The Middleton Place Privy House: An Archeological View of Nineteenth Century Plantation Life

Helen Woolford Haskell

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THE MIDDLETON PLACE PRIVY HOUSE

AN ARCHEOLOGICAL VIEW
OF NINETEENTH CENTURY PLANTATION LIFE

Helen Woolford Haskell

UNIVERSITY OF SOUTH CAROLINA
INSTITUTE OF ARCHEOLOGY AND ANTHROPOLOGY
POPULAR SERIES 1

Columbia, South Carolina

September, 1981
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price list (David and Charles, Newton, Abbot, 1972).

A BRIEF HISTORY OF MIDDLETON PLACE

The land that now comprises Middleton Place lies in one of the earliest areas inhabited by Englishmen in South Carolina. In 1674, just four years after the first colonists settled at Charles Town, Lord Proprietor Sir Anthony Ashley Cooper granted lands for settlement along the lower reaches of the Ashley River. Among these was the site of Middleton Place, deeded in 1675 to Jacob Waight. Waight apparently forfeited his claim to the tract, and in 1700, it was granted to Richard Godfrey, who sold it in 1729 to John Williams, a wealthy landowner and justice of the peace. The land passed into Middleton hands in 1741, when John Williams' daughter Mary married Henry Middleton, the second son of former provincial governor Arthur Middleton.

Henry and his two brothers were the third generation of Middletons in South Carolina. Their
grandfather, Edward Middleton, had arrived in the colony in 1678 as part of the great influx of Barbadian Englishmen who made up more than half of Charles Town's early immigrants. Like many other Barbadians, Edward settled along Goose Creek, north of Charleston. His plantations there, along with estates in Barbados and England, passed to his son Arthur in 1685. Arthur also inherited a prominent position in Carolina society, and with it, an active role in the political life of the colony. Edward had served as Lords Proprietors' deputy and assistant justice in his few years' stay in Goose Creek, but Arthur, who held more than a dozen public offices, was the Middleton who established the tradition of political leadership that was to distinguish his family for four generations.

Probably the most significant of Arthur's achievements was his role in the overthrow of the Lords Proprietor. The eight British noblemen theoretically owned and managed all of the Carolinas, but in later years, they adopted policies that their colonists saw as inimical to survival in the American wilds. Following the Lords Proprietors' failure to provide military aid during the bloody Yamasee Indian uprising of 1715-1717, Arthur Middleton led a convention that in 1719 persuaded the king to remove the Lords Proprietor. Later, as president of the Ruling Council, he served as governor of the province until the arrival of a governor appointed by the king.

Arthur's son Henry inherited a large share of his father's estates in Carolina and Barbados and was reputed to be one of the wealthiest men in Carolina. According to one contemporary account, he owned some 20 plantations and 800 slaves. Nonetheless, after his marriage to Mary Williams he moved his residence and base of operations to his wife's Ashley River plantation, which they named Middleton Place. The manor house was already standing at that time, but Henry added the two flanker buildings (the southernmost of which now serves as the main house), and laid out the formal gardens, terraces, and ornamental lakes that
made Middleton Place one of the most elegant of the lowcountry plantations. Rice, introduced into the Carolinas in the late seventeenth century, had become by Henry's time a staple crop of the Ashley River region and was becoming the main product of Middleton Place (Fig. 1).

Figure 1. Locator map of Middleton Place, Dorchester County, South Carolina.

Like his father, Henry held a number of public offices under the royal government, but it was in the rebellion against that government that he gained political renown, first as president of the South Carolina Provincial Congress and later as a delegate to the First Continental Congress in Philadelphia. Only...
seven of Henry and Mary's eleven children lived to adulthood, but both surviving sons were members of the Provincial Congress, and when Henry's health began to fail in 1776 his elder son Arthur replaced him as delegate to the Second Continental Congress. At 34 Arthur Middleton was the senior South Carolina delegate to sign the Declaration of Independence.

The American Revolution took a heavy toll on South Carolina. Several major campaigns were fought in the former colony, and Charleston and the surrounding lowcountry were occupied by the British from 1780 to 1782. During this time, 63 leading Charlestonians, including Arthur Middleton, were imprisoned in British St. Augustine. By 1780, Henry was seriously ill, and, like other lowcountry residents, he and his sons suffered serious financial losses from the plunder and disruption that accompanied the British occupation.

Henry died in 1784 leaving Middleton Place and other plantations to Arthur, who in the postwar economic climate soon regained his former standard of living. Arthur and his family of nine children had lived at Middleton Place for some time before Henry's demise, and several important economic changes took place under Arthur's direction. In Henry's early years at Middleton Place, rice had been cultivated in inland swamps irrigated with water from man-made reservoirs. By the late eighteenth century, soil exhaustion had begun to pose a problem, and many planters, including the Middletons, changed to tidal rice cultivation that involved impounding freshwater swamps along the rivers' edges and allowing them to be flooded by the natural action of the river tides. Not only did the new soil and nutrients deposited by the floodwaters remove the threat of soil exhaustion, but the tidal system was more labor-efficient than inland cultivation, resulting in higher yield per acre. This new efficiency was compounded by another late eighteenth century innovation, the water-powered rice mill, installed at Middleton Place about the same time.
Arthur's eldest son Henry inherited Middleton Place at the age of 17, apparently while he was still in school in England. Henry devoted a great deal of attention to the gardens planted by his grandfather, enlarging them and introducing many new plants, some of them newly brought to America by the French botanist André Michaux. From 1801 to 1830 Henry was continuously, in public office, first as a South Carolina legislator and governor, then as a member of the United States Congress, and from 1820 to 1830 as American ambassador to Russia.

By the time he returned from his service abroad, South Carolinians had embarked upon the separatist agitation that would eventually lead to their third attempt in 150 years to overthrow a government.

At issue were the 1828 and 1832 "tariffs of abomination," designed by Congress to protect fledgling industries in the northern states. However, they were viewed by indignant Carolina planters, dependent on direct trade with England, as an assault on their agricultural economy. The South Carolina Nullification Convention of 1832 declared the tariff null and void on the basis of John C. Calhoun's doctrine that a state had a right to vote to disregard onerous acts of Congress and, if other states found its action unacceptable, to secede. As a member of the opposing Union Party, Henry Middleton was perhaps the first of his family to take an active conservative role in a dispute pitting South Carolina against an outside governing body.

This early threat to the Union was deflected with a tariff reduction in 1833, but the nullification doctrine had laid the ideological groundwork on which 11 southern states were to base their secession over the issue of slavery 28 years later. Slavery was an economic mainstay of agriculture throughout the South, but particularly so in South Carolina, where slaves had been imported from Barbados with the very earliest settlers at Charles Town and where a plantation system
based on involuntary servitude had existed since the late seventeenth century. By the early 1700s African slaves already made up three-quarters of the South Carolina population, and on the eve of the Civil War, South Carolina remained the largest slaveholding state in the Union. Colleton District, where Middleton Place was located, was nearly 80% black.

This enormous disparity meant that white slaveholders lived in constant fear of slave insurrection. They were equally fearful of emancipation, which, as abolitionist sentiment grew in the North, many planters came to view as an inevitable outcome of northern political dominance. There were slaveholders who staunchly opposed disunion, but South Carolina, as it had been during the nullification dispute, was a hotbed of secessionism. With the 1860 election of Abraham Lincoln, a Charleston convention passed an ordinance making South Carolina the first state to withdraw from the Union. Henry Middleton had died in 1846 before the slavery controversy reached its height, but among the signers of the Ordinance of Secession were his sons John Izard Middleton of Georgetown, and Williams Middleton of Middleton Place.

The war that followed caused more devastation to the plantation economy than emancipation, for in defeat the planters lost most of their financial assets and their voice in local government. In areas that had witnessed military action, they often saw devastation of their homes and property. Middleton Place, plundered and burned by invading troops in 1865, was no exception. Williams and his family fled to Charleston where they lived while renting the plantation grounds to a "Yankee captain." In 1867 Williams borrowed money from a sister in Philadelphia and began the task of restoring the burnt-out southern flanker building to serve as a family residence. In 1871, before repairs were complete, the Middletons and their two children were again living at Middleton Place in the shadow of the ruined mansion that had housed five generations of their family.
Restoration of the plantation's agricultural operations, however, proved more difficult. The tidal rice fields, which required constant maintenance, had been neglected, and the loss of the more than 100 slaves who had worked the plantation grounds and rice fields left Williams without the necessary labor for large-scale cultivation. Although vastly diminished quantities of rice continued to be harvested elsewhere in the lowcountry, Middleton Place apparently never again produced a successful rice crop. By 1890 rice from Louisiana, where flat upland fields permitted mechanized cultivation impossible in the South Carolina marshes, had begun to drive Carolina rice off the market. Today no rice at all is grown in South Carolina.

Two new commodities that gained importance in the land-poor lowcountry economy were phosphates, of which postbellum South Carolina was the nation's leading supplier, and timber, an important product in the Southeast. Williams turned his hand to exploitation of these natural resources, and by 1878, Middleton Place boasted both phosphate mines and a sawmill. Although he and his heirs continued to lease the plantation timber and mineral rights until the early twentieth century, by 1880 the aging Williams had left Middleton Place, taking up residence in Greenville, South Carolina. After Williams died in 1882, his wife Susan made regular visits to the plantation. But following her death in 1900, Middleton Place lay abandoned, except for periodic visits, for over 20 years. Williams and Susan's son Henry, who had left South Carolina in the 1870s to attend Cambridge University, was living in England, and their daughter Elizabeth had married and settled in Greenville.

The plantation was inherited by a cousin, J. J. Pringle Smith, who, in 1925, moved his family into the southern flanker house and began the slow job of restoring the Middleton Place grounds and gardens. Pringle Smith built the present stableyard complex on the site of older outbuildings, installed an electri-
cal generator in the former privy building, and opened the gardens to the public. In 1970 Middleton Place became a Registered National Historic Landmark under the management of the Smiths' grandson, Charles Duell. In 1975, with the creation of the Middleton Place Foundation, the south flanker containing many of the family's original furnishings was also opened to the public.

ARCHEOLOGY AT MIDDLETON PLACE

Modern historical archeology, like archeology in general, is based on two main premises. First, where man has lived for any length of time, he has left behind artifacts—bits of food, broken pottery, tools, and ornaments—that tell us something of his way of life. Second, human behavior is, to a certain extent, patterned and predictable, and similar artifacts will be found on similar sites. Thus, even if two household sites are separated by hundreds of years of technological innovation, they may yield utensils used for roughly the same purposes. If two contemporary sites
produce artifacts of the same style and workmanship, then their inhabitants shared at least some aspects of a single culture, and variations between the sites can provide valuable clues to adaptations of that culture to different circumstances.

The distinction between prehistoric and historical archeology is based not on differences in technology but on the presence or absence of written records. While prehistoric archeologists reconstruct ancient cultures primarily from artifactual evidence, historical archeology employs both documents and material remains to study literate societies and the preliterate populations whom they influenced. In much of Europe and Asia, the historic period begins centuries before Christ, but in North America, historical archeology is concerned with the period of recorded European exploration and occupation extending from the sixteenth century to the present.

From these four centuries we have innumerable written records covering a vast array of subjects. But although these records contain a wealth of information, they cannot always be trusted to be either thorough or accurate. In addition, historians are often most interested in aspects of daily life—such as health, diet, and the living conditions of the unlettered poor—that are frequently omitted altogether from written records. By examining the record of activities that people have left in the soil, archeology can provide written history with a comparatively unbiased account of the economic conditions underlying historical change.

Probably the most obvious indicators of past living conditions are buildings, around which most human activities are centered. On most historic sites these include not only residences but also a variety of outbuildings such as privies, barns, and work buildings that are crucial to understanding the site as a whole. This is especially true of such complex institutions as plantations, where hundreds of people
may have lived and worked over an area of many acres. Since many of these buildings have long since disappeared, the first task of the excavator is to find them by tracing the concentrations of debris that, fortunately for archeologists, our ancestors scattered freely around their dwellings and workplaces.

The Middleton Place privy is a modest one-story building half hidden in live oaks behind the Middleton House museum. It has outlasted many of its more imposing contemporaries to become one of the oldest standing structures at Middleton Place. Built in the late eighteenth or early nineteenth century, the privy was one of the few plantation buildings to escape destruction by Sherman's troops in 1865. In its long lifetime it has served as an outdoor latrine, a generator house, and a storage building. Now, newly equipped with running water and flush toilets, it is the only antebellum building at Middleton Place still serving the purpose for which it was constructed.

An outdoor privy may seem an unlikely place to conduct an archeological excavation. Much eighteenth and nineteenth century trash was simply tossed out the back door, but the backyard privy, ready made for waste disposal and usually handily located a few dozen feet from the house, also received its share of household disposables. As a privy pit neared abandonment, the top layers were often stuffed with broken objects before it was sealed and a new hole dug.

The privy is set solidly atop a rectangular brick-lined pit, which house servants kept open and functioning for more than 100 years with a system of "honey buckets." When the privy was finally abandoned in the 1920s, the entire pit, not just the top few inches, was packed with broken or unusable household goods.

The privy pit was sealed by J. J. Pringle Smith, who laid a concrete floor in the privy building and converted it into a shed for the plantation's first
electric generator. With the subsequent arrival of outside electrical power, the generator too was abandoned, and the privy stood undisturbed for the next 40 years. In 1978 workmen remodeling the building into a modern restroom broke through the concrete floor to the artifact-laden pit below. The artifacts were excavated and analyzed by archeologists from the University of South Carolina's Institute of Archeology and Anthropology, and are now on display in the Middleton Place Spring House Museum.

Privy pits, being relatively shallow, normally contain objects accumulated and discarded within a very few years. The Middleton privy, only three feet deep, was expected to be no exception. Once the artifacts had been cleaned and restored, however, it became apparent that this was no short-term kitchen deposit, but a diverse assemblage of objects spanning more than 100 years of the plantation's history.

A sealed archeological deposit can date no earlier than its most recent artifact, and a handful of twentieth century utility bottles confirmed that this chronological hodgepodge had been thrown into the privy pit shortly after the arrival of the Pringle Smith family in 1925. The scarcity of items from the Smiths' period of residence, however, suggested that the family had filled the privy not with their own trash but with objects accumulated by the Middletons in the preceding century. The artifacts could not have collected in the house before 1871, when the Middletons moved back to their war-ravaged estate, or after 1900, when Susan Middleton's death ended the plantation's role as a regular residence. The artifacts left in the house spanned Susan and her husband's entire lifetimes, from the costly dinnerwares of the wealthy planter to the plain stone china of his widow. As much as any exhibit at Middleton Place, then, the artifacts on display in the Spring House Museum bear testimony to the cycle of wealth and poverty, prosperity and decay, that characterized the nineteenth century Middletons and their plantation.
The Industrial Revolution introduced an era of mass production, technological efficiency, and mass consumption. One of its minor miracles was the perfection of a hard-boiled white ceramic that was within the financial reach of most of the population. Though hardly striking to the modern eye, the white ironstone plates pictured below (Fig. 2) are the result of years of experimentation by British and other European potters. In durability, purity of color, and cost-effectiveness, the everyday ironstones and granitewares of the late nineteenth century represent a triumph of western ceramic technology that has been little improved upon since the earlier part of that century. (See Appendix 1 for a complete listing and illustrations of ceramic manufacturers' marks.)

The impetus for this technological marvel goes back to the global expansionism of Europe's seafaring nations in the sixteenth and seventeenth centuries. Among the exotica brought back by early traders was Chinese porcelain, an impermeable white ceramic ware unlike anything produced in Europe. As trade with the Orient grew, so did importation of Chinese porcelain. By the eighteenth century, Chinese potters were regu-
larly turning out blue-and-white "export porcelain" (Fig. 3) made specifically for the European market. East India Company ships were transporting it to England as "flooring" to protect perishable cargoes of tea.

Much of this porcelain found its way to the American colonies. In the early colonial period, Chinese porcelain was a relatively rare and prestigious ware associated with the upper-class custom of afternoon tea. By the time of the American Revolution, both tea-drinking and porcelain had spread to the lower classes. When American merchants opened their own direct trade with China in the 1780s, they brought back large quantities of porcelain along with the more lucrative teas and silks. By the 1820s Chinese
blue-and-white had become an ordinary household fixture and, with a concomitant decline in quality of production, began to lose favor with the American buyer. Very little was imported after the early 1830s.

It would be difficult to overestimate the influence of Oriental porcelain on the European ceramic industry. Europeans greatly admired the hardness, whiteness, and thinness of the Chinese imports, and many of the most important developments in eighteenth and nineteenth century ceramic manufacture resulted from a conscious effort to imitate these qualities. Soft paste porcelain, made by adding glass to the clay

Figure 3. Chinese export porcelain. These fragments are all from plates or serving dishes, probably imported before 1830. All are hand-painted with blue underglaze decoration. The piece on the upper left retains traces of additional decoration, including gilding, applied over the glaze.
body, was an early attempt to reproduce the porcelain paste itself. The Germans discovered the secret of true hard paste porcelain around 1710 and began producing it at Meißen three years later, followed by the Austrians at Vienna in 1718 and the French at Sèvres in 1768. Early European porcelains imitated the Oriental in design as well as paste, but after about mid-century, chinoiseries gave way to flowers

Figure 4. French Bourbon Sprig or Cornflower porcelain, a pattern popular before the French Revolution. Other pieces of this pattern are on display in the Middleton House dining room.

and other European designs executed in a variety of colors. Through the end of the century, European porcelain remained an art form available only to the well-to-do. Figure 4 shows a French porcelain tea plate hand-painted in the "Bourbon Sprig" or "Cornflower" pattern of scattered flowers popular during the reign of Louis XVI. Probably produced in Paris in the eighteenth or early nineteenth century, this plate
was part of a large set of Bourbon Sprig china originally brought from Europe by a member of the Middleton family after 1820.

Little hard paste porcelain was produced in England, where bone china, a somewhat softer porcelain with calcined ox bone added to the paste, became a favorite material for expensive dinnerwares. Oriental influence on British ceramics was more immediately felt in the British decorative style, which through the nineteenth century continued to borrow heavily from the Chinese and Japanese. Figure 5 illustrates an English porcelain platter decorated in the colorful pseudo-Oriental motif typical of early nineteenth century dinner services. These services, often made

Figure 5. English porcelain platter, decorated over the glaze with the polychrome orientalizing designs favored by early 19th century British ceramic painters. This dish was also probably part of a large set, fragments of which have been found elsewhere on the Middleton Place grounds.
in stone china or ironstone, sometimes included as many as two hundred pieces to accommodate the lavish dinner parties that were the fashionable entertainment of the day.

Figure 6. Creamware sauce tureen, manufactured by the Josiah Wedgwood factory. One of the original 1780s Wedgwood designs, tureens similar to this one are still produced by the Wedgwood pottery in Barlaston, Staffordshire. Manufacturer's markings indicate that this piece was manufactured before 1860.

A more significant effect of Oriental porcelain on British ceramics was the revolution it inspired in the production of everyday earthenware. From the early eighteenth century, British potters had sought to develop a smooth white-bodied earthenware that could be made from local clays to compete with the imported blue-and-white. The first real breakthrough in this endeavor came in the 1760s, when Josiah Wedgwood, the giant of British ceramic history, began production of a thinly potted pale yellow pottery known as creamware or queensware (Fig. 6). Dozens of British factories quickly took up manufacture of creamware, and it became a staple dinnerware throughout Europe and America. It remained a popular British and American tableware until the 1820s, after which it degenerated into a common utilitarian crockery. Known
as "C.C. ware," creamware finished out the nineteenth century as the cheapest of the heavy utility wares, used chiefly for such items as mixing bowls and chamber pots.

On the heels of creamware came pearlware, another Wedgwood invention that consisted of a slightly whiter-bodied ceramic, which, with the addition of a clear blue-tinted glaze, came close to approximating the pearly bluish white of Oriental porcelain. The development of pearlware, and the even whiter earthenwares that followed, ushered in the great British period of blue transfer-printing that lasted from the 1780s through the 1840s. The art of printing glazed ceramics with designs transferred from engraved copper plates had been known since the 1750s, but the more durable underglaze process was developed only in the 1770s—and then only in cobalt blue, the one color that consistently remained unblurred through the high firing temperatures required for glazing. Blue underglaze printing had been tried to no one's satisfaction on the yellow background of creamware, but pearlware, with its faint bluish tint, was the first earthenware that was both hard enough and of a suitable color for the new technique. Despite the development of nearly pure white earthenwares in the early 1800s, British potters continued throughout the nineteenth century to add the blue-tinted pearlware glaze to earthenwares of many different compositions.

Early transfer patterns imitated the Chinese and were engraved into the copper plates in a series of deep lines, but a technique combining lines and stippling, which allowed for greater detail and shading, was introduced about 1810. With this and other developments, Oriental designs gave way to pastoral and architectural scenes—English, Alpine, Italianate, and American, among many others—usually surrounded by borders of English flowers (Fig. 7). In later years, many of these scenes were printed in various colors made possible by the introduction of new dyes in the late 1820s, but blue remained the most popular color.
Figure 7. Light blue transfer-printed serving bowl, manufactured by J. & G. Alcock, Staffordshire, 1839–1846. Pastoral scenes like this TYROL pattern were popular from about 1810 through the 1840s.

Figure 8. Molded white ironstone chamber pot, probably American made, c. 1860–1900.
through the end of the transfer-printing era in the late 1840s.

The dinnerware that pre-empted transfer-printed earthenware was plain stone china of the sort pictured in Figure 2. Late nineteenth century stone china, also known as ironstone, graniteware, and semiporcelain, was not a new ceramic but a variant of the stone chinas and ironstones first produced by Josiah Spode and Charles Mason in the first two decades of the century. The novelty of the stone chinas sold after 1840 lay in the new inexpensive methods of mass-producing them, and in their hitherto unthinkable absence of painted decoration. Early nineteenth century stone chinas had been elaborately decorated with Oriental wildlife and transfer-printed patterns, but by mid-century it was almost all stark white, with only embossed or molded decoration. After about 1870, it was often produced with no decoration at all.

Stone china at its best was nearly unbreakable, and thus admirably suited to life in the still rough-and-ready American states. Like earlier wares, most of the stone china sold in the United States was imported from Great Britain. The fledgling American pottery industry did not begin producing hard-paste whitewares until after 1860, and throughout the nineteenth century American-made ironstone was considered inferior to imported china. Much of the early American potter's energy went into the production of common utility items, which, like the probably American-made chamberpot in Figure 8, were often unmarked to hide their domestic origins.

At the opposite extreme of the decorative scale was English majolica, a gaudily painted ware introduced by Minton & Co. at the 1851 "Great Exhibition" in London (Fig. 9). Early Minton majolica was intended as an imitation of sixteenth century Italian majolica and featured hand-painted romantic scenes on an opaque white background. The style quickly evolved, however, into a fancifully molded pottery
Figure 9. English majolica, c. 1860–1910. This brightly colored ware was often molded into shapes resembling trees or other plants. The brown-glazed handle is from a pitcher apparently colored with blue, yellow, and brown.

decorated with a wide range of colorful semitranslucent glazes. Produced by a number of factories after about 1860, majolica was used through the end of the century both for inexpensive domestic items and for sometimes massive ornamental objects such as jardinières.

Manufacture of European porcelain had not ceased during the years British earthenware dominated the American ceramic market, but the nature of the product had changed considerably. The French porcelain industry, in particular, had evolved from a restricted craft patronized by royalty to a number of independently owned factories turning out standardized dinnerwares for the public taste. These relatively inexpensive wares appealed to Americans as well as Euro
peans, and French porcelains were imported in quantity beginning around 1850. To Americans, the most prestigious French porcelain came from Limoges, where a number of factories had clustered to take advantage of extensive kaolin deposits. Of Limoges porcelain, the most highly regarded was that produced by Haviland & Co., a firm founded in 1842 by an American china mer-

Figure 10. Limoges porcelain, c. 1875-1891. The dinner plate at left bears the hallmark of Haviland & Co., an American-run French Company that produced porcelain especially for the American market. Three other undecorated plates, the least expensive kind of porcelain, were also recovered in the privy excavation.

chant, David Haviland, to produce porcelain specifically designed for the American market (Fig. 10). Cheaper French porcelains, often with no manufacturer's mark, were sturdily and heavily made in an apparent attempt to capture the white ironstone dinnerware market.
Despite its popularity, French porcelain did not succeed in replacing white ironstone in the American cupboard. That remained for German and Austrian porcelain (Fig. 11), an even cheaper ware that began to enter the country in quantity around 1875, and in prodigious amounts after the turn of the century. Much admired for their thinness and translucency, these delicate dinnerwares easily undersold not only ironstone and the established French and British porcelains, but the then fashionable pressed glass tableware sets as well. Like most porcelains of the period, Austrian and German dinner sets were usually decorated with small sprays of naturalistic flowers. This design was made easier by the late nineteenth century development of decal-printing, or "decalcomania," a process by which multicolored paper patterns are transferred directly onto the surface of a glazed ceramic. Decal-printing was first used on European.
ceramics around 1900, and it remains a popular ceramic decoration today.

Most of the popular Austrian porcelains were manufactured near Carlsbad in Bohemia, which after World War I became a part of modern Czechoslovakia. After World War I Czechoslovakia and other European countries continued to dominate the American porcelain market. Although American-made earthenwares and stone chinas had become a competitive force around the beginning of the century, it was not until World War II, and the resulting disruption of the European china trade, that American porcelain manufacturers were able to end the tradition of imported ceramics that began with seventeenth century Chinese porcelain.

GLASS TABLEWARE

Decorative glass recovered in the privy excavation covered a range of styles and manufacturing techniques spanning the entire nineteenth century. Most of the glass tableware, however, particularly the heavy cut glass, appears to have been manufactured in the antebellum period. This indication that the Middletons continued to dine off their pre-war finery until they left the plantation may be an indication of the family's reduced financial circumstances after the Civil War. Only a few of the more representative
Figure 12. Cut glass pitcher with applied crimped handle. Early 19th century, possibly American-made.

glass tableware items are illustrated below.

One of the more popular and long-lived methods of decorating glass has been wheel-cutting, introduced into England from Germany by the early eighteenth century, and used primarily on the soft but brilliant lead glass crystal developed in England around 1675. Early nineteenth century English cut glass, incised entirely by hand, tended toward restrained neoclassical lines, but the introduction of a steam-powered cutting wheel in 1810 ushered in an era of deep and extensive cut decoration. Much of this English and
Irish cut glass was imported into the United States, but by the first few decades of the nineteenth century, American glasshouses had developed a reputation in the field as well. The cut glass pitcher in Figure 12 dates from this period and is similar to pitchers produced in Pennsylvania glasshouses in the 1820s. The applied hand-tooled handle is of a type seldom used after the 1860s.

By the 1830s cutting in flat vertical slices, or flutes, had come into fashion. Heavy straight-sided decanters like the one in Figure 13A were well-suited
to this decoration and remained popular through the 1840s, after which the fashion swung toward lighter long-necked decanters with rounded bodies. The decanter on the right with more restrained fluting around the base only is probably part of a shouldered


Figure 15. Ale flute and Mascotte wine glass as they would have appeared unbroken.
decanter of a style most common before about 1830. Victorian glasscutters frequently reproduced older styles, however, in the thousands of decanters that were turned off the wheel before decanters ceased to be an everyday tableware around World War I.

In the late 1820s American glassmakers introduced the side-lever glass press, a device that could form wide-mouthed glass items by pressing them against a mold with a plunger. The glass press allowed mass production of decorated tableware at a much lower cost than cutting or engraving, and within a few years pressed glass had begun to make serious inroads into the cut glass market. Early American pressed glass was made in stippled or "lacy" patterns formed by closely-spaced small indentations in the mold, but in the late 1840s, smooth patterns similar to some cut glass styles had been developed. The invention in 1864 of an inexpensive substitute for the costly lead glass crystal further reduced the cost of pressed glass manufacture, and by the 1870s, dozens of factories were turning out pressed glass table sets in a staggering array of patterns. These pattern glass sets remained the most popular American glassware until the 1880s when cut glass resurfaced with deeply and ornately incised "brilliant" cut glass.

Pressed glass manufacturers responded to the new patterns with pressed glass imitations, a single example of which was recovered from the Middleton Place privy deposit. Figures 14 and 15 show the transition of styles through the nineteenth century. On the far left in both figures is a tall ale or champagne glass wheel-cut with the vertical flutes fashionable in the first half of the century. Figure 14B shows a small wine glass pressed in the "Almond Thumbprint" pattern, an early non-lacy pattern introduced in the 1850s or 1860s. The wine glass on the right is pressed in the "Mascotte" pattern. This pattern, probably first produced in the 1880s, was one of the many late nineteenth century pressed glass patterns made to resemble the more fashionable brilliant cut glasswares.
At the beginning of the nineteenth century, most bottles in the United States and England were either free-blown—formed on the end of a blowpipe without aid of a mold—or blown into a one-piece "dip mold" that formed only the basic body shape. Neither of these processes allowed large-scale production of oddly shaped or embossed containers, and since even dip-molded bottles were formed by hand above the shoulder, the bottles tended to be asymmetrical.

Hinged two-piece molds, capable of shaping the shoulder and neck as well as the body of the bottle, had occasionally been used in England as early as the 1750s, but they did not become common in the U. S. until the second and third decades of the nineteenth century. A three-piece mold with a dip body and hinged neck and shoulder parts, developed in England shortly after the turn of the century, was popularized by an 1821 patent taken out by the Henry Ricketts Company of Bristol. These two forms, especially the two-piece mold, remained the most common mold types
throughout the nineteenth century. On early two-piece molds, the pieces were hinged in the center of the base, but a more stable mold with a separate base part was developed by the late 1850s and was almost universally used in the later decades of the century.

On almost all mouth-blown bottles, whether free-blown or blown in a complex mold, the lip and upper neck were formed in a separate process after the otherwise complete article had been removed from the blowpipe. This process, the last step in the formation of the bottle, was known as "finishing," and the completed lip came to be called the "finish." In the early part of the nineteenth century, bottles were finished with simple hand tools such as shears, but by 1840, a specialized "lipping tool" with a central plug and one or more rotating external arms had been introduced. This tool produced a smoother and more uniform finish, and remained in use until the industry was fully automated in the twentieth century.

While the finish was being formed, most bottles were held by an iron pontil rod affixed to the base with molten glass. This process left a rough scar on the bottom of the bottle where the pontil had been detached. Holding devices which gripped the body of the bottle and eliminated the need for empontilling were apparently known in England in the 1820s, but did not become common in American glasshouses until the 1840s or 50s. By the 1870s use of the pontil rod had almost entirely ceased.

The most significant American contribution to the early nineteenth century glass industry was the development in the 1820s of the hand-operated side-lever pressing machine. This device consisted of a single- or multi-piece mold into which the glass was pressed by means of a plunger. Since the plunging process required wide-mouthed molds, pressing was used primarily for glass tableware, although straight-sided jars were also pressed in the later part of the century.
In 1864 William Leighton of J. H. Hobbs, Brockunier, & Co. in West Virginia perfected a formula for an inexpensive soda-based glass that was as crystaline as the heavy lead glass previously used for most American-made clear glass items. This new glass revolutionized the pressed glass tableware industry, and probably was responsible for the flood of clear glass medicinal and household bottles that followed the Civil War. Like earlier clear glass, the improved lime glass was tinted with manganese oxide to remove its natural green coloring. Clear glass items manufactured with manganese tend to turn varying shades of lavender when left exposed to the sun. Manganese was imported from Germany in the nineteenth century to decolor glass and was no longer used after the outbreak of World War I.

In the immediate post-Civil War period, the American glass industry expanded rapidly. Molds were improved and worker and furnace productivity increased to many times their 1800 level. New bottle shapes were introduced, and specialized and embossed bottles proliferated. The manufacture of preserve jars became a major industry, and a special "blow-back" mold, included in John Mason's 1858 fruit jar patent, was used to form the screw threads for the sealable lids. Standard bottle shapes for different products became common, as did uniformly applied standard lip forms for different purposes. The standard shapes of the bottles from the Middleton Place privy are shown in Figure 16. Turnmolding, a long-known method of removing mold marks by rotating the unfinished bottle in the mold, became a popular way of manufacturing unblemished wine bottles. A popular technique of embossing was plate-molding, an operation in which a personalized name plate could be inserted into a standard mold for inexpensive lettering of even small runs of bottles.

The first mechanized production of bottles in the United States was on a semiautomatic "press-and-blow" machine patented by Philip Argobast in 1881 and used
by the Enterprise Glass Co. of Pittsburgh to make Vaseline jars in 1893. Although the molten glass still had to be gathered and dropped into the mold by hand, the Argobast machine could produce completely machine-molded wide-mouth jars by pressing the lip and blowing the body in two separate operations. Semi-automatic production rapidly took over the fruit jar industry, and by the turn of the century most fruit jars were made on semiautomatic machines rather than in the traditional blow-back molds. Narrow-necked bottles, however, could not be manufactured on "press-and-blow" machines because the plunger for the pressing operation could not be withdrawn through a narrow opening. Although a "blow-and-blow" machine for narrow-necked bottles was developed in England in the late 1880s, semiautomatics for small-mouthed ware were apparently not introduced in the U. S. until after the development of the automatic Owens bottle machine in 1903.

The Owens machine, invented by Michael J. Owens of the Toledo Glass Co., was put into production in 1904. It differed from the semiautomatics in that the glass was gathered into the molds by mechanical suction process, thus completely eliminating hand labor. Despite a series of improvements from 1904 to 1911, the Owens machine was slow to gain acceptance, both because of its expense and because of the restrictive licensing policies adopted by the Toledo Glass Co. In 1905 most bottle production other than wide-necked jars was still by hand. Semiautomatics came into increasing use, however, and a number of improvements made them a serious threat to the Owens machine. After about 1914, there was a proliferation of patents for automatic feeding devices that could cheaply convert the more modern semiautomatics into fully automatic machines. Use of feeder-fed semiautomatics, as well as the Owens automatic machines, reduced hand bottle production to 50% of the country's output by 1917, and to less than 10% by 1925. More efficient feeder machines slowly replaced the Owens-type suction machines and are the type in general use today.
MEDICINE BOTTLES

As glass manufacturing expanded after the Civil War, so did the pharmaceutical industry. Pharmacology became a more exact science than it ever had been, and its practitioners dispensed their compound medicines in glass bottles that for the first time were available in precisely graduated sizes and a variety of shapes often tailored to suit specific products. Early post-war bottles were usually made in the aquamarine of "green" glass that had become traditional for apothecaries' wares, but use of clear lime glass spread until by the end of the century most pharmacy bottles, like most of those from the Middleton Place privy, were made of clear glass.

One of the first of the new shapes was the "French square," a tall bottle with beveled corners introduced in the early 1860s (Fig. 17). The French

square was followed by more elaborate rectangular, round, and oval shapes, many of them adapted with one or more flat sides to accommodate the paper labels or plate-molded lettering with which pharmacists usually marked their wares. The "Philadelphia oval" shown in Figure 17C, plate-molded with the name of an 1867–1902 Charleston pharmacy, was a favorite shape.

Despite such advances as Louis Pasteur's bacteriological discoveries, ideas of medical treatment in the nineteenth century remained primitive by modern standards. Without many of the vaccines and antibiotics now available, people dosed themselves with a wide range of substances which most twentieth century invalids would hold in dim regard. For instance, pharmacists distributed morphine in small bottles such as that shown in Figure 17E. Vegetable extracts that would not now be in anybody's pharmacopoeia were often sold in panel bottles (Fig. 17B).

One of the few restrictions placed on the more dangerous medicaments was packaging. In 1872 the American Medical Association, concerned over accidental poisoning, issued a recommendation that potentially harmful substances be bottled in distinctively colored containers that were also recognizable by touch. One result of this directive was blue quilted poison bottles (Fig. 17D). A specialty of Whitall, Tatum & Co., a major manufacturer of pharmaceutical wares, these bottles were manufactured until about 1920. Other companies continued to produce poison bottles until the 1930s, when it was decided that the bright colors and fanciful shapes were more an attraction than a deterrent to children exploring the medicine cabinet.

A better-known but less savory branch of nineteenth century medicine was the patent medicine industry, which exploded into notoriety with its extravagant use of the new late nineteenth century advertising techniques. While most patent remedies were alcohol- or narcotic-based frauds, the term patent medi-
cine meant simply any medicine sold without a prescription and included a number of legitimate and effective over-the-counter remedies. The 1906 Pure Food and Drug Act and subsequent acts of Congress were intended to control dangerous substances and put an end to spurious advertising claims, and resulted in the alteration or removal from the market of many

Figure 18. Patent medicine bottles. A. Maltine bottle, double Philadelphia shape. Embossed THE MALTINE MFG CO. CHEMISTS NEW YORK, a company name used from 1875 to 1898. B. Bromo-Caffiene bottle, c. 1881–1920s. Embossed KEASBEY & MATTISON CO. AMBLER, PA. C. Horsfords Acid Phosphate bottle, eight-sided. Embossed RUMFORD CHEMICAL WORKS and on base, PATENTED MARCH 10, 1868, c. 1868–1890.
patent medicines. Others, such as Bromo-Seltzer, survived the legislation and continued to be sold for years.

Most patent medicines were in fact not patented, for that would have meant revealing the formula to competitors and consumers alike. Nevertheless, the nature of many of the more potent over-the-counter remedies was not entirely unknown. Hostetter's Bitters, for example, was regulated by the South Carolina Dispensary along with whiskey and beer.

Only three patent medicine bottles were recovered from the Middleton Place privy deposit, and all appear to have been rather tame digestive remedies of the sort that might be sold today. The amber bottle on the left (Fig. 18A) contained Maltine, probably a digestive and nutritional supplement rather than a cure. The blue bottle (Fig. 18B), the same shape that was later used for Bromo-Seltzer, probably contained Bromo-Caffiene, an antacid and laxative whose main ingredient was magnesia. Bromo-Caffiene was the principal product of the Keasbey & Mattison Co., which operated in Philadelphia from 1873 to 1882, and in Ambler, Pennsylvania, from 1882 to 1962. The blue-green bottle (Fig. 18E) contained Horsford's Acid Phosphate of Lime, a phosphate-based preparation sold by the Rumford Chemical Works of Providence, Rhode Island, from 1868 until at least the turn of the century. On later bottles, however, the company name reads from top to bottom rather than from bottom to top.

The predecessor to these sturdy containers was a thin-walled cylindrical bottle used by the apothecaries and pharmacists of the eighteenth and early nineteenth centuries (Fig. 19). All free-blown or dip-molded, these bottles were used as late as the 1850s, and because of the Civil War, perhaps even later in some parts of the South. The two bottle bases at right are turned up to show the blow-pipe pontil scar made by holding the bottle with a blow-pipe while its
Figure 19. Apothecary's vials, 18th or early 19th century. The neck and base fragments are not all from the same bottles.

neck and lip were formed. The long neck on the right is probably not from a cylindrical bottle but from a globular flask that was used in larger sizes for wine and other beverages, and in smaller sizes for medicines and essences. The style of its collar dates this bottle to after about 1820.
WINE AND SPIRITS BOTTLES

Perhaps the oldest use for glass bottles has been the storage and transport of alcohol. Some of the oldest bottles from the Middleton Place privy are wine and spirits bottles. Bottles made in the same dark green glass as the three pictured below left were used by the earliest colonists for various wines and spirits, and, although the bottle shapes have varied over the centuries, the tradition continues in the green wine bottles of the present day.

With the improvement of glassmaking techniques in the nineteenth century, alcohol bottles became more diverse and specialized. Although a simple cylindrical bottle (Fig. 20B) remained a standard for various types of spirits, flasks, like those later used by the South Carolina Dispensary (Fig. 22B and C), became more and more common for whiskey. Beer bottles developed a distinctive shape (Fig. 21), and different shapes evolved for different types of wines. Figure
Figure 20. Wine and spirits bottles. A. Turn-molded, probably c. 1870s. B. Three-piece mold, c. 1850-1880. C. Three-piece mold, sand pontil, c. 1820-1880. D. Rhine wine sample bottle, c. 1870s-1920s.

20A is a Bordeaux wine bottle, used since the early nineteenth century for the sauternes and clarets of the French Bordeaux district. The amber miniature shown in Figure 20D is a two-ounce sample bottle of the shape normally used for German Rhine wines. By the beginning of the twentieth century, most types of alcohol bottles could be purchased in miniature sizes for use in advertising and promotion.

BEER BOTTLES

The three late nineteenth century bottles shown below represent one of the oldest pastimes in America.
Until the late nineteenth century, however, most American beers were locally produced ales, stouts, and porters that were not bottled but sold in kegs to taverns. Modern lager beer was first introduced by German immigrants in the 1840s, but it was not until the 1870s that the expanding railway system, together with the food preservation techniques developed by Louis Pasteur in 1870, made it feasible to brew and bottle lager beer for a nationwide market.

Lager beer was less alcoholic but more effervescent than earlier beers. Increased bottling of lager beer...

Figure 21. Beer bottles. A. Pint champagne beer, Lightning stopper, c. 1892-1895. Embossed in plate mold THE PALMETTO BREWING CO. CHARLESTON S. C.; on back THIS BOTTLE NOT TO BE SOLD. B and C. Export beer bottles, a type used after the 1870s. The tooled crown finish dates bottle B between about 1892 and 1925.
and carbonated soft drinks spurred the search for new bottle seals capable of withstanding more pressure than the traditional cork, which was subject to leakage and had to be tied down to prevent its popping out altogether. Two of the most successful of the dozens of stoppers patented in the decades following 1870 were Henry Putnam's levered 1882 Lightning stopper (Fig. 21A), and William Painter's 1892 crown cap (Fig. 21B), the closure still used on most beer bottles.

With these and other developments, production of bottled "export" lager increased rapidly through the 1880s and 1890s. Keeping pace with the growth of the beer industry, however, was the group that was to prove its undoing: the American temperance movement. The temperance movement became an organized lobbying force with the 1893 founding of the Anti-Saloon League, and thereafter exerted increasing pressure on Congress and the state legislatures. "Dry" agitation in South Carolina led to the implementation from 1893 to 1907 of a statewide dispensary system to control distribution of beer, wine, and spirits; by 1916, South Carolina and 22 other states had prohibited all sale of non-medicinal alcohol. National wartime legislation banned the manufacture of distilled spirits in 1917 and beer and wine in 1918. The Volstead Act of 1919 extended this ban until the eighteenth amendment forbidding the production or sale of any beverage with more than .5% alcohol could take effect in January 1920.

Prohibition completely changed the face of the American brewing industry and almost completely destroyed the tradition of the small local brewer. Many brewers tried to survive by selling soft drinks and "near beer," a lager with less than .5% alcohol. "Near beer," however, could not stand up to the competition of home brewers and bootleggers, and most breweries either turned to the manufacture of other products or closed down altogether. Two months after the sale of wine and beer was again permitted in April, 1933, only 31 breweries had reopened. In 1940,
seven years after the lifting of all national restrictions on alcohol, beer production finally reached its pre-Prohibition level, but the number of breweries in operation was less than half the number in 1910.

SOUTHERN CAROLINA DISPENSARY BOTTLES

The South Carolina Dispensary system, in operation from 1893 to 1907, was a nearly unique and completely unsuccessful attempt to control alcohol abuse by placing a state's entire retail liquor trade into the hands of its government. Touted by its sponsor, Governor "Pitchfork Ben" Tillman, as a means of encouraging temperance, guaranteeing purity of product, and returning alcohol revenues to the citizens, the dispensary was born as an eleventh hour compromise between pro- and anti-Prohibition forces in the state legislature. The measure as enacted satisfied neither side, and the dispensary remained a volatile issue in state politics until its repeal 14 years later.

The system functioned by buying up wholesale spirits from local and out-of-state manufacturers, repackaging or relabeling them at a Columbia distribution center, and retailing them to the public through locally operated dispensaries. Beer, which was never bottled by the dispensary, was sold privately under special license, and alcohol of any sort could be brought into the state for individual consumption. In the beginning, all liquors were sold in special dispensary bottles, but by the turn of the century, the dispensary was handling hundreds of products, many of them pre-packaged national brands.

Litigation and often violent public resistance (an 1894 "whiskey rebellion" left three dead) plagued the system in its early years. By 1905 the internal corruption had become so pervasive that a legislative investigating committee recommended closing the system as unmanagable. Despite the now-handsome profit that it was returning to the state treasury, the South
Carolina dispensary was abolished by the Carey-Cothran Act of the state legislature in 1907.

South Carolina Dispensary bottles came in three basic shapes: Union flasks, Jo-Jo flasks, and cylindrical bottles and jugs. Bottles made before 1899 were embossed with palmetto trees (Fig. 22A and C), and those made after 1899, when public disapproval forced the removal of the state symbol from liquor bottles, were embossed with an intertwined SCD monogram. Bottles were manufactured for the dispensary by over 20 different glass factories, but after 1902 all but one brief contract went to the Carolina Glass Company of Columbia.

Figure 22. South Carolina Dispensary bottles. A. Cylindrical palmetto bottle, 1893-1899. B. Monogrammed Jo-Jo flask with embossed CFLG Co basemark, 1899-1902. C. Palmetto Jo-Jo flask, 1893-1899.
 FOOD CONTAINERS

Although olive oil, pickles, and other foods that do not require sterilization have been packed in glass and ceramic containers for centuries, the preserving of hot foods in airtight glass or metal containers is a comparatively recent development. Housewives in the eighteenth century knew how to preserve fruits by boiling them in glass jars that were subsequently corked and sealed with wax, glue, or pitch, but the idea of canning as we know it was popularized by Nicholas Appert, a French confectioner who in 1809 won a prize from Napoleon for his method of keeping food fresh for soldiers in the field. Appert succeeded in preserving over 50 kinds of food, including meats and vegetables, and published an essay detailing his method of boiling food in a wide-mouthed jar and sealing it with a firmly driven cork. The process was quickly copied in England and America, where seafood, fruit, and pickles were first packed for wholesale in New York and Boston about 1820.

A major problem with Appert's method of preserving in glass was the irregular finish of hand-made bottles, which often prevented the cork stopper from forming an absolutely airtight seal. For commercial packers, an early and lasting solution was the tin-plated canister, patented in England in 1810 and in the United States in 1825. An inexpensive and effective closure for glass containers had to await John Mason's 1858 patent of the threaded jar seal, which consisted of a molded screw thread that allowed the cap to seal on the shoulder rather than the uneven lip of the jar. Home canners still use a similar screw-top jar today.

Many Americans, both civilian and military, had their first taste of commercially canned foods during the Civil War. Increasing varieties of meats and vegetables were packed in tin cans in the late nineteenth century, but glass bottles remained—and still remain—chiefly the package of condiments, sauces, and
other foods that require a reclosable cap.

These limited uses can nonetheless result in a large number of empty containers. Food bottles are usually one of the most numerous items found in a household trash heap. At Middleton Place, only four of a total of seventy-seven bottles were food containers, and all had originally held the preserves, flavorings, and oils that are usually packaged in glass. Figure 23A shows a "One-pound American preserve," a jar sold at the turn of the century by at least one glass company, and Figure 23B is a typical late nineteenth/early twentieth century olive oil bottle. Figure 24 shows both the excavated example and a 1920 catalogue illustration of a white pressed glass container for Armour's Beef Extract, a by-product of the packing business produced by Armour & Co. beginning in 1885.

Figure 23. Preserve jar and olive oil bottle, c. 1860s-1920s.
Figure 24. Armour Beef Extract jar, c. 1900-1920s. Armour & Co. began producing beef extract in 1885, but this glass container was not used until around the turn of the century.

BOTTLES MADE AFTER 1900

This final group of bottles and jars have nothing in common except their date. The two clear glass bottles at left are standard desktop ink bottles made after the 1904 introduction of the Owens bottle machine and before screw top inks replaced the corked variety around 1930 (Fig. 25). The conical ink in the center was one of the earliest shapes for desk-top ink bottles, introduced when ink was first bottled in small individual containers in the 1840s. The contents of the ointment jar at right, made after 1916, are unknown. Patent records indicate that the May 15, 1916, date was neither a trademark registration nor a patent issue. It may be a false patent date, put on the bottle to lend the contents an air of legitimacy.
Although other artifacts, such as the Austrian porcelain in Figure 11 and the beef extract jar in Figure 24, may have been manufactured in the twentieth century, these three containers were the only items in the privy pit that were definitely made after Susan Middleton's 1900 abandonment of the plantation. As such, they were the only evidence archeologists had that these nineteenth century objects were probably deposited in the twentieth century. All three are items likely to have been in use at the time of the Smith family's 1925 move to Middleton Place, and they were probably discarded at that time.

In 1859, drillers in Pennsylvania brought in the nation's first producing oil well, an event that was to alter radically the lives of generations of Americans. The first revolution achieved by this versatile new fuel was not in mechanical power, but in lighting. A working oil field made possible the manufacture of kerosene, a promising coal and petroleum-based illuminant that had been patented in New York in 1854 but had not been put into production because of the scarcity of one of its principal ingredients. Kerosene burned more brightly, steadily, and efficiently than almost any known fuel except gas, which suffered from the twin disadvantages of requiring immovable fixtures
in the wall or ceiling, and of being generally unavailable outside large urban areas. The abundance of petroleum from the Pennsylvania fields made kerosene one of the cheapest fuels available, and by the mid-1860s, its use had far outstripped that of gas lighting. In many rural areas, it remained the only practical form of household lighting until electrification of these areas in the 1930s.

Early kerosene lamps often resembled the oil lamps of the first half of the century, and many were converted to kerosene. Among the new designs that became popular in the 1870s was the adjustable student or reading lamp (Figs. 26 and 27), an 1863 Prussian invention used through the early twentieth century. In the 1880s decorated lamp chimneys came into fashion. One of the earliest, simplest, and most enduring of these styles was the familiar "pearl top" chimney rim, patented by the George A. Macbeth Company in 1883 (Fig. 28). Similar crimped rims were produced by the Thomas Evans Company, which in 1899 merged with Macbeth to become, by virtue of a
Figure 27. Kerosene student and piano lamp, reproduced from 1895 and 1907 department store catalogues.

Figure 28. "Pearl top" and crimped lamp chimneys. The true pearl top rim on the far left was patented by the George A. Macbeth Co. in 1883. The variations shown on the right became popular about the same time.
semiautomatic lamp chimney machine, the nation's largest glass chimney manufacturer. Demand for glass lamp chimneys was curtailed by the spread of electric power in the early twentieth century, and, although it continued in production, the lamp chimney industry did not fully mechanize until after the 1920s.

LABORATORY GLASS

Figure 29 is a laboratory beaker of a type manufactured in the nineteenth and early twentieth centuries, probably a relic of Williams and Susan Middleton's inventor son Henry. It is free-blown in lead glass, one of many glass compositions used for American laboratory equipment before Corning Glass Works introduced low-expansion Pyrex glass in 1915.

Figure 29. Free-blown laboratory beaker, probably late 19th or early 20th century.
Henry lived at Middleton Place with his parents until the 1870s, when he went to study at Cambridge University under the Scottish physicist James Clerk Maxwell. Henry lived in England until his death in 1932.
The artifacts from the Middleton Place privy present a unique opportunity to observe one aspect of this plantation's past. This collection of ceramics, bottles, and other items constitute the refuse discarded by the occupants of Middleton Place following the Civil War. It reflects their needs and tastes and represents an unconscious record of activities a century ago. Artifacts in the collection include items from an earlier time as well as things purchased throughout the last half of the nineteenth century.

These materials also reveal much about the privy's history. When compared with collections discarded around contemporary buildings, the artifacts from Middleton Place are similar to those often associated with abandoned buildings. The artifacts in the Middleton Place privy, then, are likely to have been deposited there, not as the result of day-to-day living, but as a consequence of cleaning out the rubbish of the house's earlier occupants. We may identify the privy artifacts as a collection of items accumulated during a time of refurbishing as in the 1920s when J.
J. Pringle Smith moved into the family residence and began restoring it.

Although interesting and informative as individual objects, the privy artifacts are much more informative as an "assemblage" resulting from past activities. The archeologist must study assemblages, like pieces of a puzzle, to reconstruct, interpret, and explain past events that produced them. It is important to record carefully all the artifacts found together as well as their relationships to one another and to the deposit from which they were removed. Artifacts taken from the ground without proper recording are removed from their archeological context, and the information they hold is forever lost. Aimless "treasure" digging has destroyed much of our historical heritage. The Middleton Place privy collection illustrates how proper care, recording, and analysis can reveal new information. With foresight and planning, archeology can increase knowledge of the past for ourselves and for future generations.

Figure 30. Many hours are spent in the laboratory conserving and studying the artifacts.
APPENDIX I

CERAMIC MANUFACTURERS' MARKS

A. ROYAL SEMI-PORCELAIN
   A J. WILKINSON
   ENGLAND

B. PORCELAINE DE TERRE
   JOHN EDWARDS
   ENGLAND

C. TRADE MARK
   JOHN MADDOCK & SONS
   STAFFORDSHIRE POTTERIES
   ENGLAND

D. TRADE MARK
   S. J. W.

E. D & C°

F. H & C°

G. ALICE
   AUSTRIA

H. TYROL
   J & G ALCOCK

I. WEDGWOOD

J. M
Ceramic Manufacturers' Marks


E. Limoges, France. White porcelain saucer, c. 1875.

F. Haviland & Co., Limoges, France. White porcelain plate, c. 1876-1891.

G. Unidentified mark, decal-printed porcelain plate.

H. John and George Alcock, Cobridge, Staffordshire. Light blue, transfer-printed bowl, 1839-1846.

I. Josiah Wedgwood, Burslem, Staffordshire. Impressed on creamware sauce tureen, 1769 to present.

J. Unidentified impressed mark, white porcelain platter.
APPENDIX II

SIGNIFICANT DATES IN THE AMERICAN GLASS INDUSTRY

First three-piece hinged mold c. 1808

Two-piece hinged mold first used in America by 1809

First widespread use of slanting collar finish c. 1820

Ricketts patent for three-piece mold with lettered base 1821

First side-lever glass press late 1820s

"Lacy" pressed glass 1820s–1840s

Popularity of smooth-patterned pressed glass tableware sets c. 1840s–1880s

Development of jawed lipping tool for bottles pre-1840

Amasa Stone receives first U.S. patent for lipping tool 1856

Introduction into U.S. of non-pontil holding devices for bottles late 1840s–1850s

Formula for kerosene patented by Abraham Gesner 1854
Development of two-piece mold with separate post base pre-1858

Mason jar patent 1858

Blow-back mold in general use c. 1858–1900

First oil well in Pennsylvania leads to widespread use of kerosene fueled lamps 1859

Introduction of French Square pharmacy bottles early 1860s

Student lamp patented in Prussia 1863

Leighton formula for improved lime glass 1864

Development of plate mold for embossed bottles pre-1867

Widespread embossing of bottles 1860s–1920s

Empontilling of bottles almost entirely replaced by use of holding devices 1870s

Greatest popularity of turn-molded bottles 1870s–1920s

Student lamp introduced in U.S. 1870s

Louis Pasteur developed sterilization techniques for beer 1870

Anheuser-Busch begins first commercial bottling of American beer early 1870s
Heavily embossed and colored poison bottles 1872–1930s

Improved finishing processes result in smoother and more uniformly applied bottle finishes by 1880

Argobast patent for semiautomatic press-and-blow machine for wide-mouthed jars 1881

H. W. Putnam acquires patent rights for lightning stopper 1882

Borosilicate glass developed in Germany 1883

Macbeth–Evans Co. patents "pearl top" lamp chimney 1883

William Painter patents crown cap 1892

Enterprise Glass Co. puts Argobast semiautomatic machine into commercial production 1893

South Carolina dispensary system 1893–1907

Michael Owens patents semiautomatic turn-molding machine for light bulbs, tumblers, and lamp chimneys 1894

First lamp chimney and tumbler production on Owens turn-mold machine 1898

Most wide-mouthed jars produced on semiautomatic machines by 1901
Owens automatic bottle machine patented
1903

Owens machine put into commercial production: first narrow-necked machine-made bottles
1904

First production of narrow-necked bottles on semiautomatic machines
C. 1907

Corning Glass Works develops Pyrex heat-resistant glass
1915

Use of manganese to decolor glass
1917

State prohibition law goes into effect in South Carolina
1916

National beer and wine production halted under Wartime Food Control Act and Volstead Act
1918–1920

National prohibition of alcohol under eighteenth amendment and Volstead Act
1920–1933

Machine-made bottles comprise 90% of total United States production
1925
Free-blown bottles usually date before the second half of the nineteenth century and are characterized by an absence of mold lines of any sort. Because no molds were used, these bottles are often asymmetrical. Dip-molded bottles, or bottles molded for basic body shape below the shoulder, are also generally pre-Civil War and can only tentatively be distinguished from free-blown bottles by their symmetry below the shoulder and a slight tapering from shoulder to base. Bottles blown in a two-piece mold have mold lines extending up two opposite sides, usually to just below the tooled lip. On early nineteenth century bottles of this sort, the mold lines continue across the center of the base, but after the 1850s, most two-piece molds had a separate base part, either a cup bottom, in which the seam encircled the outer edge of the base, or a post bottom, which left a circular seam on the bottom of the bottle. Most bottles from the Middleton Place privy were blown in two-piece molds with cup bottoms.

The three-piece mold leaves a single horizontal line around the shoulder of the bottle, and vertical lines extending up either side of the shoulder. The height of these lines can vary from partway up the shoulder to nearly to the top of the neck. A turn-molded bottle has been rotated in the mold to erase mold marks and will exhibit faint horizontal scratches and striations on the body and neck.

Embossing, very popular after the Civil War, usually consists of the name of a company or product printed in raised letters on the sides or base of the bottle. Isolated numbers and letters on or just above the base are usually, but not always, mold numbers used by the manufacturer for identification. Embossed letters are sometimes carved into the body of the
mold, but for smaller runs a plate mold, with a removable lettered plate on one or more sides, was used.

Mold lines on bottles finished with a specialized lipping tool are usually obliterated by faint horizontal striations extending to about a quarter inch below the lip. The two-piece blow-back mold, however, leaves mold seams to the very edge of the lip, and a lip surface that has been ground smooth rather than shaped with a lipping tool.

A pontil mark is a circular scar left on the base by the iron rod used to hold the bottle for finishing the neck and lip. Although there are many different methods of empontilling, only two types of marks were found on bottles from the Middleton Place privy. One is a "sand pontil mark," a roughened grainy area covering most of the base, apparently the result of dipping the glasscoated pontil iron in sand before attaching it. The other is a "blow-pipe pontil mark," which results from empontilling a bottle with the same pipe that was used to blow it. A blow-pipe mark is a distinct ring of glass the same size as the bottle neck.

Pressed glass is formed with a plunger in a mold on one or more pieces. Pressed glass items are comparatively thick-walled, have smooth molded lips, usually with mold seams, and often are distinguished by a short, straight shear mark, like an isolated mold line, on the inside base. This mark is from the severing of the "gob" of glass before it is dropped into the mold. Bottles that are made on either automatic or semi-automatic machines will have mold lines encircling the top of the lip, as well as on the sides and base.
APPENDIX IV

ARTIFACT CATALOGUE FROM THE
MIDDLETOWN PLACE PRIVY EXCAVATION

<table>
<thead>
<tr>
<th>Artifacts</th>
<th>No. of Fragments</th>
<th>Minimum No. of Whole Items</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ceramics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Porcelain</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Undecorated Haviland &amp; Co. plate</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>Undecorated saucer, D &amp; Co., Limoges</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Undecorated saucer</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Undecorated plates</td>
<td>17</td>
<td>2</td>
</tr>
<tr>
<td>Undecorated platter</td>
<td>13</td>
<td>2</td>
</tr>
<tr>
<td>Gold-banded cup</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>&quot;Cornflower&quot; pattern tea or bread plate</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Decal-printed tea plate or saucer, hallmark Alice / Austria</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Artifacts</td>
<td>No. of Fragments</td>
<td>Minimum No. of Whole Items</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>------------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>Chinese export porcelain serving dishes</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Creamware</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Banded Wedgwood sauce tureen</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Undecorated baker</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Whiteware</td>
<td></td>
<td></td>
</tr>
<tr>
<td>J &amp; G Alcock &quot;Tryol&quot; pattern transfer-printed bowl</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Blue transfer-printed mug, rural English scene</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Fragment of blue transfer-printed cup or bowl, bucolic scene</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Undecorated ironstone or graniteware nappy</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Undecorated ironstone or graniteware plates</td>
<td>23</td>
<td>4</td>
</tr>
<tr>
<td>Undecorated ironstone or graniteware cup</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Molded white ironstone chamber pot</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>English majolica pitcher handle</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>
Artifacts

Glass Tableware

<table>
<thead>
<tr>
<th>Artifacts</th>
<th>No. of Fragments</th>
<th>Minimum No. of Whole Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Four Band&quot; style pressed glass tumbler</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Fluted pressed glass tumbler</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>&quot;Thumbprint&quot; style pressed glass tumbler</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Engraved tumbler, floral design</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Wheel-cut champagne flute glass</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>&quot;Almond Thumbprint&quot; pressed wine glass</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>&quot;Mascotte&quot; pattern pressed wine glass</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Pressed glass lid</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Cut glass pitcher</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>Fluted cut glass decanters</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>Free-blown bowls</td>
<td>75</td>
<td>2</td>
</tr>
</tbody>
</table>
### Artifacts

#### Bottles and Jars

#### Food Containers

- Armour & Co. beef extract jar, white milk glass
  - No. of Fragments: 1
  - Minimum No. of Whole Items: 1

- Olive oil bottles, aquamarine glass
  - No. of Fragments: 2
  - Minimum No. of Whole Items: 2

- American preserve jar, clear glass
  - No. of Fragments: 4
  - Minimum No. of Whole Items: 1

#### Alcohol Bottles

- Palmetto Brewing Co.
  - champagne beer bottle, aquamarine glass
    - No. of Fragments: 1
    - Minimum No. of Whole Items: 1

- Export beer bottles, amber glass
  - No. of Fragments: 2
  - Minimum No. of Whole Items: 2

- South Carolina Dispensary Jo-Jo flask, clear glass
  - No. of Fragments: 4
  - Minimum No. of Whole Items: 1

- South Carolina Dispensary Jo-Jo flask, aquamarine glass
  - No. of Fragments: 3
  - Minimum No. of Whole Items: 1

- South Carolina Dispensary cylindrical whiskey bottle, clear glass
  - No. of Fragments: 2
  - Minimum No. of Whole Items: 1

- Unembossed Union flasks, amber glass
  - No. of Fragments: 15
  - Minimum No. of Whole Items: 2
<table>
<thead>
<tr>
<th>Artifacts</th>
<th>No. of Fragments</th>
<th>Minimum No. of Whole Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unembossed Union flask, aquamarine glass</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Rhine Wine sample bottle, amber glass</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Dark Green wine or spirits bottles</td>
<td>21</td>
<td>4</td>
</tr>
<tr>
<td>Medicine Bottles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Panknin Apothecary plate-molded prescription bottles, French square shape, clear glass</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Panknin Apothecary plate-molded prescription bottles, Philadelphia oval shape, clear glass</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Unembossed French square prescription bottles, clear glass</td>
<td>20</td>
<td>14</td>
</tr>
<tr>
<td>Narrow-mouthed round prescription bottles, clear glass</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Narrow-mouthed round prescription bottles, aquamarine glass</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Narrow-mouthed round prescription bottles, light green glass</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Wide-mouthed round prescription bottles, clear glass</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Artifacts</td>
<td>No. of Fragments</td>
<td>Minimum No. of Whole Items</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>-----------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>Unembossed Baltimore oval prescription bottle, clear glass</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Unembossed Philadelphia oval prescription bottles, clear glass</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Unembossed taper neck oval prescription bottles, clear glass</td>
<td>2</td>
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</tr>
<tr>
<td>Neck fragment from round or oval prescription bottle, clear glass</td>
<td>1</td>
<td>1</td>
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<tr>
<td>Paneled pharmacy bottles, clear glass</td>
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<td>3</td>
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<tr>
<td>Paneled pharmacy bottle aquamarine glass</td>
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<td>1</td>
</tr>
<tr>
<td>Free-blown apothecary vials, aquamarine glass</td>
<td>8</td>
<td>4</td>
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<tr>
<td>Maltine Mfg Co. bottle, double Philadelphia oval shape, amber glass</td>
<td>1</td>
<td>1</td>
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<tr>
<td>Keasbey &amp; Mattison Bromo-Caffiene bottle, round, cobalt blue</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Rumford Chemical Works Horsford Acid Phosphate bottle, octagonal, blue-green glass</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Artifacts</td>
<td>No. of Fragments</td>
<td>Minimum No. of Whole Items</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>------------------</td>
<td>---------------------------</td>
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<tr>
<td>Bullock &amp; Crenshaw decagonal vial, clear lead glass</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Unidentified embossed French square bottle, amber glass</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Whitall Tatum quilted poison bottle, cobalt blue</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Ointment or Cosmetic Jars</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White milk glass patch box with lid</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Aubry Sisters white milk glass screw top ointment pot</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Pharmaceutical Accessories</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corks</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Clear glass Lubin stopper</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Clear glass medicine dropper</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Ink, Glue, and Polish Bottles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clear glass conical ink bottles, machine-made, Carter's Ink Co.</td>
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<td>1</td>
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<tr>
<td>Clear glass cylinder ink bottle, machine-made</td>
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<tr>
<td>Artifacts</td>
<td>No. of Fragments</td>
<td>Minimum No. of Whole Items</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>------------------</td>
<td>----------------------------</td>
</tr>
<tr>
<td>Amber glass concical ink bottle, blow-molded</td>
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</tr>
<tr>
<td>Bell mucilage bottle, aquamarine glass</td>
<td>2</td>
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</tr>
<tr>
<td>British brown stoneware blacking or master ink bottle</td>
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<td>1</td>
</tr>
<tr>
<td>Tappan’s Relucent gold and silver polish bottle</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Ink bottle cork</td>
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<td>1</td>
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<tr>
<td><strong>Lamp Glass</strong></td>
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<tr>
<td>Student lamp chimney</td>
<td>2</td>
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</tr>
<tr>
<td>&quot;Pearl top&quot; and crimped lamp chimney</td>
<td>19</td>
<td>4</td>
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<tr>
<td><strong>Laboratory Glass</strong></td>
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<tr>
<td>Pontil-marked beaker</td>
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<tr>
<td><strong>Metal</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pewter Spoon</td>
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<td>1</td>
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<tr>
<td>Brass curtain rings</td>
<td>7</td>
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<td>Pill box with lid</td>
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<td>1</td>
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<tr>
<td>Square-cut spike</td>
<td>1</td>
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<tr>
<td>Machine-cut nails</td>
<td>4</td>
<td>4</td>
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<tr>
<td>Artifacts</td>
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</tr>
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<td>------------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>Hand-wrought nails</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Hazel hoe</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Coins</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liberty head quarters</td>
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<td>5</td>
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<tr>
<td>Liberty head nickel</td>
<td>1</td>
<td>1</td>
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<tr>
<td><strong>Personal Items</strong></td>
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<td></td>
</tr>
<tr>
<td>French toothbrushes</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Lady's leather shoe heel</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>White clay pipestem</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isinglass stove windows</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Delft tile fragment</td>
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<tr>
<td>Terracotta drainpipe fragment</td>
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<tr>
<td>Window glass</td>
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<tr>
<td>Slate tile fragment</td>
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<td>1</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td>473</td>
<td>164</td>
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</tbody>
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The information contained in this booklet is a partial synopsis of archeological reports published by the Institute of Archeology and Anthropology, University of South Carolina, as Numbers 148 and 174 of the Research Manuscript Series. For a detailed treatment of the history and archeology of Middleton Place, and a complete listing of bibliographic sources, the reader is referred to Middleton Place: initial archeological investigations at an Ashley River rice plantation by Kenneth E. Lewis and Donald L. Hardesty (1979), and The Middleton Place privy: disposal behavior and the archeological record by Kenneth E. Lewis and Helen W. Haskell (1981). General reference works on historical archeology and artifacts are listed below.

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