charlestonians enjoyed a

diet that was expensive; expense may be considered in terms of time invested, as well as money invested (Reitz and Cumbaa 1983).

Domestic animals (cow, pig, chicken, caprines) contributed the majority of all Rutledge occupants' meat. However, for the Rutledge era, more wild mammals were consumed than at the other upper status sites. Deer provided more meat than caprines and an equal amount as pigs. The Rutledge era collection, similar to the other upper status sites, had a high incidence of fish. The importance of seafood and fish in the diet of the elite is seen in an account in the Gazette which noted John Rutledge giving an "oyster roast for his neighbors" as a major event. Rutledge "consulted his fisherman, one of his slaves" to acquire "plenty of oysters, diamond-back terrapin, crayfish, shrimp, deep sea red snapper and whitefoots obtained from the sea" for the feast (Barry 1942:35).

Element distribution of the animals' bones at Rutledge suggest on-site slaughtering and butchering, and is supported by some of the bone modifications such as hack marks. Although non-meaty cuts have normally been considered a low status signature, Reitz has demonstrated that the association is not a strong one in Charleston (see this volume). This may be because the non-meaty cuts which are from on-site butchering actually represents wealth. To have one's own livestock on one's property and the labor to maintain, and then butcher, the animals is a sign of wealth. In Charleston during the eighteenth and nineteenth centuries, planters had slaves, livestock and all the outbuildings that were on the plantation, crammed onto their townhouse lot. Thus, the teeth and foot bones (i.e. non-meaty parts) recovered on sites can represent dietary patterns of many people. What may be important for status information, then, is determining if they indicate on-site butchering (upper status) or if they are the only elements found suggesting one-pot meals (lower status). Element distribution analysis is currently underway and will shed light on this issue.

Analysis of the ethnobotanical data from Rutledge has not contributed information of their diet since no carbonized food remains were recovered. The plant remains recovered included "weedy" plants that grow in disturbed areas and wood charcoal and coal that were use for heat and cooking. Although the samples from Rutledge were taken from areas that were expected to yield the best floral preservation for urban sites (i.e. from deep midden), they unfortunately provided little ethnobotanical data. However, because plants permeate all aspects of human lifeways (food, medicine, material goods, rituals, social relationships, etc.), samples likely to yield plant remains will continue to be collected.

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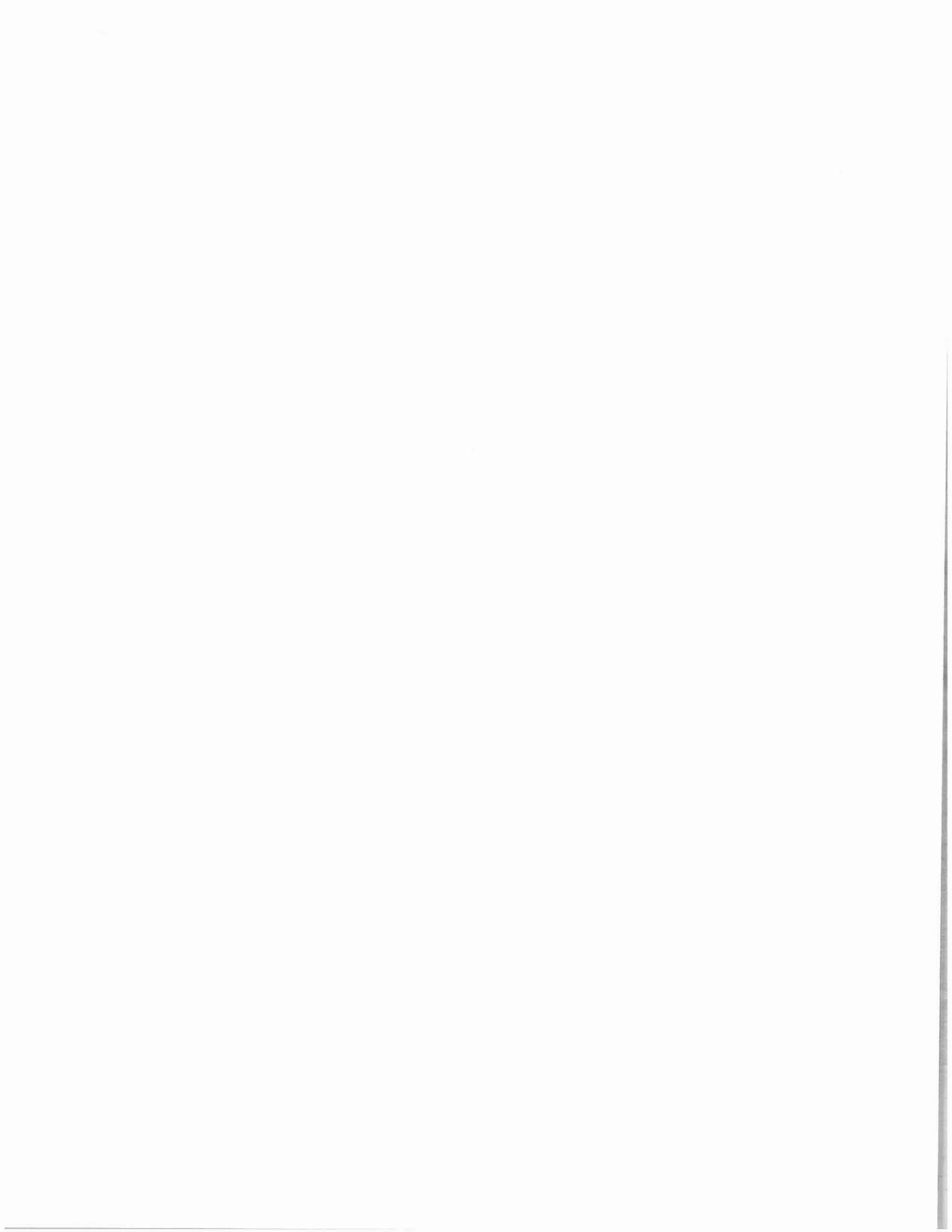
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APPENDIX I
VERTEBRATE FAUNA FROM THE JOHN RUTLEDGE HOUSE,
CHARLESTON, S. C.

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Since 1981, excavations in the City of Charleston have consistently provided interesting and informative faunal remains from the urban environment. The collections have been recovered from residential, commercial, and mixed residential/commercial functions from both the eighteenth and nineteenth centuries as well as from a variety of status groups. A number of pre- and post-depositional events have undoubtedly changed the archaeologically apparent subsistence pattern from the one actually practiced by Charlestonians (Reitz 1987), but summaries of these data do provide a rough comparative base for use with other archaeological samples in interpreting historic subsistence from archaeological remains.

With allowances for variation among sites, it has been found that a general pattern seems to hold for Charleston sites (Table 1; Reitz 1986). Domestic mammals generally are the most abundant group of individuals. These include primarily cattle, but also pigs and caprines. These animals have been identified from all Charleston sites, including the Beef Market (Calhoun et al. 1984). Domestic birds are also commonly identified from Charleston sites. The principal birds have been chickens, but muscovy ducks have been identified from Charleston Place and McCrady's Longroom while rock doves have been identified from Aiken-Rhett, Atlantic Wharf, and Charleston Place. Wild mammals have been almost exclusively deer, although one or two opossums, rabbits, squirrels, beavers, muskrats, or minks have been identified and are minor components in several collections. Wild birds have been almost exclusively Canada geese and turkeys. Canada geese have been identified from every Charleston site except Lodge Alley and turkeys have been identified from every site. Canada geese and turkeys have been interpreted as wild birds since morphological changes characteristic of domestication have not been observed in the bones. It is also true that standards of excellence for Canada geese and turkeys had been established by the middle part of the nineteenth century (American Poultry Association 1874). Resources of the nearby harbor and marshes have also been identified from urban sites. These have included turtles, alligators, and a variety of inshore fishes.

For a number of reasons it has been difficult to analyze the Charleston materials for differences based on status and temporal affiliations. For such comparisons to be successful large samples of relatively similar sizes need to be available, and it is necessary to be able to separate status from time period. That is, collections from eighteenth century as well as nineteenth century upper class households need to be compared to collections from lower class households of the same time periods. Due to the nature of the urban environment, it has been difficult to isolate deposits associated with a specific time period and a specific status. However, in the past year several collections

have been studied which provide some information about subsistence and status in the late eighteenth to mid-nineteenth centuries (Table 1). Excavations by The Charleston Museum under the direction of Martha Zierden at the First Trident Site (Zierden, Calhoun and Pinckney 1983), the Aiken-Rhett House (Zierden, Calhoun and Hacker 1986), and the Gibbes House (Zierden, Buckley, Calhoun and Hacker 1987) have produced upper status faunal collections from roughly contemporaneous late eighteenth to mid-nineteenth century occupations.

Combining these collections to form a tentative upper class urban summary masks major differences among the collections. The principal difference between the Aiken-Rhett and Gibbes collections is that the Gibbes collections had fewer domestic mammals and more Canada geese and turkeys than did the one from Aiken-Rhett. The Federal Period sample from First Trident was interesting for the high percentage of fish individuals identified in the collection and because it lacked caprines. These difference could be due to a variety of taphonomic factors, to differences in subsistence among the households, or simply to differences in sample size and the methods employed estimating Minimum Numbers of Individuals (MNI). Nonetheless, it is necessary to combine these disparate samples in order to begin discussing an urban, upper class subsistence strategy. It is apparent that when reduced to gross summary categories, upper status subsistence was most noteworthy for its similarity to the general pattern.

At least one characteristic may distinguish between upper and lower status subsistence in the late eighteenth to mid-nineteenth century. While caprines have been identified in all Charleston collections except the Federal Period sample from First Trident, they have not been common in any of them. For example, in the Charleston Place collection they contributed 3% of the individuals; in the Lodge Alley collection they contributed 7%; and in the eighteenth century Market, 3%. Yet 12% of the individuals in the Aiken-Rhett sample were caprines and 11% in the Gibbes House collection. Caprines were not identified from the upper status Federal Period collection from First Trident, however, and a similar distinction is not seen in the use of Canada geese or turkeys. These birds appear in both upper status and other collections in similar percentages, although Canada geese were not identified in the low status Lodge Alley collection.

These data demonstrate that upper class diets were highly diverse and it may be quite difficult to summarize data from individual households into a general upper status subsistence pattern. With large families and staffs, housekeepers, cooks, and social obligations the menus from such households might have been quite diverse. Wealthy households, of course, could afford to diverge from the average Charleston fare to suit individual fancies. It is also true, however, that each of the upper class collections is from a single residence while the middle and lower class collections are from sites which contained commercial and

domestic debris from a number of households. Individual variations in middle and lower class diets would be hidden in such generalized deposits while individual variation would be preserved in the upper class deposits.

With these possibilities in mind, the opportunity to examine another collection from this time period and social stratum was welcomed. Study of the John Rutledge house collection provides an opportunity to improve the tentative late eighteenth to mid-nineteenth century upper status pattern.

Methods

Field work at the John Rutledge house was conducted by The Charleston Museum in 1988. During excavation, faunal materials were recovered using 1/4-inch screen. Three separate components were identified. These were associated with the periods ca. 1730-1760; 1760s-1820, and post-1820. These zones are associated with residential activities at the John Rutledge house in Charleston, South Carolina. The house served as a residence for the Rutledge family from 1763 to 1800. A list of the samples examined for this study are included in Appendix A.

The vertebrate materials recovered were examined using standard zooarchaeological methods. All identifications were made by Lori Taylor and Elizabeth J. Reitz using the comparative skeletal collection of the Zooarchaeological Laboratory, Department of Anthropology, University of Georgia. Bones of all taxa were counted and weighed to determine the relative abundance of the species identified. A record was made of identified elements. Age, sex, and bone modifications were noted when observed. Butchering marks, such as cutting, slicing, or hacking, were recorded and where preservation allowed, measurements were taken following the guidelines established by Angela von den Driesch (1976). Minimum Number of Individuals (MNI) were determined based on paired elements and age. In calculating MNI, faunal materials recovered from the three time periods were considered discrete analytical units. Each of the features was also considered a separate analytical unit.

While MNI is a standard zooarchaeological quantification medium, the measure has several problems. MNI is a measure which emphasizes small species over large ones. This is easily demonstrated by a hypothetical sample which consists of four fish and only one deer. While four fish represent a larger number of individuals, one deer will supply substantially more meat. A further problem with MNI is the assumption that the entire individual was utilized at the site. From ethnographic evidence we know that this is not necessarily the case, particularly in regard to larger individuals and for animals utilized for special purposes (Thomas 1971; White 1953). This is an especially relevant issue when dealing with historic samples where marketing of processed meat products was substantial, but the exact extent unknown. Additionally, MNI is influenced by the manner in which

the data from the archaeological proveniences are aggregated 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. Furthermore, some elements are simply more readily identified than others and the taxa represented by these elements may appear more significant in the species list than they were in the diet.

Biomass determinations attempt to compensate for problems encountered with MNI. Biomass provides information on the quantity of meat supplied by the animal. The predictions are based on the allometric principal 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 materials, in this case, bone. The relationship between body weight and skeletal weight is described by the allometric equation:

$$Y = aX^b$$

(Simpson et al. 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 method of least squares regression and the best fit line (Casteel 1978; Wing and Brown 1979; Reitz and Cordier 1983; Reitz et al. 1987). 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 based on data at the Florida State Museum, University of Florida. The allometric formulae used here are presented in Table 2.

Biomass and MNI 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 presence or absence of elements in an archaeological sample provides data on butchering and animal husbandry practices. The elements recorded from the John Rutledge house were summarized into categories by body parts. Head categories includes only teeth. The atlas and axis formed a separate category. The forequarter category includes the scapula, humerus, ulna, and radius. No carpals or metacarpals, associated with the forefeet, were identified. The hindfeet include the tarsals and metatarsals. The hindquarter category includes the innominate, sacrum, femur, and tibia. The feet contain bones

identified only as metapodials and phalanges. These elements could not be assigned to other categories. In order to provide a better image of the elements identified and their location on a carcass, the elements identified for the four artiodactyls have been presented visually (Figures 1-4). In these figures, loose teeth are not illustrated. Bones identified only as feet are illustrated on the right hind foot.

Relative ages of species identified were noted based on observations of the degree of epiphyseal fusion for diagnostic elements. When animals are young their bones are not fully formed. Along the area of growth the shaft and the end of the bones, the epiphysis, are not fused. When growth is complete the shaft and 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 identified were recorded as either fused or unfused; the bones were then placed into one of four general 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 groupings is somewhat reduced by recording each element under the oldest possible category. Attempts to age animals are particularly relevant to an historic site. Indications of an animal's age may provide data concerning animal husbandry practices such as the utilization of younger animals for food and older animals for nonfood by-products or slaughter of older animals after their usefulness in draft, wool, or dairy production is over.

In order to summarize the data, the species list was reduced into several categories based on vertebrate class and husbandry practices. Domestic mammals include pigs (Sus scrofa), cows (Bos taurus), and sheep or goats (Caprine). These latter animals are combined due to the difficulty in distinguishing between them. Domestic birds were chickens (Gallus gallus). Wild birds include ducks (Anas spp.), Canada geese (Branta canadensis), and turkeys (Meleagris gallopavo). Canada geese and turkeys may actually belong in the category of domestic birds. According to the American Poultry Association (1874) standards of excellence for these two species had been established by the mid-nineteenth century. The only wild mammals identified were deer (Odocoileus virginianus). Aquatic reptiles included both a river cooter (Pseudemys concinna) and a diamondback terrapin (Malaclemys terrapin). Commensal taxa included Old World rats (Rattus spp.) and a cat (Felis domesticus). It should be noted that only biomass for those taxa for which MNI had been determined is included in the summary table. For example, biomass for UID Fish is not included, while biomass for Emydidae is.

Results

The relatively small Rutledge house collection consists of 3384 bones weighing 12,061.66 gms and contains the remains of at least 63 individuals (Table 3). Most of the bones (87%) and individuals (67%) were from the Rutledge family occupation. The earlier and later components were about equally represented. The larger size of the Rutledge sample makes comparison of the three subsamples difficult as the Rutledge era data overwhelm data from the earlier and later occupations.

Domestic animals contributed most of the individuals and biomass. The principal domestic mammal was cow (Bos taurus), which contributed 16% of the individuals and 71% of the biomass for which MNI was estimated (Table 4). Pigs (Sus scrofa) contributed 14% of the individuals and 14% of the biomass. Although caprines were identified they formed a minor component of the collection. Domestic mammals comprise 33% of the individuals and 87% of the biomass in the collection from the Rutledge house. Chickens (Gallus gallus) were the only domestic birds identified. Chickens contribute more individuals to the sample than did caprines, although less biomass. Domestic individuals were more prominent in the pre-Rutledge deposits than in the later ones (Table 5).

Wild, non-commensal taxa contributed 48% of the individuals and 12% of the biomass. The only wild mammal identified was deer (Odocoileus virginianus). This taxon contributed more individuals than did caprines and almost as much meat as pigs. Members of the duck family (Anatidae, Anas spp., and Branta canadensis) and turkeys (Meleagris gallopavo) were the primary wild birds in the collection. Two turtles were identified. One (Pseudemys concinna) is a freshwater turtle and the other (Malaclemys terrapin) is a salt marsh turtle. Two sharks' teeth were tentatively identified (cf. Carcharodon carcharias and cf. Lamna nasus). These sharks are continental shelf members of the mackerel shark family. The possible white shark (cf. Carcharodon carcharias) was found in FS# 36, associated with the post-1820 occupation of the site. Although the white shark does occasionally come into shallow water, even into the surf, it is a rare animal (Castro 1983:89). The possible porbeagle shark (cf. Lamna nasus) was identified from FS# 38, also associated with the post-1820 occupation of the site. The porbeagle inhabits cold-temperate waters and would be very unlikely around Charleston (Castro 1983:94). Although neither tooth appeared to be a fossil, the teeth in both cases were collected from the beach, or are souvenirs from elsewhere. The wide range of fishes identified, however, all represent animals common in Charleston inshore waters. Wild taxa formed a higher percentage of the estimated individuals in the deposits associated with the Rutledge family than in the earlier or later ones. It is interesting that both turtles and fishes form a higher percentage of the MNI in the post-1820 samples than in the Rutledge era ones.

Relatively few commensal taxa were identified. These included only three Old World rats (Rattus spp.) and a cat (Felis domesticus). The low numbers of rats seems to be supported by the relatively few bones which had been gnawed by rodents. All of the rats were identified from either pre-Rutledge or Rutledge era deposits. The only post-1820 commensal taxon was the cat, identified from FS# 41.

The elements identified in the Rutledge collection are presented in Table 6. The distribution of elements for cows and pigs is similar to that found at other Charleston sites. Usually the presence in archaeological assemblages of both meaty cuts, represented by forequarters and hindquarters, and of non-meaty cuts, represented by teeth and bones from the foot, suggests that on-site slaughter and butchering of animals had taken place. The presence of cuts of meat represented by non-meaty bones is also associated with lower socioeconomic status, although this association has not been found to be a strong one in Charleston. The identification of large numbers of non-meaty cuts in the Rutledge collection is a case in point. It appears increasingly possible that cuts containing non-meaty bones were not as undervalued as they are today.

An interesting aspect of the collection is the large number of elements associated with the forefoot (carpals) and hindfoot (tarsals) identified as cow (Table 7). Thirty-four carpals and 20 tarsals were identified. These bones were highly clustered into two loci: Unit 1 Zone 5 and Unit 3 Zone 5. A total of 14 carpals/tarsals were identified in the first context and 31 from the second. There were 66 identified cattle fragments in FS#31 and 34 out of a total 122 cow bones identified for the 1760-1820 time period. These two FS#s contained 54% (n=66) of the cattle bones and 61% (n=31) of the carpals/tarsals identified for that time period. FS#34 contained the remains of at least three individuals, using either the lunar, scaphoid or astragalus. As these two units were contiguous it appears that some sort of primary butchery might have taken place in this area. Alternatively this was an active discard area.

Modifications to the bones included burning, gnawing by both carnivores and rodents, sawing, cuts, hacks, and what are referred to as sliced bones (Table 8). A small percentage of the collection had been sliced. Sliced bones were ones which had smooth, clean surfaces such as would be found on bones which had been sawed, but lacked the striations typical of sawed bones. All but one of the sliced bones were from 1760-1820 deposits. One of the sliced bones was from a post-1820 deposit. Less than 3% of the modified bones were "sliced". Sawing, found on 4% of the modified bones, was limited to mammalian elements. All but one of the sawed bones were from post-1820 contexts. The remaining sawed bone was from a 1760-1820 deposit. Gnawing by carnivores and rodents was unusually light for Charleston. Less than 12% of the modified bones had been gnawed, although rodent gnawing was more common than carnivore gnawing. The carnivore marks appeared to be similar to the puncture marks left by cats

rather than the scars left by dogs. Two rodent gnawed bones were from the pre-Rutledge era, four from the post-Rutledge era, and the remainder from the 1760-1820 period. All but one of the carnivore gnawed bones was from the Rutledge period. The only exception was from a post-1820 context. One burned bone was from the pre-Rutledge era, one from the post-Rutledge era, and the remainder from the 1760-1820 period. Less than 11% of the collection had been burned, and the same number of bones had been hacked. Hack marks closely resemble cut marks in their shape and irregularity but are deeper and wider. They may indicate the use of a cleaver in butchering. Two hacked bones were from the pre-Rutledge era, one from the post-Rutledge occupation, and the remainder from the Rutledge family deposits. Cut marks, probably representing incisions left by a knife used to deflesh meat from the bone either as a result of preparation techniques or during consumption, were found on 61% of the modified bones. Only two bones were from non-Rutledge contexts and these were from post-1820 contexts. In addition to the modifications in Table 8, there were 18 copper-stained bones. Five of these were from FS# 13, 14, 15 (ca. 1730-1760) and 13 were from FS# 8, 9, 31, 33, 34 (1760-1820).

There was some evidence for age at death for the animals in this assemblage (Table 9) and some evidence for sex. At least four of the pigs were juveniles when they died; two were subadult, and the age of three individuals could not be determined, although they were older than 18 months of age at death. One of the cows was less than 18 months of age at death, four were subadults, two were adults and the age of three individuals could not be determined although they were older than 18 months of age when they died. One of the caprines was a subadult at death and the age of the second individual could not be estimated. One deer was a juvenile at death, one was a subadult, three were adults, and the age of one could not be determined although the animal was older than 18 months at death. One of the chickens was not an adult when it died. One of the pigs was a male and one was a female. One of the chickens was a male and six chicken and Unidentified Bird bones contained medullary bone, indicating that female birds were slaughtered (Rick 1975). The cat was probably an adult.

Table 10 contains the measurements taken from the John Rutledge house collection. These will be added to the growing data base from Charleston which will be used to analyze the size of domestic animals used in Charleston during the eighteenth and nineteenth centuries.

Discussion

Several aspects of the collection were unexpected. The fact that few of the bones had been burned or gnawed, a modification commonly found on bones which have been exposed to rodents in cities experiencing fires, suggests that many if not all of these bones were protected, perhaps as a result of being quickly buried

after being discarded.

When compared to the general Charleston pattern, the portion of the Rutledge house collection associated with the Rutledge family era appears to indicate slightly more use of domestic mammals and slightly lower use of domestic birds. The use of wild mammals and birds was higher than the general pattern, although the presence of aquatic reptiles was almost identical to that for the city as a whole. The percentage of fishes in the Rutledge family subsample was higher than in the general pattern, and the percentage of commensal taxa lower.

When compared to the upper class pattern formed by Aiken-Rhett, the Federal period First Trident, and the Gibbes collections, the Rutledge family subsample appears similar in some respects and dissimilar in others. The percentage of domestic mammals is a little higher for upper class households in general, but lower than that found in the Aiken-Rhett collection. Domestic mammal individuals formed a much higher percentage of the Rutledge family collection than they did in the First Trident Federal collection. Caprines, however, comprised only 2% of the individuals in the subsample pertaining to the Rutledge family era. Domestic birds were present in the Rutledge family subsample in percentages similar to those in the Gibbes and Aiken-Rhett samples and in percentages higher than in the First Trident sample. In all collections except that from Aiken-Rhett, chickens were the only domestic bird. On the other hand, the percentage of wild mammals in the Rutledge family subsample was the highest of all the upper class collections. Gibbes and the Rutledge family collections are the only ones in which deer were the only wild mammals consumed. In the other two collections additional small mammals such as opossums were included. Wild birds were present in quantities similar to the First Trident sample, higher than those in the Aiken-Rhett sample, but lower than in the Gibbes collection. Canada geese, other ducks, and turkeys were the primary wild birds in every case. One of the interesting features of all the upper class collections is the high incidence of fishes identified in them. In this respect the Rutledge collection is very similar to the other three upper class samples. The Rutledge family subsample has the second highest percentage of fishes of any Charleston collection studied so far. The Rutledge subsample also has one of the lowest percentages of commensal taxa. Only Aiken-Rhett has fewer mice, rats, snakes, or pets associated with the property.

Element distributions, modifications of the bones, and the use of juvenile or subadult animals is similar to that found in all Charleston collections. Typically pigs' teeth and bones from the lower leg of cattle are common in Charleston collections regardless of status. The presence of cattle bones from the fore and hindfeet is extreme in this case, however. It is hoped that graphic displays of the element data will prove more enlightening than numerical data have done in defining cuts of meat used in Charleston and associated status distinctions. The presence of sawed and sliced bones in Charleston samples has documented the

use of saws to butcher meat before the beginning of the nineteenth century and have suggested that the use of cuts of meat prepared with a saw may have begun as an upper class habit. The percentage of sawed bone in the Rutledge family subsample is unusually small compared to other upper status collections. However, the use of young animals is similar to that found in other Charleston collections.

Conclusion

Study of the Rutledge collection has added to our knowledge of subsistence activities in Charleston, particularly of these activities among the upper class. While it has not necessarily helped define more precisely an upper class subsistence pattern, it has helped to confirm the general Charleston pattern and to suggest ways in which upper class subsistence may have differed from the general pattern.

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Fig. 1. Rutledge House; Pig Elements Identified. Not shown
are 39 teeth. N=80.

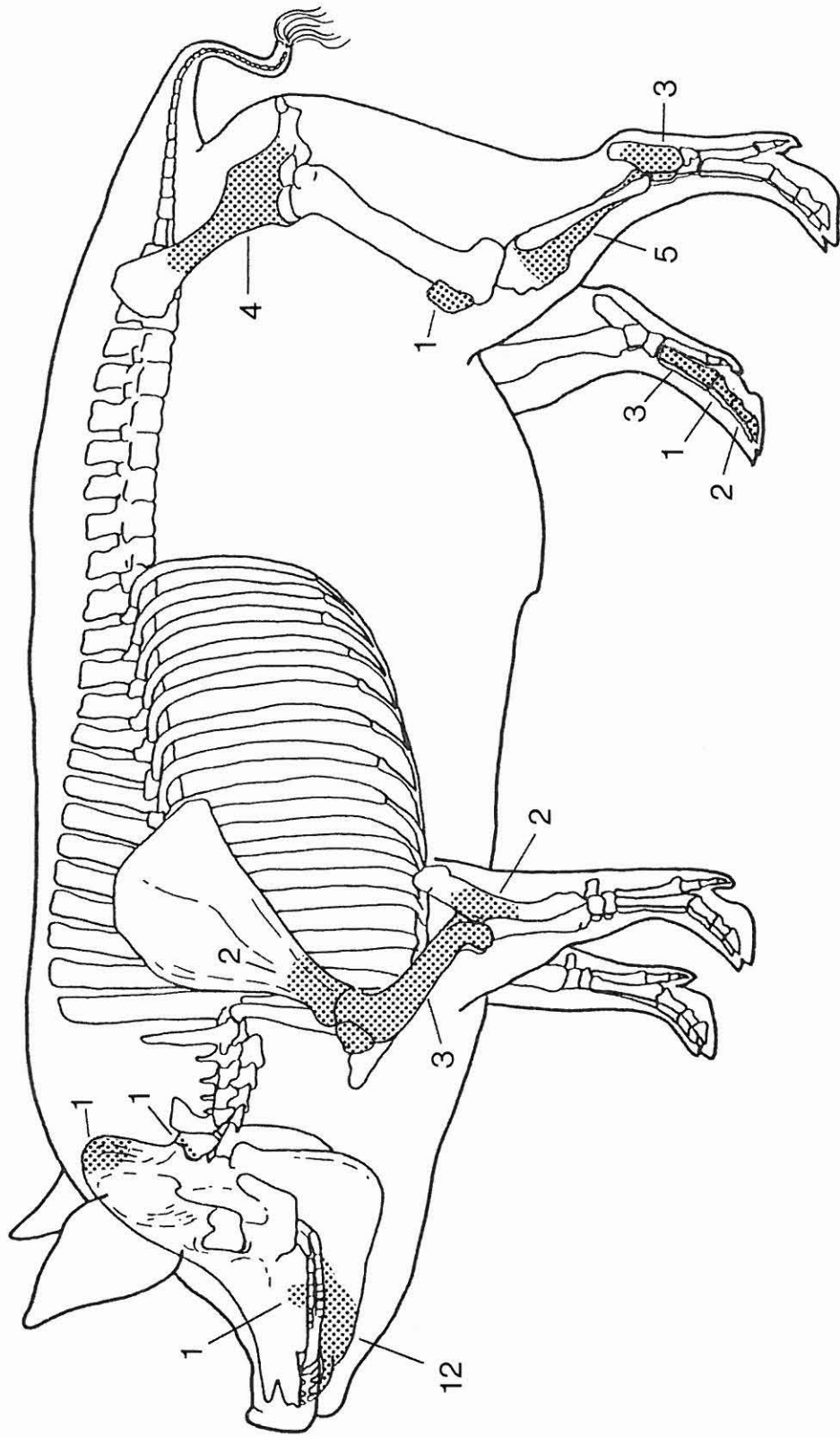


Fig. 2. Rutledge House: Deer Elements Identified. Not shown
are 1 tooth. N=34.

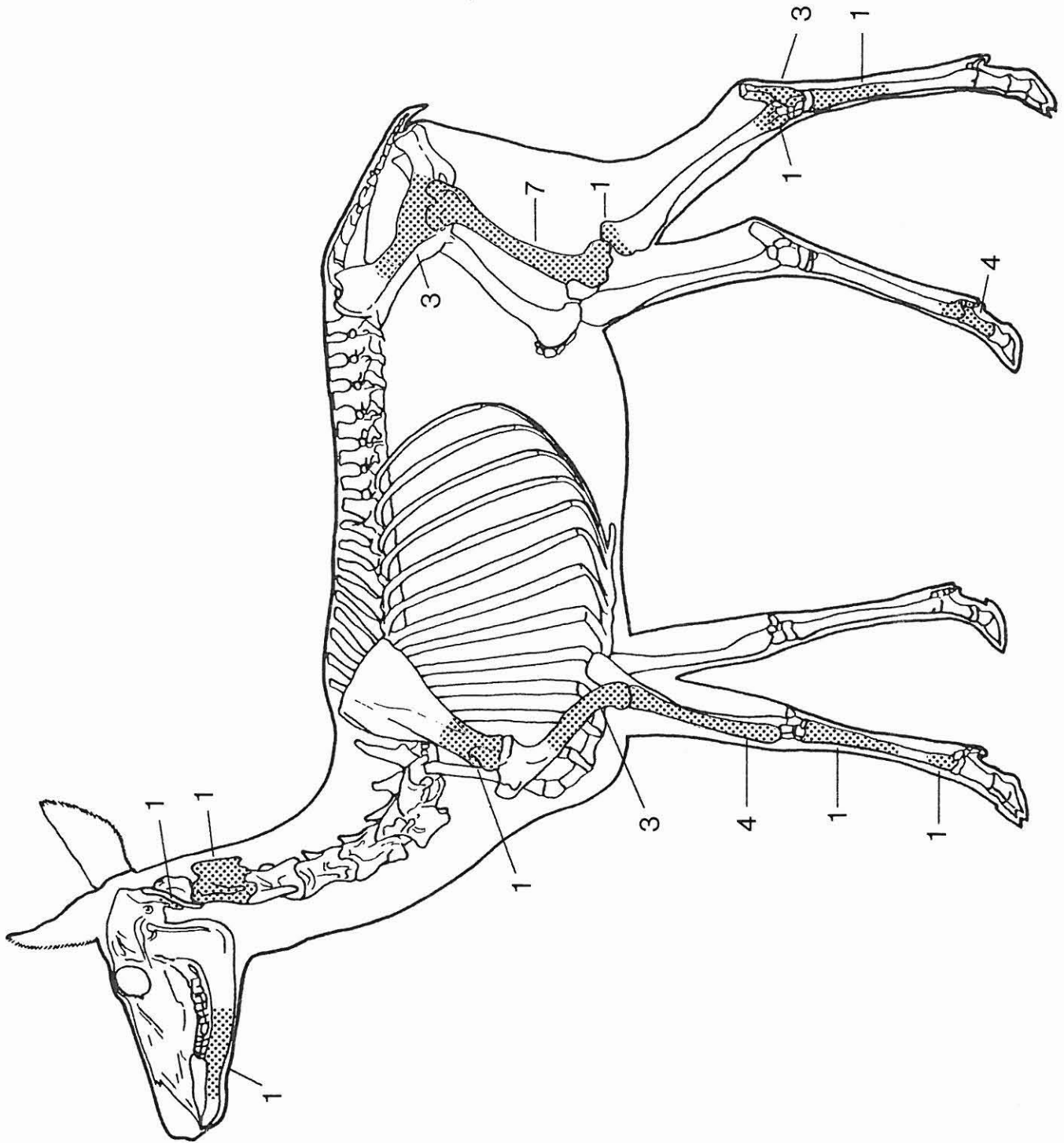


Fig. 3. Rutledge House: Cow Elements Identified. Not shown
are 14 teeth. N=135.

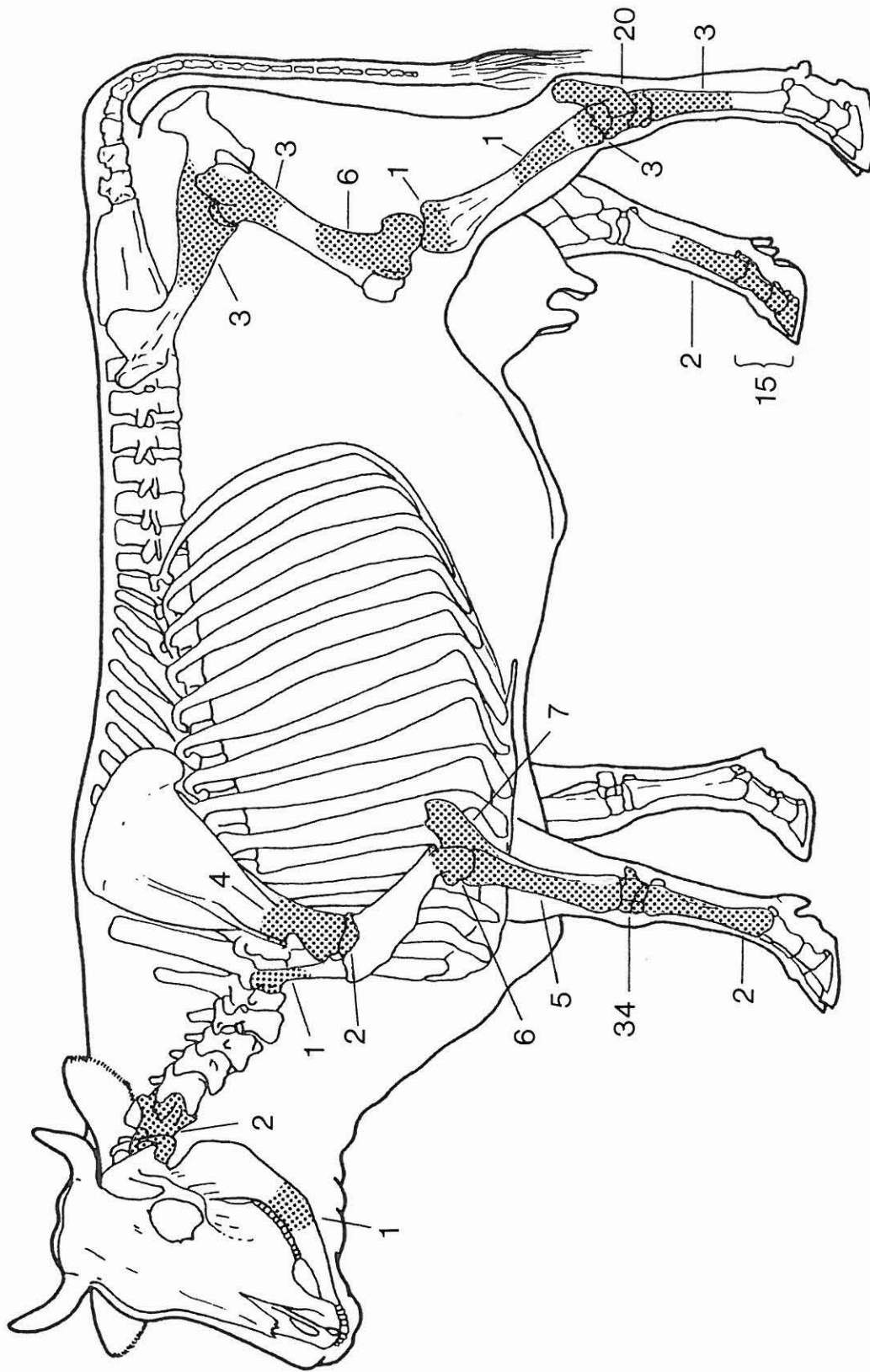


Fig. 4. Rutledge House: Caprine Elements Identified. Not
shown, 3 teeth. N=9.

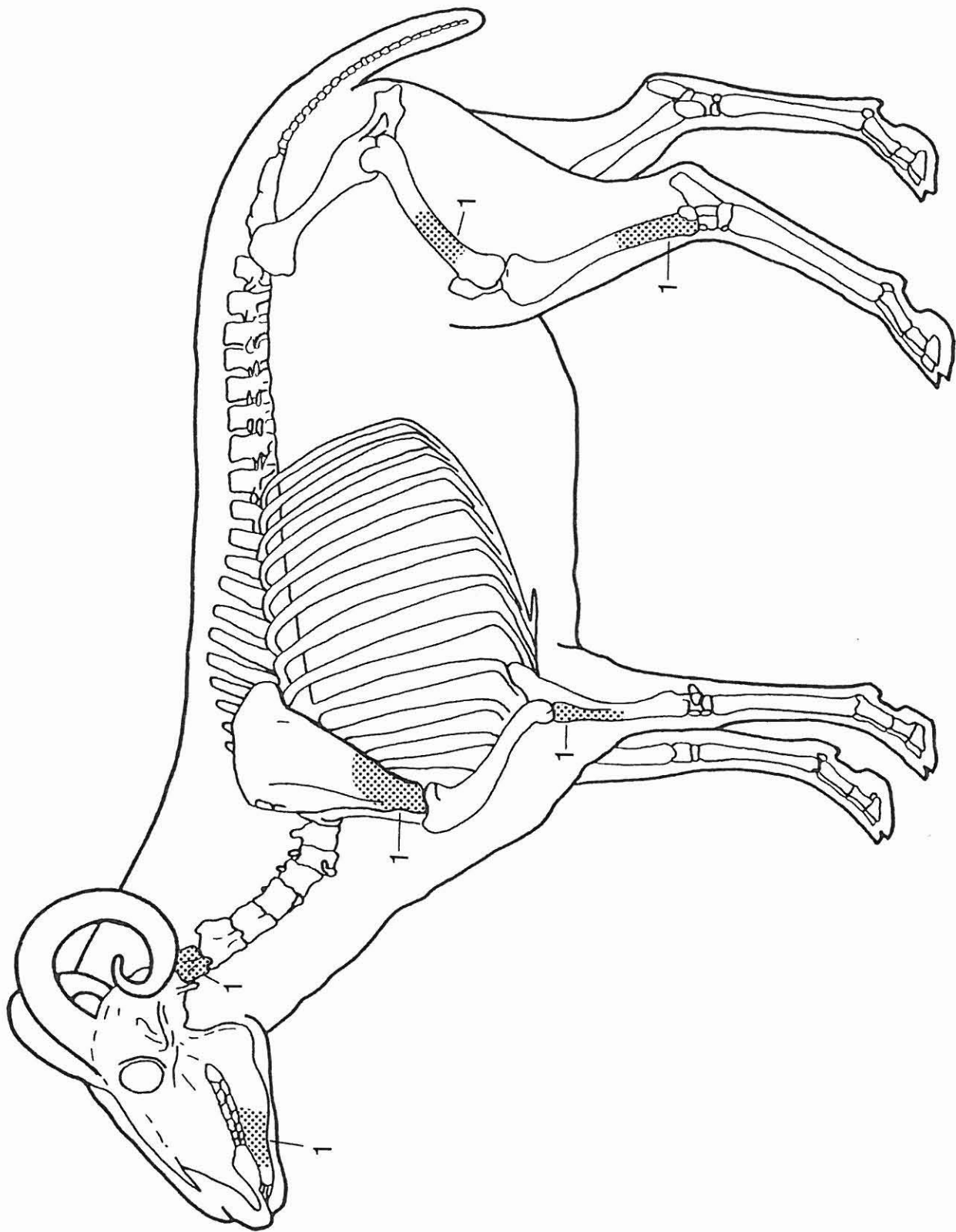


Table 1. Charleston Summaries^a.

	<u>General</u>		<u>Upper Status</u>		<u>Market</u>		<u>Col 1st Trid.</u>	
	<u>MNI</u>	<u>%</u>	<u>MNI</u>	<u>%</u>	<u>MNI</u>	<u>%</u>	<u>MNI</u>	<u>%</u>
Domestic Mammals	191	29.2	50	29.8	33	42.3	7	25.9
Domestic Birds	98	15.0	19	11.3	7	9.0	2	7.4
Wild Mammals	56	8.6	14	8.3	12	15.4	1	3.7
Wild Birds	68	10.4	19	11.3	7	9.0	4	14.8
Aquatic Reptiles	32	4.9	10	6.0	2	2.6	2	7.8
Fishes	124	18.9	42	25.0	15	19.2	10	37.0
Commensal Taxa	<u>86</u>	13.1	<u>14</u>	8.3	<u>2</u>	2.6	<u>1</u>	3.7
TOTALS	655		168		78		27	

^aNotes. The general category includes data from the following sites:

Aiken-Rhett, Atlantic Wharf, Charleston Place, all of First Trident, Gibbes, Lodge Alley, and McCrady's. Upper Status sites are Aiken-Rhett, the Federal Period sample from First Trident, and Gibbes.

Table 2. Allometric Values Used in Study^a.

Faunal Category	N	Y-Intercept (a)	Slope (b)	r ²
<u>Bone Weight (kg) to Body Weight (kg)</u>				
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	0.93	0.83	0.76
Serranidae	18	1.51	1.08	0.85
Sparidae	22	0.96	0.92	0.98
Sciaenidae	99	0.81	0.74	0.73
Pleuronectiformes	21	1.09	0.89	0.95

^aNote: The allometric formulae is $Y = aX^b$, where Y is biomass, X is bone weight, and a and b are appropriately scaled constants, n is the number of observations used in the regression, and r^2 is the proportion of total variance explained by the regression model (Reitz and Cordier 1983; Reitz et al. 1987).

Table 3. John Rutledge House: Species List.

	NISP		MNI		Wt, gms	Biomass	
	#	%	#	%		Kg	%
UID Mammal	2045				260.31	32.7673	21.4
UID Lg Mammal	348				2572.16	33.2424	21.7
UID Sm Mammal	2				1.00	0.0263	0.02
UID Rodent	3				0.30	0.0089	0.01
<u>Rattus spp.</u>	8	3	4.8		3.16	0.0816	0.05
Old World Rat							
<u>Felis domesticus</u>	1	1	1.6		0.90	0.0239	0.02
Cat							
Artiodactyl	199				1417.18	18.7661	12.2
<u>Sus scrofa</u>	80	9	14.3		629.75	8.9774	5.9
Pig							
<u>Odocoileus virginianus</u>	34	6	9.5		502.46	7.1028	4.6
Deer							
<u>Bos taurus</u>	135	10	15.9		3882.87	46.9683	30.6
Cow							
Caprine	9	2	3.2		96.80	1.7142	1.1
Sheep/Goat							
UID Bird	278				111.31	1.5732	1.0
Anatidae	7				4.24	0.0760	0.05
Ducks							

Table 3. John Rutledge House: Species List. (cont.)

	NISP	HNI		Wt, gms	Biomass	
		#	%		Kg	%
<u>Anas spp.</u>	7	1	1.6	3.34	0.0612	0.04
Marsh Ducks						
<u>Branta canadensis</u>	2	1	1.6	4.34	0.0776	0.05
Canada Goose						
Phasianidae	12			1.87	0.0385	0.03
Pheasants						
<u>Colinus virginianus</u>	1	1	1.6	0.10	0.0025	tr
Bobwhite						
<u>Gallus gallus</u>	39	8	12.7	37.34	0.5951	0.4
Chicken						
<u>Meleagris gallopavo</u>	11	3	4.8	22.28	0.3440	0.2
Turkey						
Passeriformes	1	1	1.6	0.08	0.0021	tr
Song Birds						
Emydidae	1	1	1.6	0.93	0.0301	0.02
Pond Turtle						
<u>Chrysemys concinna</u>	1	1	1.6	9.01	0.1379	0.09
River Cooter						
<u>Malaclemys terrapin</u>	1	1	1.6	2.74	0.0621	0.04
Diamondback Terrapin						

Table 3. John Rutledge House: Species List. (cont.)

	NISP	HNI		Wt, gms	Biomass	
		#	%		Kg	%
cf. <u>Carcharodon carcharias</u>	1			2.58		
possible White Shark						
cf. <u>Lamna nasus</u>	1			7.28		
possible Porbeagle Shark						
UID Fish	128			36.68	0.6129	0.4
Siluriformes	2			0.36	0.0077	0.01
Catfishes						
<u>Arius felis</u>	7	2	3.2	0.84	0.0169	0.01
Hardhead Catfish						
<u>Bagre marinus</u>	1	1	1.6	0.16	0.0035	tr
Gafftopsail Catfish						
cf. Serranidae	1			0.06	0.0009	tr
possible Sea Bass						
<u>Centropristis</u> spp.	2	1	1.6	0.42	0.0073	tr
Sea Bass						
Lutjanidae	1	1	1.6	0.47	0.0054	tr
Snappers						
<u>Orthopristis chrysoptera</u>	1	1	1.6	0.12	0.0015	tr
Pigfish						

Table 3. John Rutledge House: Species List. (cont.)

	NISP		MNI		Wt, gms	Biomass	
	#	%	#	%		Kg	%
<u>Archosargus probatocephalus</u>	1	1	1.6	0.70	0.0114	0.01	
Sheepshead							
<u>Cynoscion spp.</u>	5	1	1.6	0.40	0.0197	0.01	
Seatrout							
<u>Pogonias cromis</u>	2	1	1.6	1.38	0.0494	0.03	
Black Drum							
<u>Sciaenops ocellatus</u>	2	2	3.2	1.33	0.0543	0.04	
Red Drum							
<u>Mugil spp.</u>	1	1	1.6	0.08	0.0034	tr	
Mullet							
<u>Paralichthys spp.</u>	2	2	3.2	0.33	0.0105	0.01	
Flounder							
UID Vertebrate				102.97			
Crab	<u>1</u>	<u>—</u>	<u>—</u>	<u>0.03</u>	<u>—</u>	<u>—</u>	
TOTAL	3384	63		12061.66	153.4844		

Table 4. John Rutledge House: Summary.

	NWI		Biomass	
	#	%	kg	%
Domestic Mammal	21	33.3	57.6599	86.9
Domestic Bird	8	12.7	0.5951	0.9
Wild Mammal	6	9.5	7.1029	10.7
Wild Bird	7	11.1	0.4874	0.7
Aquatic Reptile	3	4.8	0.2301	0.4
Fishes	14	22.2	0.1833	0.3
Commensal Taxa	<u>4</u>	6.4	<u>0.1055</u>	0.2
TOTAL	63		66.3642	

Table 5. John Rutledge House: Summary of Temporal Components.

	1750-1770		1770s-1820		post-1820	
	MNI	%	MNI	%	MNI	%
Domestic Mammal	6	50.0	13	31.0	2	22.2
Domestic Bird	1	8.3	5	11.9	2	22.2
Wild Mammal	1	8.3	5	11.9		
Wild Bird	1	8.3	6	14.3		
Aquatic Reptile			2	4.8	1	11.1
Fishes	2	16.7	9	21.4	3	33.3
Commensal Taxa	<u>1</u>	8.3	<u>2</u>	4.8	<u>1</u>	11.1
TOTAL	12		42		9	

Table 6. John Rutledge House: Elements Identified.

	Pig	Deer	Cow	Caprine
Head	54	3	15	4
Vertebra/Rib		1	3	1
Forequarter	7	8	24	2
Forefeet		2	36	
Feet	6	4	17	
Hindfeet	3	4	23	
Hindquarter	<u>10</u>	<u>12</u>	<u>17</u>	<u>2</u>
TOTAL	80	34	135	9

Table 7. John Rutledge House: Distribution of Cow Carpals
and Tarsals.

Time Period	Unit 1	Unit 2	Unit 3	Unit 4	Total
ca. 1750-1770	3				3
1770s-1820	18	1	31	1	51
post-1820	—	<u>1</u>	—	—	<u>1</u>
TOTAL	21	2	31	1	55

Table 8. John Rutledge House: Modifications Observed.

	Burned	Gnawed	Sliced	Sawed	Cut	Hacked
		Rodent Carni.				
UID Mammal	15	1		1	31	1
UID Lg Mammal	1	1		3	16	3
Artiodactyl	1	2	2	1	28	2
Pig		1	1		5	
Deer		1	1		7	3
Cow		3	2	2	10	8
Sheep/Goat		1			2	1
UID Bird	1	4	1		1	
Canada Goose		1			1	
Chicken			2		1	
Turkey	—	—	<u>1</u>	—	—	<u>2</u>
TOTAL	18	14	6	5	7	104

Table 9. John Rutledge House: Number of Elements Identified
for Selected Age Categories.

Pig	
Less than 18 months of age at death	4
Greater than 18 months of age at death	2
Less than 30 months of age at death	5
Greater than 30 months of age at death	
Less than 42 months of age at death	1
Greater than 42 months of age at death	<u>—</u>
TOTAL	12
Deer	
Less than 12 months of age at death	1
Greater than 12 months of age at death	4
Less than 29 months of age at death	3
Greater than 29 months of age at death	1
Less than 35 months of age at death	2
Greater than 35 months of age at death	<u>6</u>
TOTAL	17

Table 9. John Rutledge House: Number of Elements Identified
for Selected Age Categories. (cont.)

Cow	
Less than 18 months of age at death	2
Greater than 18 months of age at death	14
Less than 36 months of age at death	7
Greater than 36 months of age at death	2
Less than 48 months of age at death	14
Greater than 48 months of age at death	<u>3</u>
TOTAL	42
Caprine	
Less than 16 months of age at death	
Greater than 16 months of age at death	1
Less than 28 months of age at death	
Greater than 28 months of age at death	1
Less than 42 months of age at death	1
Greater than 42 months of age at death	—
TOTAL	3

Table 10. John Rutledge House: Measurements.

Taxon	Element	Dimension	Measurement, mm
<u>Felis domesticus</u>	tibia	Bd	12.1
<u>Sus scrofa</u>	astragalus	GL1	41.1
	humerus	Bp	46.1
	patella	GL	36.8
	scapula	GLP	40.10
<u>Odocoileus virginianus</u>	astragalus	Bd	21.8
		D1	20.5
		Dm	19.1
		GL1	36.5
		GLm	33.3
	femur	Bd	47.5
		DC	24.5
	metacarpus	Bp	27.1
	metatarsus	Bp	21.4
	phalanx I	Bd	11.05
		Bp	14.6
		GLpe	48.2, 47.95
		SD	11.85

Table 10. John Rutledge House: Measurements. (cont.)

Taxon	Element	Dimension	Measurement, mm
<u>Bos taurus</u>	astragalus	Bd	43.1
		Dl	35.7
		Dm	39.0
		GLl	74.2, 66.7
		GLm	60.6
	femur	DC	49.0
	metatarsus	Bp	49.95, 46.25
	phalanx I	Bd	25.8
		Bp	26.1
		GLpe	57.4, 50.4
		SD	23.7
		phalanx II	Bd
	Bp		26.75, 31.9
	GL		37.5, 44.2
	GLpe		38.7
	SD		25.85, 21.45
	radius	Bp	83.4
Caprine	radius	Bp	31.9
	tibia	Bd	28.1
		Dd	21.3

Table 10. John Rutledge House: Measurements. (cont.)

Taxon	Element	Dimension	Measurement, mm	
<u>Anatidae</u>	humerus	Bd	9.5	
		Bp	15.6	
		GL	66.1	
		SC	5.2	
	scapula	Dic	10.8	
<u>Anas spp.</u>	carpometacarpus	Bp	13.2	
	scapula	Dic	11.2	
	ulna	Bp	10.0	
<u>Branta canadensis</u>	carpometacarpus	Bp	19.4	
<u>Colinus virginianus</u>	tibiotarsus	Bd	4.9	
<u>Gallus gallus</u>	carpometacarpus	Bp	9.7, 11.8	
		coracoid	Bb	14.35
			BF	12.1, 13.55
			GL	55.30
			Lm	52.75
	femur	Bd	14.2	
		Bp	15.5	
		GL	75.6	
		Lm	69.7	
	SC	6.1		

Table 10. John Rutledge House: Measurements. (cont.)

Taxon	Element	Dimension	Measurement, mm
<u>Gallus gallus</u>	humerus	Bd	18.3
		Bp	18.4
	scapula	Dic	13.0, 14.1, 14.0, 11.95
		tarsometatarsus	Bd
		Bp	11.8, 13.0, 15.3
		GL	62.6
		tibiotarsus	Bd
		Dd	10.0, 10.5, 14.6
		Dip	17.4
		SC	5.2
	ulna	Bp	9.8
		Did	7.9
<u>Meleagris gallopavo</u>	humerus	Bd	23.2
	radius	Bd	12.2
		GL	116.0
		SC	5.0
	scapula	Dic	20.4
	tarsometatarsus	Bd	22.0
	tibiotarsus	Bd	19.2

Appendix A: Samples Studied.

FS#	
2	22
3	23
4	24
5	25
6	26
7	27
8	28
9	29
10	30
11	31
12	33
13	34
14	35
15	36
16	37
17	38
19	41
20	42
21	44

APPENDIX II

ETHNOBOTANICAL ANALYSIS OF SAMPLES FROM THE JOHN RUTLEDGE HOUSE,
CHARLESTON, SOUTH CAROLINA

Michael Trinkley

Chicora Foundation, Inc.
Columbia, South Carolina

Introduction

These ethnobotanical samples were collected in January 1988 by The Charleston Museum from test excavations at the John Rutledge House in downtown Charleston, Charleston County, South Carolina. The data recovery was conducted with private funding and this ethnobotanical analysis was conducted under a consultant agreement with The Charleston Museum. While it is important to consult the primary archaeological report for details concerning this site, a brief overview will be presented on the site context as it may affect the botanical record.

Charleston is situated in an area of environmental diversity because of its proximity to wetlands and tidal estuaries. The vegetation, prior to the development of the town, was probably dominated by oak-hickory-pines forests (Kuchler 1964:111). After 1680, when the colonists moved from Oyster Point to the present site of Charleston, the native landscape changed dramatically. The town, intended to encompass 300 acres, was laid out on a central square plan emulating Thomas Holme's design for Philadelphia and also Robert Newcourt's 1666 plan for the rebuilding of London and the various Ulster towns of 1609-1613 built by the Irish Society. These designs are discussed by Fries (1977), but it should be noted that they are characteristically urban in both population density and non-agricultural orientation. Fries notes that these designs were "in the service of utility and private property in land, not the delight and pleasure in site and ambience" (Fries 1977:98). While little research has been conducted on the colonial landscape of urban Charleston, it is clear that this urban vision had major impacts on the native environment of Charleston.

In 1700 John Lawson remarked that Charleston "as very regular and fair streets, in which are good Buildings of Brick and Wood, and since my coming thence, as had great Additions of beautiful, large Brick-buildings" (Lawson 1967:8). In spite of these favorable comments, it is likely that Charleston's rapid expansion gave rise to problems identified by William Stephens of Savannah, Georgia in the 1740s: "the publick Squares, and most other Parts of the Town...filled with an offensive Weed, near as high as a Man's Shoulders" (quoted in Tate 1984:307). Wallace comments that Charleston's streets were "cluttered with filth" (Wallace 1951:197). Weir (1983) notes that by the end of the colonial period firewood was becoming very rare and was being transported into Charleston from more distant locales and "the British, who occupied the city during the Revolution, even cut down the protected trees lining nearby roads" (Weir 1983:44). A more idyllic view is offered by Rogers,

[w]hen spring came, the fragrance of the flowers hovered sweetly in the air; indeed, the smell of flowers was scarcely absent the whole year

through....In one of the first issues of the Gazette in 1732, Charles Pinckney advertised garden seed from London....By 1730, Mrs. Lamboll had a "handsome flower and kitchen garden upon the English plan." (Rogers 1980:83-84).

Also affecting the botany of Charleston were a number of natural disasters. Most significant during this early period were the fires of 1740 and 1778 (Zierden and Calhoun 1982:60). The November 18, 1740 fire in four hours destroyed the most valuable portions of Charleston and resulted in losses of 61,400 pounds Sterling (Wallace 1951:197). Such fires remove the native plant and allow invasion by "weedy" species as part of natural plant succession (Odum 1971:131,242).

Thus, during the colonial period Charleston biotic environment was largely shaped by the intentional (i.e., garden planning and deforestation) and unintentional (fires) actions of humans. Both, however, created an unnatural, disturbed environment open to plants typically called "weeds," many of which are stenotrophic and thrive on enriched (or polluted) conditions (Odum 1971:113).

The John Rutledge House is an example of the lavish Charleston townhouses built during the late eighteenth century. Rutledge was an eminently successful Charleston lawyer and a governor of South Carolina. The archaeological record from this site should represent wealth and high status in Charleston society, similar to that of the Gibbes House (Zierden et al. 1987).

Archaeological investigations consist of five excavation units, both within the structure, within an associated carriage house, and in the walled yard area. Materials incorporated into this study, however, came only from Unit 1, located in the yard area adjacent to the carriage house; Unit 3, an extension of Unit 1; Unit 4, within the carriage house; and from Features 3 and 6. The units were excavated by natural zones, with some zones subdivided into arbitrary levels. Represented in this study are materials predating (Unit 1, Zone 6) and postdating (Unit 4, Zone 1) Rutledge's occupation (pre-1760 and post-1820, respectively), although the bulk represent the Rutledge family era, about 1760 through 1820 (Unit 1, Zone 5 and Unit 3, Zone 5). Feature 3, found in Unit 1, represents "a narrow, deep pit filled with loose, friable sand, whole clam shells, musket balls, and bottle glass" with a date in the 1770s (Martha Zierden, personal communication 1988). Feature 6 was identified within Zone 5 of Unit 3 and appears to be a "midden zone" containing "small bones, artifacts, and charcoal" which dates from the 1770s into the 1780s (Martha Zierden, personal communication 1988).

All of the samples submitted for analysis were either water floated by The Charleston Museum during the fieldwork or represent materials hand picked from 1/4-inch (0.6 centimeter) hand screening. Four of the five flotation samples consisted of

approximately 10 gallons (38 liters) of soil, while the fifth sample (from Unit 1, Zone 6 level 2) consisted of 5 gallons (19 liters) of soil. The flotation samples vary in weight from 2.87 grams to 286.74 grams, with the smallest flotation sample coming from the 5 gallon (19 liter) soil sample.

As with the previous examinations of the Aiken-Rhett and Gibbes House samples (Trinkley 1986, 1987), the major issues to be investigated involve evidence of subsistence resources, the presence of non-food plants in the assemblage, and the use of fuels in colonial and antebellum Charleston.

Procedures and Results

The five flotation samples were prepared in a manner similar to that described by Yarnell (1974:113-114) and were examined under low magnification (7 to 30x) to identify carbonized plant foods and food remains. Remains were identified on the basis of gross morphological features and seed identification relied on Martin and Barkley (1961), and Montgomery (1977). All float samples, as previously discussed, consisted of either 10 gallons (38 liters) or 5 gallons (19 liters) of soil. All but one of the flotation samples weighed in excess of the generally recommended 10 to 20 grams and two samples were so large (Unit 1 Zone 5 level 2 at 286.74 grams and Feature 6 at 141.78 grams) that they were subsampled to reduce sample redundancy and analysis time. The results of the analyses are provided in Table 1.

In only two samples, Unit 1 Zone 6 level 2 and Feature 6, does the wood charcoal account for the bulk of the material recovered. In the remaining samples the wood charcoal represents from 9% to 34% of the sample weight and coal comprises up to 83% of the sample weight. The coal comprises an unusually large quantity of these samples and its presence in water floated materials, which are otherwise very clean, is exceedingly unusual. Small animal bone is relatively common in three samples (accounting for 3% to 4% of the samples by weight) and mortar accounts for 5% of one sample by weight. Only three samples yielded seed remains. Unit 1 Zone 5 level 2 produced a single seed of bedstraw (Galium spp.), Unit 1 Zone 5 level 4 yielded one chenopod seed (Chenopodium spp.) and two unidentified seeds, while a single seed of bulrush (Scirpus spp.) was found in Feature 5.

Four of the five hand picked samples produced charcoal fragments capable of identification to the genus level, using comparative samples, Panshin and de Zeeuw (1970), and Koehler (1917). The charcoal was broken in half to expose a fresh transverse surface. Quantification of the sample weights was not felt to be useful given the major concerns were habitat reconstruction and wood use; hence the specimens examined were simply identified to species and counted. The results of this analysis are shown in Table 2, which is organized by provenience.

Providence	Wood Charcoal		Uncarb. Organic		Coal		Bone	
	wt.	%	wt.	%	wt.	%	wt.	%
PRE-RUTLEDGE ERA								
U 1, Z 6, L2	2.84	99.0	0.03	1.0				
RUTLEDGE ERA								
U 1, Z 5, L 2	23.10	34.1	0.14	0.2	40.21	59.4	2.87	4.2
U 1, Z 5, L 3	8.79	13.9	0.06	0.1	52.43	82.9	0.23	0.4
U 1, Z 5, L 4	10.47	8.8	0.11	0.1	96.66	81.2	5.50	4.6
Feature 6	22.86	96.1	0.02	0.1	0.19	0.8	0.71	3.0

shell		mortar		seeds		Total Examined	Flotation Total
wt.	%	wt.	%	wt.	%		
						2.04	2.04
		1.41	2.1	0.01	t	67.73	286.74
0.23	0.3	1.54	2.4			63.26	63.26
0.32	0.3	5.90	5.0	0.01	t	118.96	118.96
				t	t	23.78	141.78

t = <0.01 gram or 0.01%

Table 1. Analysis of flotation samples, weight in grams.

The wood charcoal from the flotation samples is primarily oak (*Quercus* sp.), although a minor amount of pine (*Pinus* sp.) was also identified. Three of the five samples produced primarily coal. Two of the samples, from Unit 4 Zone 1, produced only noncarbonized materials. While the archaeological remains from this zone dates to the mid-nineteenth century (Martha Zierden, personal communication 1988), the materials from this zone must be viewed with skepticism. While it is possible that the pine identified from one sample may represent heartwood, and hence have decay resistant properties, the pecan nutshell found in another sample is likely recent and intrusive.

Provenience	Quercus	Pinus	UID Wood	Coal	Carya
U 1, Z 5, L 3		1		10	
U 3, Z 5, L 2	1		1	9	
U 4, Z 1			1		1*
U 4, Z 4, L 2		2			
Feature 3	2			9	

* = noncarbonized pecan nutshell

Table 2. Wood species identified from hand picked samples.

Discussion

Trinkley and Zierden (1984) and Trinkley et al. (1985) have previously discussed the significance of ethnobotanical research at historic period sites, as well as the biases in the archaeological record which result from food preparation and refuse disposal activities. Basically, many plant foods were prepared or cooked in ways which will not provide an opportunity for their preservation in the archaeological record.

Although ethnobotanical analyses from colonial period sites in South Carolina are uncommon, the few available comparative studies document the low incidence of carbonized plant foods. Research at the Gibbes House revealed the presence of wheat (*Triticum aestivum*) seeds (Trinkley 1987), while the colonial Beef market yielded evidence of corn (*Zea mays*) (Trinkley 1984). Peach pits (*Prunus persica*) have been recovered from colonial period contexts at the lower status Lodge Alley site (Trinkley 1983b), at the McCrady's Longroom site (Trinkley 1982), and at the First Trident site (Trinkley 1983a).

The analysis of the Rutledge House collection has not contributed toward our understanding of colonial foodways. The only food remains present, pecan nutshells, are noncarbonized and may represent relatively modern intrusions into the nineteenth century deposits. The absence of plant food remains may be attributable to food preparation and disposal practices inherent at historic sites, or may involve any of a number of other possibilities. One major consideration is that the current excavations represent about a 1% sample of the rear yard area. Under these circumstances it is possible that organic trash disposal and food preparation areas are not well represented in the sample. On the other hand, if Feature 6 represents, as is currently thought, a deep midden zone consisting of domestic refuse, it provides a likely component for floral dietary information. Yet, the flotation sample from the feature contained only a single seed.

One additional explanation for the absence of plant food

remains at sites such as the Rutledge House may involve the wealth of the site's primary occupant. It seems likely that wealthy individuals would be inclined to consume more heavily and completely processed plant foods than the less wealthy inhabitants. As a consequence, the potential for recovery of plant foods would be reduced at sites such as the Rutledge house. While this trend has been observed at other sites in Charleston, such as the Aiken-Rhett and Gibbes houses, further research is clearly warranted.

The plant remains encountered, bedstraw, chenopod, and bulrush, are all suggestive of a disturbed habitat. Bedstraw (Galium spp.) is a perennial or annual herb which fruits from May through August. It is typical of clearings and roadsides, and one species may be found in wet, low areas such as ditches (Radford 1968:984). Chenopod (Chenopodium spp.), while cultivated by some prehistoric people, probably represents another "weedy" species which aggressively colonized disturbed areas around the city. It is an annual, or occasionally perennial, herb which fruits from about June until the first frost (Radford et al. 1968:418). Finally, the bulrush (Scirpus spp.) is an annual or perennial of the sedge family (Cyperaceae). The plant fruits from June through September and is found in marshes and along ditches (Radford et al. 1968:195).

Turning to the wood charcoal the most striking observation is its very low incidence in the samples from Rutledge's occupation. Wood is common only from Feature 6, interpreted as a midden zone. In addition, the woods which occur at the site exhibit exceptionally low diversity, with only oak and pine identified. While the samples are very small, oak appears to be the dominant wood.

Although Reese implies an association between the type of wood burned and wealth or status, noting that "the heavy and dense woods give the greatest heat, burn the longest, and have the densest charcoal" (Reese 1847:116), no such association has been clearly documented in the archaeological record. Hardwoods, common at the Aiken-Rhett site, were a minority at the Gibbes House (Trinkley 1986, 1987). In general, pine seems to have been common fuelwood, perhaps because of its relative abundance and ease of lighting. In addition, pine was well suited to certain cooking tasks which required a quick, hot fire (Reese 1847:116).

What appears to be more indicative of status, or at least wealth, is the presence of coal. By the nineteenth century, Reese indicates that wood was being used by only the poorer classes, while those of the upper and middle class used coal, whose "superiority... over every other kind of combustible, for domestic as well as many other purposes is now generally acknowledged" (Reese 1847:119).

The history of coal use in the South has received little attention. Reynolds (1942) indicates that the use of coal in the eighteenth century was sporadic and confined entirely to the

wealthy, who used "cannel" or other imported English coal. Supposedly, it was not until the nineteenth century that coal became a significant fuel source. Although little research has been directed toward coal use in colonial Charleston, it is clear from a number of ethnobotanical studies that coal was present in quantities beginning sometime in the mid-eighteenth century. Coal has been identified from eighteenth century deposits at the lower status Lodge Alley site (Trinkley 1983b), at the posited industrial First Trident site (Trinkley 1983a), at the commercial site of the Charleston Beef Market (Trinkley 1984), and at the high status Gibbes and Aiken-Rhett houses (Trinkley 1986, 1987).

Coal use in Charleston began at least by the 1720s and is found in a range of wealthy and poor domestic, commercial, and industrial settings. In this sense its use was not much different from that in eighteenth century England where it was primarily used for heating with a firegrate in urban areas such as London. Cast iron ranges which used coal for cooking were introduced in the late eighteenth century and probably became more common in the early nineteenth century (Eveleigh 1983).

Coal has been found in very large quantities from the Rutledge House, both in the hand picked collection (where coal fragments over 1.5 inches were recovered) and in the flotation samples. The presence of such large quantities of dense, hard coal in the flotation samples cannot be explained, although it may relate to the extraordinary density of coal at the site.

In summary, the ethnobotanical data obtained from the Rutledge house collections suggests a site habitat with abundant cleared and disturbed ground capable of supporting "weedy" plants. No evidence of plant foods was obtained, possibly reflecting food preparation or disposal practices, a sampling bias, or extensive processing typical of high status sites. Surprisingly, wood charcoal is uncommon at the site. This seems to be related to the abundance of coal, which apparently replaced wood as the preferred fuel. What little wood is present, is primarily oak. The Rutledge House ethnobotanical samples have produced the largest quantities of coal yet recovered from a Charleston site.

Future research at similar high status sites in downtown Charleston should continue to explore the place of plant remains in the site complex. As additional samples are gathered, it may become clear that the absence of plant food is related to the wealth of site inhabitants. In addition, further research could productively explore the relationship of wood and coal at high status sites. If it is possible to increase sampling at these sites, it would be productive to identify and collect flotation samples from deep midden and trash disposal areas (which are expected to offer good floral preservation) in preference to the thin sheet middens found in general excavation zones (which are expected to yield limited, and highly fragmented, floral remains).

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APPENDIX III

PARASITOLOGICAL AND PALYNOLOGICAL STUDY OF SOIL SAMPLES
FROM THE JOHN RUTLEDGE HOUSE

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Introduction

Biological analysis of archaeological soils has long been an aspect of archaeological research. Palynological study has been a common aspect of prehistoric archaeology for two decades following the publication of The Last 10,000 Years by Paul S. Martin (1967). In cooperation with several historical archaeologists, I have recently had the opportunity to apply palynology to a number of historic sites with positive results. For example, palynology clearly demonstrated the dissimilarity in diet between upper and lower class households in Revolutionary War period Newport, Rhode Island (Reinhard et al. 1986). The trade of cloves into New York was demonstrated by the examination of a privy in Greenwich Village, New York (unpublished report) and the use of capers in the historic diet has been documented from Colonial Williamsburg (unpublished report).

Parasitological analysis also has applications to historical archaeology, especially in Europe (Herrmann 1986; Jones 1985; Jones et al. 1988; Reinhard et al. 1988) and to a lesser extent in the U.S. (Confalonieri et al. 1981; Reinhard et al. 1986). This line of research has led to the discovery of several species of intestinal parasite that infected historic human populations. Intestinal parasites of domesticated animals have also been found.

From the archaeological perspective, the parasitological work by Jones (1985) is very useful. By comparing parasite egg counts from latrine deposits, midden deposits, and non-midden deposits, Jones arrived at parasite egg concentrations that are indicative of the nature of excavated soil. Thus, parasite egg counts can be used to evaluate whether soils excavated from sites were derived from latrines or fecal contaminated middens.

Soil samples from four proveniences of the John Rutledge House were submitted for parasitological and palynological analysis. Three samples came from zones within Unit 1. Zone 4 consisted of a thin layer of loamy sand with shell fragments and dates between 1810 and the 1820s. Zone 5 consists of a deep midden layer with cultural remains that dates to the 1770s. Zone 6 consists of loamy sand with charcoal and shell but without the large amount of cultural material excavated from Zone 5. Zones 4 and 5 date to the time when the Rutledge family used the house. Zone 6 predates the Rutledge occupation. The fourth soil sample was excavated from the interior of the carriage house and consisted of compact sand (Unit 4 zone 3). This zone dates to the 1770s and to the Rutledge occupation.

The four samples were processed and analyzed for evidence of parasite eggs, dietary pollen, and environmental pollen.

Materials and Methods

The soil samples were processed for the recovery of both pollen and parasite eggs. The process is designed to dissolve and/or extract different soil components to leave specific organic remains containing eggs and pollen. Two subsamples were extracted from each soil sample sent to the laboratory, one for parasite analysis and one for pollen analysis. The pollen samples and parasite samples are processed in the same way except that the pollen samples are submitted to additional chemical treatments that destroy parasite eggs.

Thirty milliliters of soil were measured for each subsample. A Lycopodium spore tablet was added to each subsample. Each spore tablet contains 11,300 plus or minus 200 spores. The addition of a known number of spores to the subsample enables accurate measurement of the number of parasite eggs or pollen grains per milliliter of soil by calculating a ratio of eggs or pollen to Lycopodium spores.

The subsamples were treated first in 30% hydrochloric acid in 300 milliliter beakers. The acid dissolves calcium carbonate that holds microscopic particles in the soil matrix. Acid was added to the soil samples until reaction between the acid and carbonates ceased. Then distilled water was added to the beakers holding the soil-acid mixture.

Once the soil was disaggregated by hydrochloric acid, they were sedimented and screened to remove large, heavy components. The soil mixture was rigorously swirled until the soil was in suspension. The beaker was then set aside for 30 seconds to allow the heavy fraction to settle out. The supernatant was then poured through a 0.25 milliliter mesh screen into a 500 milliliter beaker. This process was repeated twice, at which point the supernatant was nearly clear. The material resting on top of the screen was dried on blotter paper and then examined for macroscopic remains. The heavy sand sediment was discarded. The microscopic remains in the 500 milliliter beakers were concentrated by centrifugation. The concentrated remains were then washed three times in distilled water to remove traces of hydrochloric acid that would otherwise react with chemicals in subsequent stages of processing.

After the microscopic remains were washed and again concentrated by centrifugation, they were treated with 72% hydrofluoric acid. This process dissolves fine silicates. The concentrated remains were transferred to 700 milliliter plastic beakers and about 50 milliliters of acid were added to the soil. After stirring, the soil-acid mixture was set aside for 24 hours to allow for completion of the reaction. After 24 hours, the remaining sediments were concentration by centrifugation. The sediments were then washed with distilled water to remove residual hydrofluoric acid that would otherwise pose a health hazard to the analyst.

After the water washes, distilled water was added to the microscopic sediments in 50 milliliter centrifuge tubes. The tubes were then placed in a sonicator and sonicated for 4 minutes. This treatment loosens fine organic debris and separates the 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 zinc bromide heavy density mixture (specific gravity 2.0) was added to the tubes. The sediment was then mixed into the zinc bromide and the tubes were spun in a clinical centrifuge at 1,500 r.p.m. for 15 minutes. This process results in the separation of light organic remains, including pollen grains and parasite eggs, from heavier organic detritus. The light remains float to the surface of the heavy density mixture and are easily removed. The heavy detritus sinks to the bottom of the tubes.

After the zinc bromide heavy density treatment, one subsample of each soil sample was transferred to glass vials in glycerol and examined for parasite eggs. The other subsamples were processed further to extract pollen by acetolysis. The acetolysis step destroys parasite eggs and consequently, the parasite sample underwent no further processing.

The pollen subsamples were washed twice in glacial acetic acid. Then an acetolysis mixture (9 parts acetic anhydride to one part sulfuric acid) was added to the tubes which were then heated for 20 minutes. The acetolysis treatment dissolves several organic compounds, the most important of which are cellulose and chitin. After the acetolysis treatment, the soils were washed once with glacial acetic acid and then with distilled water until the supernatant was clear.

The microscopic remains were then treated for 30 seconds in 5% potassium hydroxide to dissolve humic compounds. After several water washes the supernatant was clear and the microscopic remains were transferred into vials with glycerol.

Microscopic examination of both the parasite and pollen samples was accomplished by placing a drop of glycerol with suspended microscopic remains onto a microscope slide. A coverslip was placed over the drop and sealed with commercial nail polish. After the polish dried, the slides were examined with a binocular compound microscope. The pollen preparation was examined at 400 power and the parasite sample was examined at 200 power. The differences in magnification are due to the generally larger size of parasite eggs which can easily be discerned at lower magnification in comparison to smaller pollen.

The first goal in examining the preparations was to determine whether or not samples contained enough pollen for a full 200 grain count. It has been found by researchers in the Palynology Laboratory, Texas A&M University that less than 1,000 pollen grains per milliliter of soil sample is insufficient for a full 200 grain count. This is due to two factors. First,

