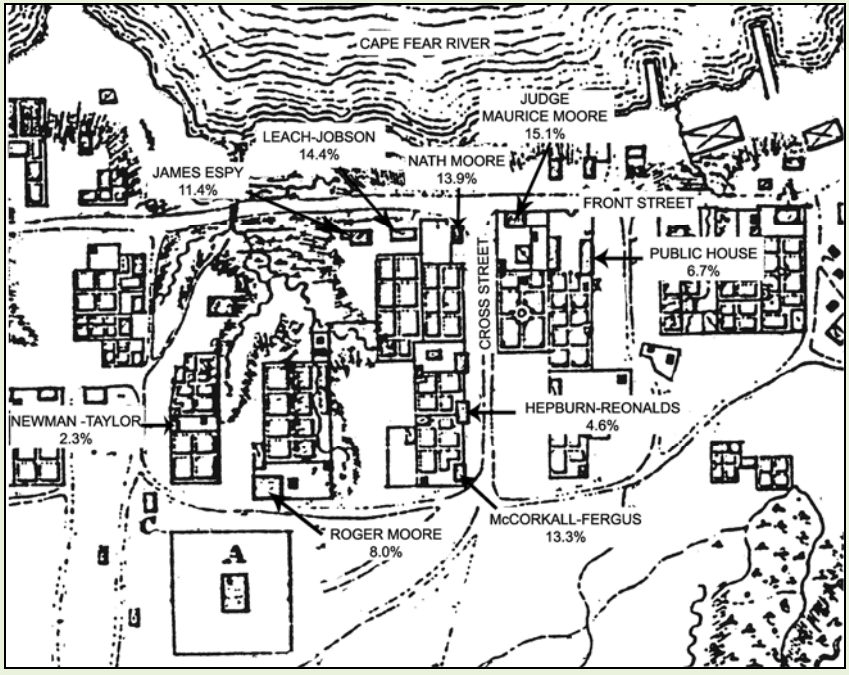
North Carolina Archaeology



Volume 54 2005

North Carolina Archaeology

(formerly *Southern Indian Studies*)

Published jointly
by
The North Carolina Archaeological Society, Inc.
109 East Jones Street
Raleigh, NC 27601-2807
and
The Research Laboratories of Archaeology
University of North Carolina
Chapel Hill, NC 27599-3120

R. P. Stephen Davis, Jr., Editor

Information for Subscribers

North Carolina Archaeology is published once a year in October. Subscription is by membership in the North Carolina Archaeological Society, Inc. Annual dues are $15.00 for regular members, $25.00 for sustaining members, $10.00 for students, $20.00 for families, $250.00 for life members, $250.00 for corporate members, and $25.00 for institutional subscribers. Members also receive two issues of the *North Carolina Archaeological Society Newsletter*. Membership requests, dues, subscriptions, changes of address, and back issue orders should be directed to: Dee Nelms, Office of State Archaeology, N.C. Division of Archives and History, 4619 Mail Service Center, Raleigh, NC 27699-4619.

Information for Authors

North Carolina Archaeology publishes articles on the archaeology of North Carolina and neighboring states. One copy of each manuscript, with accompanying tables, figures, and bibliography, should be submitted to the Editor. Manuscripts should be double spaced with ample margins throughout. Style should conform to guidelines published in *American Antiquity*, vol. 57, no. 4 (October, 1992) (see also http://www.saa.org/Publications/Styleguide/styframe.html). The Editor can assist those wishing to submit a manuscript but who are unfamiliar with *American Antiquity* style.

North Carolina Archaeology

Volume 54 October 2005

CONTENTS

SPATIAL AND TEMPORAL PATTERNING IN THE DISTRIBUTION OF NORTH CAROLINA PROJECTILE POINTS

by

Theresa E. McReynolds

Abstract

This study investigates the spatial and temporal distribution of 35,079 Archaic and Woodland period projectile points recovered from surface contexts in North Carolina. Preliminary analyses suggest that these projectile point data can reveal important insights into Archaic and Woodland settlement adaptations for much of the state. Patterning in the distribution of projectile points by cultural period and physiographic region indicates that the Piedmont was more heavily exploited than the Mountains or Coastal Plain throughout prehistory. The mapped distribution of projectile points also exposes apparent fluctuations in population levels, preferences for specific raw material types, and patterns in regional and interregional interaction. However, several analyses indicate that projectile point data may be an inappropriate basis for predicting prehistoric occupation in the North Carolina Coastal Plain.

Archaeologists have long relied upon distinctive projectile points as chronological and cultural markers. More recent theoretical and methodological developments in lithic analysis have expanded the ways in which archaeologists bring projectile points to bear on human behavior. Most contemporary archaeologists working with Southeastern lithic assemblages regard the spatial distribution of projectile points and other stone tools as material manifestations of the organized use of ancient landscapes (Daniel 1998:144). As a result, they conduct projectile point distribution analyses as a means of revealing the nature of prehistoric land use and adaptations.

Not surprisingly, the majority of innovative projectile point analyses have been conducted in the context of Paleoindian (11,500–10,000 BP) and Early Archaic (10,000–8,000 BP) research, for which surface-collected stone tools are the most common form of archaeological evidence. On the basis of regional, state, and local distribution studies of Paleoindian and Early Archaic projectile points, archaeologists have proposed various models for the initial colonization of the Southeast,

subsequent adaptations to the landscape, changes in mobility patterns and population distribution, the emergence of regional and subregional cultural traditions, and patterns of interregional interaction (e.g., Anderson 1990, 1991, 1995; Anderson and Faught 1998, 2000; Anderson et al. 1997; Anderson and Hanson 1988; Blanton and Sassaman 1989; Daniel 1997, 1998, 2000, 2001; Dunbar 1991; Dunbar and Waller 1983; Gillam 1996; Goodyear et al. 1989; Lepper and Meltzer 1991; McGahey 1987).

In contrast, comparatively few regional projectile point distribution studies have been conducted for later cultural periods. This is understandable in that alternative types of archaeological evidence become increasingly common beginning with the Middle Archaic. Moreover, the sheer magnitude of projectile points from the Middle and Late Archaic periods makes intensive analysis at the regional level a daunting task requiring collaborative efforts.

Nevertheless, surface collections of diagnostic Middle and Late Archaic and Woodland projectile points are potentially valuable sources of evidence for human landscape use and should be subjected to distribution analyses. This paper summarizes the results of an exploratory distribution analysis of a large sample of Archaic and Woodland projectile points from North Carolina. I identify patterns in the spatial and temporal distribution of projectile points with respect to physiographic provinces and raw material types.

Projectile Point Distribution Studies in North Carolina

I. Randolph Daniel, Jr. (1997, 1998, 2000, 2001) has examined the distribution of Paleoindian and Early Archaic lithic artifacts from North Carolina. Daniel's surveys provide models for the design of the present study, and his conclusions regarding Paleoindian and Early Archaic settlement adaptation form part of the contextual background within which all later Archaic and Woodland distribution evidence must be viewed.

Paleoindians in North Carolina

Daniel's Paleoindian survey (1997, 2000, 2001) investigated the statewide distribution of 212 fluted and lanceolate bifaces from private and institutional collections. Daniel grouped these data by county and searched for patterns with respect to physiographic region (i.e., Mountains, Piedmont, and Coastal Plain), raw material, and projectile

point type. Although Paleoindian projectile points occur in all three physiographic provinces of North Carolina, Daniel concludes that there are significant differences in the frequencies with which they occur. He notes that projectile point frequency in the Coastal Plain is lower than would be expected solely on the basis of the region's size, while frequencies in the Mountains and Piedmont are higher than expected (Daniel 2001:2). In particular, projectile points appear to be most heavily concentrated in the eastern Piedmont and along the Fall Line (Daniel 1997:3, 2000:14). On the other hand, they are noticeably absent in the central and southern Coastal Plain as well as in the area separating the Piedmont from the Mountains (Daniel 2001:3).

With respect to raw material exploitation, Daniel (2001:4) observes that metavolcanic stone from the eastern Piedmont is the dominant raw material type in the sample. Yet while metavolcanic projectile points are more prevalent than expected in the Piedmont, nonlocal chert dominates the assemblage from the Mountains. Daniel (2001:5) interprets this pattern as evidence for two separate Paleoindian settlement systems: one encompassing the Piedmont and Coastal Plain and another including the Mountains. He proposes a scenario in which

> …Paleoindian settlement in the state was oriented in the Piedmont, with some movement into the Coastal Plain along the major waterways between the two regions. Occupation of the mountains, on the other hand, appears unrelated to the Piedmont and Coastal Plain. Instead, Paleoindian settlement there was more related to Tennessee or other mid-South states. The apparent absence, for instance, of Tennessee cherts in the Piedmont and Piedmont rhyolite in the Mountains, bespeaks an absence of movement or contact between the regions. [Daniel 1997:10]

Finally, Daniel's analysis of the distribution of Paleoindian projectile points by type reveals that Clovis and Clovis-variant forms occur across the state. In contrast, later Paleoindian types such as Redstone and Cumberland appear to be restricted to specific physiographic regions, a pattern which "probably reflects an increased regionalization in settlement that occurred across the Southeast during this time" (Daniel 1997:9).

Early Archaic Settlement Adaptation in the Piedmont

Archaeological evidence reveals that small groups of mobile hunter-gatherers continued to occupy all three physiographic regions of North Carolina during the Early Archaic, but archaeologists know considerably more about the inhabitants of the Piedmont than they do about groups

living elsewhere. Relatively predictable cool-temperate conditions and an abundance of food sources appear to have encouraged population growth in this region, evidenced by substantially more sites compared to the preceding Paleoindian period (Ward and Davis 1999:53). The specific nature of Early Archaic settlement remains a topic of heated debate, however: two recent studies have produced conflicting models of Early Archaic settlement adaptation along the southeastern Atlantic Slope.

David Anderson and Glen Hanson (1988) have proposed the "band-macroband model" of Early Archaic settlement adaptation. Based on analyses of stone tools from the Savannah River Basin of eastern Georgia and western South Carolina, this model posits that Early Archaic groups aggregated and disbanded seasonally in response to four biocultural factors: (a) variation in food resources; (b) structure and regulation of a mating network; (c) information exchange through social and economic interaction and intra- and intergroup mobility; and (d) population density (Anderson 1996; Anderson and Hanson 1988). Anderson and Hanson argue that bands and microbands would have traveled primarily within a single drainage basin, making only occasional inter-drainage trips to exchange mates and information during "macroband" events.

Daniel (1998) has offered an alternative model of Early Archaic settlement that directly challenges the band-macroband model. Based on his survey of rhyolite artifacts and raw materials from the Carolina Piedmont, Daniel's "Uwharrie-Allendale model" argues that Early Archaic groups regularly moved within and between drainages in response to their needs for high-quality raw materials for stone tool manufacturing (Daniel 1998:186). Specifically, Daniel maintains that there were two major settlement ranges along the South Atlantic Slope during the Early Archaic, each of which was centered on a source of high-quality stone. According to his theory,

> sources of knappable stone (i.e., Uwharrie rhyolite and Allendale chert) rather than watersheds formed the geographical focus of Early Archaic adaptation; in fact, band ranges cross-cut several drainages. At some point during the early Holocene, hunter-gatherer groups coalesced around the Uwharrie and Allendale sources forming at least two regions. While band mobility was restricted by and included scheduled visits to primary quarry sources, movement was otherwise quite variable across the Piedmont and Coastal Plain. [Daniel 1998:194]

At present, debate over the validity of the band-macroband and Uwharrie-Allendale models continues. Both models generate testable

hypotheses, and the search persists for new evidence that could lend support to one model or the other. A better understanding of regional variation in the distribution of Early Archaic projectile points could ultimately play a role in the resolution of the debate.

The Middle and Late Archaic Periods

Regardless of the precise nature of Early Archaic settlement adaptation in the Southeast, the ensuing Middle Archaic (8,000–5,000 BP) appears to have been characterized by comparatively reduced settlement ranges. Evidence from throughout the region indicates greater use of local raw materials during this period, while work in specific areas such as the Tennessee River Valley suggests regionalization in tool styles and seasonal reoccupation of sites from year to year (Sassaman 1995).

Significantly, Middle Archaic populations in the North Carolina Mountains and Piedmont may have been considerably more mobile than their counterparts in other areas of the Southeast. According to Kenneth Sassaman (1995; Blanton and Sassaman 1989), North Carolina populations used portable tools exhibiting little stylistic variation. These tools were fashioned from local raw materials and are thus consistent with the overall pattern of reduced settlement range, but "the lack of obvious stylistic bounding within the Piedmont and Ridge and Valley provinces suggests a system of open interaction and residential flux" (Sassaman 1995:181). This sort of system may reflect a foraging adaptation necessitated by unpredictable environmental conditions accompanying the Altithermal (8,000–4,000 BP) (Ward and Davis 1999:63; Blanton and Sassaman 1989).

A decrease in Coastal Plain site densities throughout the Southeast may indicate Middle Archaic populations passed up Coastal Plain areas in favor of Piedmont locales, which concomitantly experienced "a virtual explosion" in site densities (Sassaman 1995:182). Again, however, the situation in North Carolina may be an exception to this general trend. Although the North Carolina Piedmont does contain more Middle Archaic sites than the Coastal Plain, David Phelps (1983:25) maintains that Archaic site density in the Coastal Plain actually reached its maximum during the Morrow Mountain phase of the Middle Archaic. Coastal Plain site density may have in fact achieved its zenith a little later during the Late Archaic (5,000–3,000 BP; see discussion in Ward and Davis 1999:73–75), but nonetheless the available evidence from North Carolina does not reflect the reduction in Coastal Plain

exploitation that appears to have occurred elsewhere in the Southeast during the Middle Archaic.

The return of moister conditions during the Late Archaic coincided with population growth and increasingly sedentary lifestyles (Ward and Davis 1999:64). Incipient sedentism is indicated in the Piedmont by thick midden deposits, pit hearths, and evidence for gourd cultivation and selective harvesting of other plants (Ward and Davis 1999:66). The appearance of heavy steatite vessels around 6,000 BP and fragile pottery vessels around 4,500–4,000 BP (Phelps 1983) suggests some Coastal Plain sites may also have been occupied on a semi-permanent basis, since neither vessel type would fit easily into a highly mobile lifestyle.

The Early and Middle Woodland Periods

The widespread adoption of pottery during the Early Woodland period (3,000–1,750 BP) does not seem to have effected any abrupt changes in subsistence or settlement adaptations in North Carolina. Early Woodland hunting and gathering practices resembled those of the Late Archaic, and there is no clear evidence to indicate that cultivation was important in any part of North Carolina during this period (Phelps 1983; Purrington 1983; Trinkley 1989; Ward 1983; Ward and Davis 1999).

Settlement data indicate that Early Woodland groups in the Mountains continued to exploit a wide range of habitats and demonstrated no preferences for areas suited to intensive harvesting or cultivation (Purrington 1983). Unfortunately, archaeologists know very little about Early Woodland adaptations in the Coastal Plain (Phelps 1983; Ward and Davis 1999) and only slightly more about this period in the Piedmont. In fact, current understanding of the Early and Middle (1,750–1,150 BP) Woodland phases in the Piedmont is still so limited that the interval between 3,000 and 1,150 BP can effectively be discussed as a single period of gradual change (see Ward and Davis 1999:80–98). Site density data indicate that population may have actually dropped between the Late Archaic and Early and Middle Woodland periods, leading Ward and Davis (1999:83) to suggest “the Piedmont was not a favorite place to live during the Early Woodland period”.

Outside of the Piedmont, settlement adaptations did change between the Early and Middle Woodland periods. Phelps (1983:33) notes a decline in the number of Coastal Plain sites near interior tributary streams and a concurrent rise in the number of sites near major streams and the coast. Purrington (1983) sees evidence for increased utilization

of floodplain environs in both the Great Smoky Mountains and in the upper Watauga Valley. With respect to the latter area, he suggests that this "use of the main valley bottoms may be a reflection of increased or even initial dependence on horticulture and/or intensive harvesting" (Purrington 1983:136).

Groups in the Mountains also increasingly came in contact with foreign influences during the Middle Woodland period. Exotic ceramic styles and an increase in the number of stone tools made from nonlocal cherts suggest that Connestee peoples exchanged materials and ideas with groups from the Georgia Swift Creek and Ohio Hopewell cultures (Purrington 1983; Ward and Davis 1999). Purrington (1983:139) concludes that the combination of increasing sedentism and interaction with foreign cultures may have resulted in greater cultural complexity in the Mountains than in the other regions of North Carolina during the Middle Woodland.

The Late Prehistoric Period

Certainly cultures in the Mountains had reached a high level of complexity by the middle of the Late Prehistoric period (1,150–350 BP). Floral remains and settlement pattern evidence both suggest that farming played a large role in subsistence during the latter half of the Late Prehistoric. During the Pisgah (950–500 BP) and early Qualla (after 500 B.P) phases of the South Appalachian Mississippian Tradition, settlements appear to have been arranged in a hierarchical fashion, with a handful of mound centers flanked by villages, hamlets, and farmsteads (Purrington 1983:150). The later Qualla phase was characterized by "considerable decentralization both within and among communities" (Purrington 1983:150), but the causes and processes behind this decentralization remain unclear.

The influence of the South Appalachian Mississippian Tradition was also felt in the southern Piedmont, where the Pee Dee mound builders set up a hierarchical society with the Town Creek site as its most visible manifestation. Elsewhere in the region, however, small, sedentary villages were more characteristic. Nevertheless, site densities in northern Piedmont floodplain environments indicate population growth relative to the Early and Middle Woodland periods (Ward and Davis 1999:101). By the end of the Uwharrie phase (1,150–750 BP), cultivation regularly complemented a hunting and gathering lifestyle. At the same time, the prevalence of defensive palisades implies an escalation in intergroup violence. Ward and Davis (1999:100) conclude

that "a marked increase in the diversity of the archaeological record throughout the Piedmont during the latter half of the Late Woodland period…no doubt coincides with ethnic and tribal differences that were beginning to take shape at this time."

Late Prehistoric adaptations in the Coastal Plain were similar to those of the Piedmont, with the gradual adoption of agriculture presumably leading to fully sedentary sites with relatively dense populations. Ward and Davis (1999:227) characterize the Late Prehistoric as a period of general stability along the coast that culminated, as in the Piedmont, with the emergence of distinct ethnic identities.

The Dataset

The dataset used for this study was derived from a database compiled by I. Randolph Daniel, Jr. and R. P. Stephen Davis, Jr. as part of The Projectile Point Classification Project (PPCP) (Daniel and Davis 1996; Davis and Daniel 1990). Daniel and Davis classified diagnostic projectile points recovered from surface contexts throughout North Carolina to ascertain cultural and chronological affiliations for 2,822 prehistoric sites. The projectile points were all collected prior to 1980 and represent most of the institutional and (formerly) private collections that currently reside in the Research Laboratories of Archaeology (RLA) at the University of North Carolina at Chapel Hill. The PPCP database does not, however, include projectile points from major excavations such as Town Creek, Doerschuk, Hardaway, or Wall.

The resulting inventory contains spatial, temporal, and typological attributes for more than 47,000 Paleoindian, Archaic, and Woodland projectile points. For each artifact, the PPCP database records provenience (by site), stylistic type, cultural period, raw material type, and evidence for modification.

I modified the PPCP database to make it amenable to a projectile point distribution analysis. Whereas the original database affiliates Hardaway Side-Notched and Randolph Stemmed points with the Late Paleoindian and Late Prehistoric periods, respectively, Steve Davis (personal communication 2003) recommended that Hardaway Side-Notched points be reassigned to the Early Archaic and Randolph Stemmed points be reassigned to the Middle Woodland. I also eliminated all projectile points that could not be attributed to a general cultural period (i.e., Paleoindian, Archaic, or Woodland). I retained artifacts that could be associated with a general period but not with a

specific subperiod (i.e., Early, Middle, or Late), although these projectile points were necessarily excluded from some of my analyses.

The modified dataset contains 35,079 projectile points from 87 North Carolina counties (Table 1). Of these points, 30,164 can be definitively associated with a specific stylistic type and subperiod. The analyses described below are based on subsets of this dataset consisting of (a) projectile point counts by type and county and (b) projectile point counts by raw material and county. My decision to aggregate the projectile point data at the county level was based on precedents set by fluted point distribution studies (esp. Anderson and Faught 1998, 2000; Daniel 2001) and the ideas of Michael Shott (2002).

Justification of the Dataset

Projectile point data offer certain advantages over other common forms of archaeological evidence. For the Woodland period in particular, it seems reasonable to conclude that projectile points may have been present in a variety of contexts in which pottery was not. For example, whereas we expect to find both ceramic and stone artifacts in Woodland habitation sites, special-purpose sites such as temporary hunting camps, meat-processing loci, and manufacturing areas may lack pottery yet still yield projectile points. Although it is likewise true that some prehistoric activities are unlikely to generate lithic evidence, projectile point data nevertheless serve as an important and often essential complement to other types of archaeological data.

Even so, projectile point data share some limitations with all forms of artifact data. Despite archaeologists' common assumptions, there is no guarantee that the present-day locations of projectile points and other artifacts approximate their original locations of use (Lepper and Meltzer 1991). In addition, any archaeological dataset represents at best only an "accidental" sample of the original population; at worst, a given dataset may harbor significant biases that can, if left unchecked, lead to invalid interpretations.

To ensure that the dataset used for this study is free of obvious biases, I assessed the potential for three types of bias common to projectile point samples: (a) bias resulting from modern collector efforts; (b) bias resulting from modern land use practices; and (c) bias resulting from differential archaeological scrutiny (Lepper 1983, 1985; Shott 2002). Following the logic outlined by Michael Shott (2002), I assume that relationships between the distribution of prehistoric populations and modern collector efforts, surface exposure, and intensity of

Table 1. Projectile Point Types in the Dataset Used for this Study.

Cultural Period Projectile Point Type	Approximate Dates	Documented Physiographic Region[a]	Frequency in Dataset Absolute	Percent (of 35,079)[b]	Percent (of 30,164)[c]
Late Prehistoric					
Clarksville Small Triangular	-	P/CP	315	0.9	1.0
Caraway Triangular	AD 1400–1800	M(?)/P/CP	5,542	15.8	18.4
Madison	-	M	163	0.5	0.5
Pisgah Triangular	AD 1000–1450	M/P(?)	31	0.1	0.1
South Appalachian Pentagonal	-	M	2	0.0	0.0
Pee Dee Pentagonal	-	P/CP(?)	78	0.2	0.3
Uwharrie Triangular	AD 800–1000	M(?)/P/CP	1,689	4.8	5.6
Total	-	-	7,820	22.3	25.9
Middle Woodland					
Randolph Stemmed[d]	-	P/CP	1,011	2.9	3.4
Roanoke Large Triangular	-	P(?)/CP	388	1.1	1.3
Haywood Triangular	-	M/P(?)	90	0.3	0.3
Garden Creek Triangular	-	M/P(?)	166	0.5	0.6
Connestee Triangular	AD 200–800	M	23	0.1	0.1
Yadkin Large Triangular	250 BC – AD 800	M(?)/P/CP	1,045	3.0	3.5
Pigeon Side-Notched	300 BC – AD 200	M/P(?)	22	0.1	0.1
Total	-	-	2,745	7.8	9.1

Table 1 continued.

Cultural Period Projectile Point Type	Approximate Dates	Documented Physiographic Region[a]	Frequency in Dataset Absolute	Percent (of 35,079)[b]	Percent (of 30,164)[c]
Early Woodland					
Transylvania Triangular	1000–300 BC	M	21	0.1	0.1
Badin Crude Triangular	1000–250 BC	M(?)/P	404	1.2	1.3
Swannanoa Stemmed	1000–300 BC	M	122	0.3	0.4
Total	-	-	547	1.6	1.8
Indeterminate Woodland	-	-	1,182	3.4	-
Late Archaic					
Gypsy Stemmed	-	M/P/CP	1,346	3.8	4.5
Small Savannah River Stemmed	3000–1000 BC	M/P/CP	2,565	7.3	8.5
Savannah River Stemmed	3000–1000 BC	M/P/CP	5,233	14.9	17.3
Total	-	-	9,144	26.1	30.3
Middle Archaic					
Halifax Side-Notched	4000–3000 BC	M/P/CP	181	0.5	0.6
Guilford Lanceolate	4000–3000 BC	M/P/CP	4,236	12.1	14.0
Morrow Mountain II Stemmed	5000–4000 BC	M/P/CP	2,878	8.2	9.5
Morrow Mountain I Stemmed	5000–4000 BC	M/P/CP	247	0.7	0.8
Stanly Stemmed	6000–5000 BC	M/P/CP	345	1.0	1.1
Total	-	-	7,887	22.5	26.1

Table 1 continued.

Cultural Period Projectile Point Type	Approximate Dates	Documented Physiographic Region[a]	Frequency in Dataset Absolute	Percent (of 35,079)[b]	Percent (of 30,164)[c]
Early Archaic					
Kirk Stemmed	6100–5800 BC	M(?)/P/CP	107	0.3	0.4
Kirk Serrated	7000–6000 BC	M/P/CP	109	0.3	0.4
Kanawha Stemmed	7000–6000 BC	M/P/CP	3	0.0	0.0
LeCroy Bifurcated Stem	7000–6000 BC	M/P/CP	78	0.2	0.3
St. Albans Side-Notched	7000–6000 BC	M/P/CP(?)	46	0.1	0.2
Kirk Corner-Notched	7000–6000 BC	M/P/CP	1,268	3.6	4.2
Palmer Corner-Notched	8000–7000 BC	M/P/CP	317	0.9	1.1
Hardaway Side-Notched[e]	8500–8000 BC	M/P/CP	44	0.1	0.1
Total	-	-	1,972	5.6	6.5
Indeterminate Archaic	-	-	3,733	10.6	-
Paleoindian					
Hardaway	8500–8000 BC	M/P/CP	37	0.1	0.1
Clovis/Fluted	Before 8000 BC	M/P/CP	12	0.0	0.0
Total	-	-	49	0.1	0.2

[a] M=Mountains; P=Piedmont; CP=Coastal Plain.
[b] This column contains percent frequencies based on the total population of points in the dataset (i.e., "indeterminate" points are included).
[c] This column contains percent frequencies based on the population of points that can be assigned to a specific cultural subperiod (i.e., "indeterminate" projectile points are excluded).
[d] Daniel and Davis (1996) assign Randolph Stemmed projectile points to the Late Prehistoric period.
[e] Daniel and Davis (1996) assign Hardaway Side-Notched projectile points to the Late Paleoindian period.

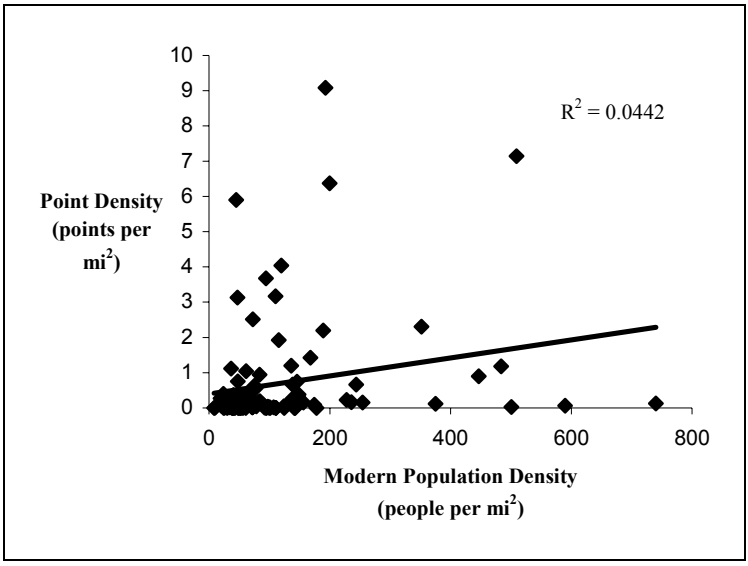


Figure 1. Relationship between modern population density and projectile point density. Population density data are for 1980 (North Carolina Office of State Planning 2003).

archaeological study should be largely independent. Accordingly, the extent to which these modern factors co-vary with the sample projectile point distribution can be regarded as an indication of sample bias.

Individual scatter plots (Figures 1–3) illustrate the relationships between the sample dataset and each of the modern factors. Again following Shott (2002), I used modern population counts as proxies for collector efforts, cultivated area as an indicator of surface exposure, and the number of recorded prehistoric sites as a measure of archaeological scrutiny. Because all projectile points in the dataset were collected prior to 1980, I used data from that year to represent the "modern" data.

The scatter plots suggest that the dataset contains no obvious collection biases. There is virtually no correlation between the distribution of sample projectile points and modern population distribution (R^2=0.0442; Figure 1) or between the distribution of sample projectile points and the extent of cultivation (R^2=0.0036; Figure 2). In both instances, excluding the 13 counties without projectile points did not improve the correlations.

There appears to be a slightly stronger correlation between sample projectile point density and the density of recorded prehistoric sites (R^2=0.3912; Figure 3), but this very weak correlation is still not

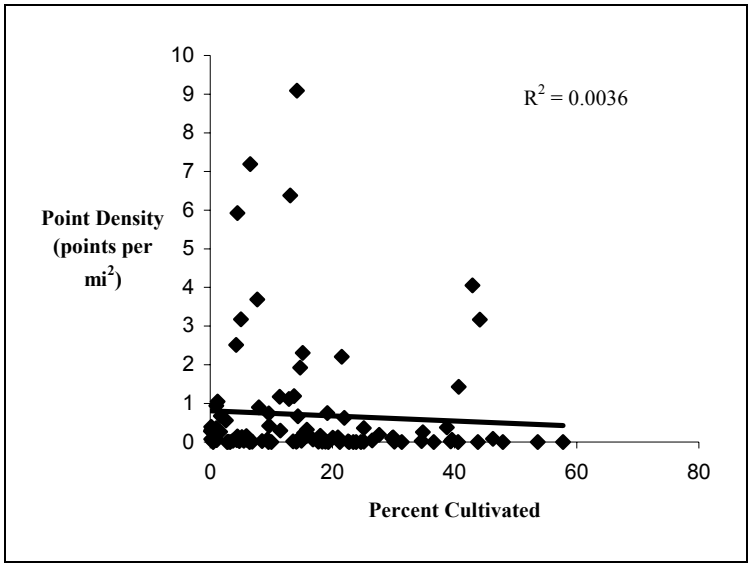


Figure 2. Relationship between extent of modern cultivation and projectile point density. Cultivation data are for 1980 (North Carolina Department of Agriculture and Consumer Services 2003).

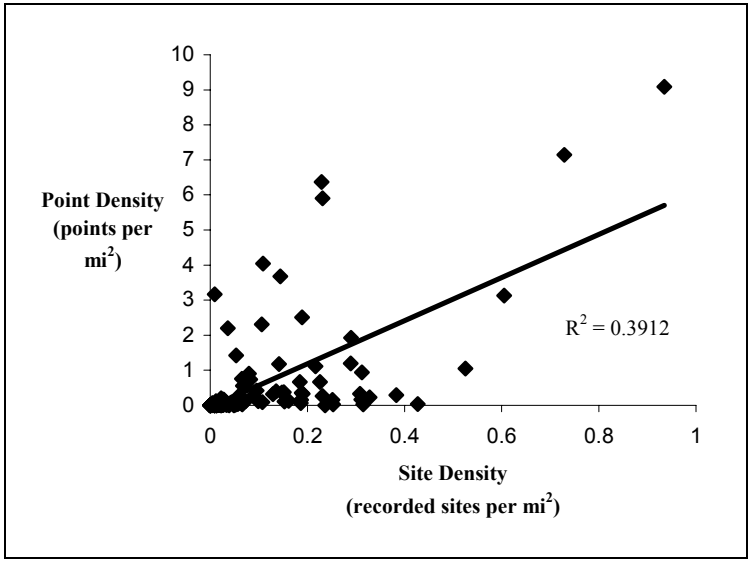


Figure 3. Relationship between site density and projectile point density. Site density data are for 1980 and are derived from the RLA site files.

problematic. If the sample dataset adequately predicts prehistoric occupation, more intense occupation *should* be reflected by more projectile points *and* more sites. On the other hand, the observed correlation is sufficiently weak to suggest that projectile point densities are not simply functions of the intensity of archaeological investigation.

Large-Scale Patterning in Projectile Point Distribution

Like many projectile point distribution analyses, this study assumes that large-scale patterning in the distribution and frequency of projectile points can reflect human settlement adaptations, population dynamics, and intergroup interaction. Under this assumption, clustering in the distribution of projectile points becomes evidence for extensive exploitation of specific areas, while gaps suggest avoidance. In addition, patterns in raw material distribution can reflect relative mobility or interregional exchange (McGahey 1987; Seeman 1994; Daniel 1998; Jones et al. 2003).

Distribution of Projectile Points by Region

The spatial distribution of all projectile points in the dataset reveals that three areas of the state have relatively low projectile point frequencies: the northeastern Coastal Plain, the southern Coastal Plain, and the corridor of counties along the boundary between the Piedmont and Mountains (Figure 4).

Comparing the number of sites represented in the dataset to the number of recorded sites (in the RLA site files) for each of these three areas reveals that the low projectile point frequencies do not result from insufficient data. All three areas contain sites with collections that were available for analysis during the PPCP (Table 2). However, less than 6% of recorded sites in the northeastern Coastal Plain and only 13.2% of sites in the southern Coastal Plain yield diagnostic projectile points. In fact, only 22.7% of all Coastal Plain sites contain projectile points.

I maintain that the low projectile point frequencies in the northeastern and southern Coastal Plain therefore reflect a genuine lack of projectile points rather than deficiencies in the dataset. Indeed, using different data, Daniel (2001) also notes an absence of Paleoindian projectile points in the southern Coastal Plain. More importantly, the lack of projectile points in these two areas does not necessarily reflect a scarcity of prehistoric population. Thus, projectile point distribution

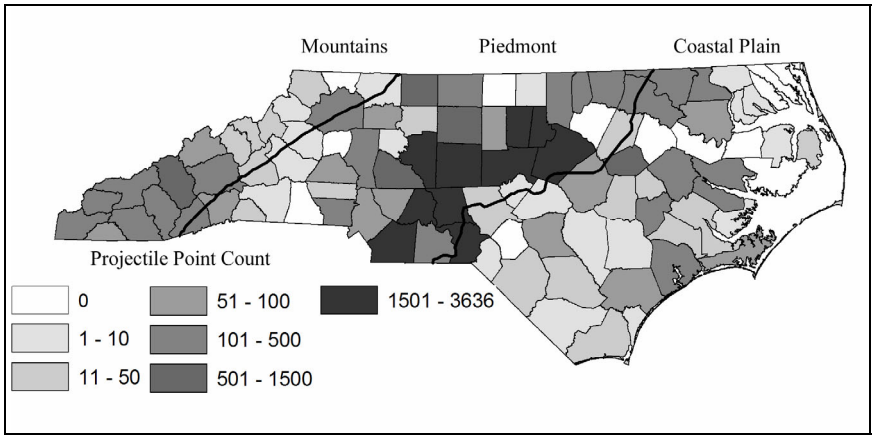


Figure 4. Projectile point frequencies by county.

Table 2. Site Frequencies by Region.

Region	Recorded Sites[a]	Sites in Dataset[b]	Recorded Sites Yielding Points
Entire State	5,991	2,471	41.2%
Coastal Plain	1,915	435	22.7%
Piedmont	2,971	1,541	51.9%
Mountains	1,105	495	44.8%
Northeastern Coastal Plain	142	8	5.6%
Southern Coastal Plain	993	131	13.2%
Piedmont/Mountains Boundary	535	179	33.5%

[a] Entries in this column reflect the number of sites in the RLA site files in 1980. Collections from these sites would have been available for analysis during the PPCP.
[b] Entries in this column reflect the number of recorded sites with diagnostic projectile points.

does not appear to be an adequate predictor of prehistoric occupation in the Coastal Plain.

Farther west, approximately 33.5% of recorded sites in the vicinity of the Piedmont/Mountains boundary yield projectile points (Table 2). In comparison, approximately 51.9% of sites in the Piedmont and 44.8%

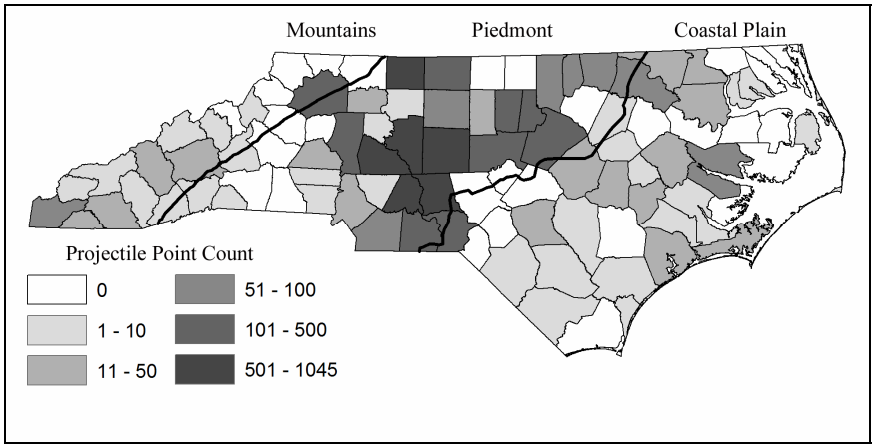


Figure 5. Late Prehistoric projectile point frequencies by county.

of sites in the Mountains contain projectile points. Again, it appears that the low frequency of projectile points in the Piedmont/Mountains corridor reflects a real shortage of projectile points rather than sample bias. Daniel (2001) reports a similarly low frequency of Paleoindian projectile points in this area.

It is tempting to speculate that the relative lack of projectile points along the Piedmont/Mountains margin reflects an enduring territorial or cultural boundary between groups in the two provinces, especially since it appears to be most pronounced during the Late Prehistoric (Figure 5) when groups in the Mountains regularly interacted with groups to the west. Yet as in the Coastal Plain, there are sites in this corridor area, and thus the lack of projectile points must not be misinterpreted as a population shortage.

Distribution of Projectile Points by Period

Throughout most of prehistory, projectile point frequencies are substantially higher in the Piedmont than in the Coastal Plain and Mountains. Absolute counts suggest that frequencies reach their peak during the Archaic (Figure 6). When the projectile point distributions are normalized to control for the variable durations of the periods, however, Piedmont projectile point density does not peak until the Late Prehistoric (Figure 7). Densities peak in the Late Archaic and Middle Woodland in the Mountains and Coastal Plain, respectively (Figure 8).

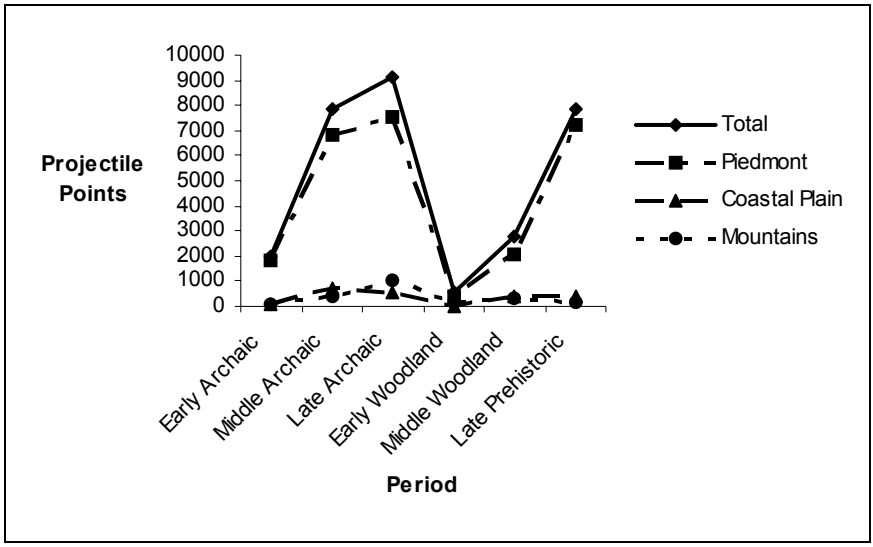


Figure 6. Projectile point counts by cultural period.

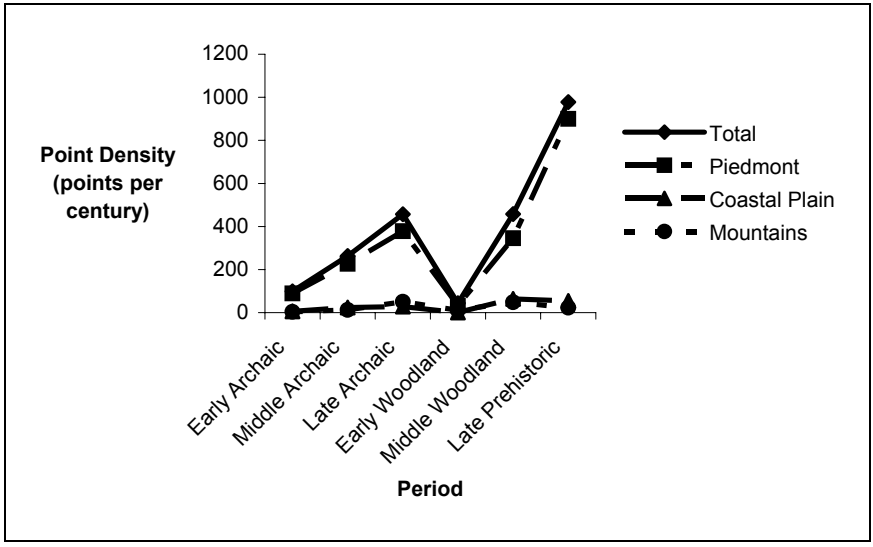


Figure 7. Projectile points per century by cultural period.

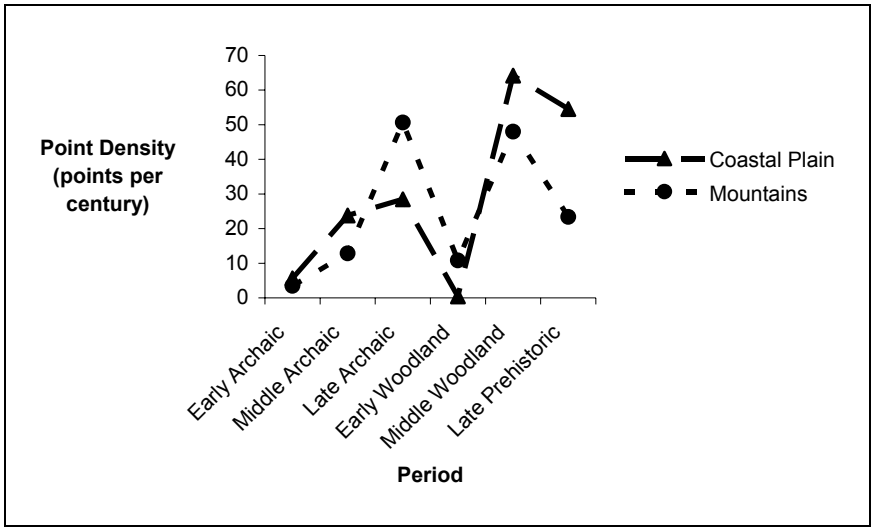


Figure 8. Projectile points per century by cultural period in the Coastal Plain and Mountains.

Across the state, projectile point densities increase from the Early to Late Archaic but then decrease dramatically during the Early Woodland period (Figure 7). Densities increase again during the Middle Woodland in all regions and continue to increase from the Middle Woodland to the Late Prehistoric in the Piedmont. In the Mountains and Coastal Plain, densities decrease slightly between the Middle Woodland and Late Prehistoric periods (Figure 8).

Assuming that changes in projectile point densities reflect changes in population density, these patterns imply the following general trends:

1. Population density increased throughout the state from the Early to Late Archaic. Nevertheless, population levels in the Coastal Plain and Mountains remained relatively low during the Archaic.
2. Across the state, population may have fallen sharply during the Early Woodland period.
3. In the Piedmont, population increased again from the Early Woodland to the Late Prehistoric. Population also increased in the Coastal Plain and Mountains during the Middle Woodland, but then levels decreased slightly during the Late Prehistoric. Again,

population levels in the Coastal Plain and Mountains during the Woodland period were low relative to Piedmont population levels.

These trends suggest that prehistoric populations generally favored the North Carolina Piedmont over the Coastal Plain and Mountains. However, I have already proposed that projectile point distribution may not be a reliable predictor of prehistoric occupation in all areas of the state. Before population trends can be fully evaluated, then, additional research is needed to address the implications of the low projectile point frequencies in the northeastern and southern Coastal Plain and along the Piedmont/Mountains margin. Nevertheless, comparing the number of recorded sites in the Piedmont to the number of sites in the Mountains and Coastal Plain (see Table 2) does support my contention that the Piedmont was the most extensively occupied area of North Carolina during prehistory.

Early Woodland Projectile Points. It is unclear whether the spectacular statewide reduction in projectile point density that apparently accompanied the Archaic/Woodland transition represents population decline or some other process. Steve Davis (personal communication 2003) suggests that it may in fact reflect a problem of definition: many points dating to the Early Woodland period may be incorrectly attributed to the Late Archaic or Middle Woodland. Given the variability in form that exists among Gypsy Stemmed points, it seems likely that their production extended into the Early Woodland period. Likewise, some types assigned to the Middle Woodland period may have in fact originated earlier.

The virtual absence of Early Woodland projectile points in the Coastal Plain is particularly intriguing (Figure 9). Early Woodland sites and ceramic artifacts have been discovered in the Coastal Plain, so the absence of projectile points must not be equated with an absence of people. It is possible that Early Woodland Coastal Plain sites are simply underrepresented in the dataset. Additional research is needed to assess the extent to which the collections that would have been available for analysis during the PPCP represent the Early Woodland occupation of the Coastal Plain.

It is also possible that Early Woodland projectile point types have not been recognized on the Coastal Plain (Steve Davis, personal communication 2003). Coastal Plain sites generally lack clear stratigraphy, and projectile points from the surface have therefore been seriated according to the sequence developed for the Piedmont.

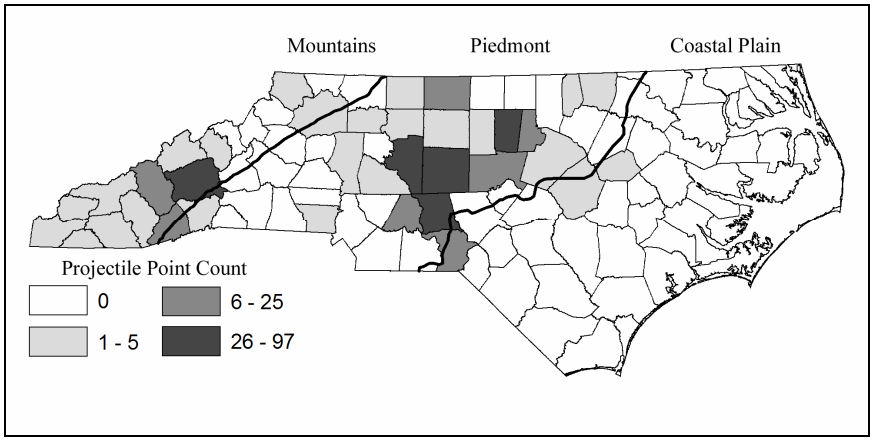


Figure 9. Early Woodland projectile point frequencies by county.

Although the similarities in projectile point types found in the Piedmont and Coastal Plain support the use of the Piedmont analog, it is nevertheless possible that archaeologists have not been able to sufficiently distinguish Early Woodland Coastal Plain projectile points from earlier and later forms. Until we reach a better understanding of the Coastal Plain sequence, we cannot dismiss the possibility that Early Woodland projectile points from this region have been misclassified as either Late Archaic or Middle Woodland.

Alternatively, Early Woodland groups may have fashioned their projectile points in ways that would decrease their likelihood of being recovered. For example, projectile points made from materials such as cane or bone would be both less likely to be preserved and less likely to be recognized by collectors as projectile points. This particular explanation is unlikely, however, since projectile points in the Coastal Plain are fashioned from stone in every other period of prehistory. Likewise, the presence of bifacial projectile points in all other periods argues against an Early Woodland shift in projectile form (e.g., to unifacial points or unretouched flakes).

Finally, the absence of Early Woodland projectile points in the Coastal Plain may be related to a warming trend that affected the coast beginning around 2,400 BP and resulted in a sea level rise of several feet (Rogers 1999). The full impact of this climatic change on prehistoric settlement in North Carolina is not yet understood, but we might speculate that associated environmental changes led to a temporary shift

in subsistence adaptations that is visible archaeologically in a near absence of projectile points.

My analyses offer no further insights into the scarcity of Early Woodland projectile points in the Coastal Plain and the validity of these various possible explanations. Additional studies are needed to determine if the relative absence of projectile points reported here is real and, if it is, to address what such an absence might mean.

Stylistic Types. Patterns in the spatial distribution of projectile points by stylistic type (summarized in Table 1) lend credence to current interpretations regarding North Carolina prehistory and complement the results of the raw materials distribution analysis (see below).

During the Archaic period, stylistic types are distributed across the state (Table 1). In contrast, Woodland projectile points have more restricted distributions; indeed, no Woodland type occurs in large quantities in all three physiographic areas. During the Early Woodland, Transylvania Triangular and Swannanoa Stemmed points are limited to the Mountains, and Badin Crude points are found primarily in the Piedmont. By the Middle Woodland, Pigeon Side-Notched, Connestee Triangular, Garden Creek Triangular, and Haywood Triangular points are largely restricted to the Mountains, while Yadkin Large Triangular, Roanoke Large Triangular, and Randolph Stemmed projectile points occur primarily in the Piedmont and Coastal Plain. Late Prehistoric types tend to be similarly constrained to either the Mountains or the Piedmont and Coastal Plain.

The wide distribution of Archaic types supports the theory of relatively high mobility during this cultural period. The comparatively limited distribution of Woodland projectile point types is consistent with reduced mobility and increasing regionalization. In particular, it appears that the Mountains become culturally separated from the Piedmont and Coastal Plain provinces during Woodland times: while styles continue to be shared between the Piedmont and Coastal Plain, there is relatively little stylistic overlap between the Mountains and the other two regions.

Distribution of Projectile Points by Raw Material

Metavolcanic stone was by far the most commonly exploited raw material throughout North Carolina prehistory (Table 3). However, metavolcanic projectile points tend to be concentrated in the Piedmont, where sources of high-quality metavolcanics were locally available in the Carolina Slate Belt. In contrast, quartz and chert were generally more

Table 3. Distribution of Projectile Points by Raw Material and Region.

Cultural Period	Piedmont		Mountains		Coastal Plain		Entire State	
Raw Material	N	%	N	%	N	%	N	%
Late Prehistoric								
Metavolcanic	6,720	93.4	7	3.7	131	30.0	6,858	87.7
Chert	68	0.9	139	74.3	5	1.1	212	2.7
Quartz	373	5.2	40	21.4	259	59.4	672	8.6
Quartzite	8	0.1	1	0.5	37	8.5	46	0.6
Other	28	0.4	0	0.0	4	0.9	32	0.4
Middle Woodland								
Metavolcanic	1,969	95.0	25	8.7	135	35.1	2,129	77.6
Chert	8	0.4	81	28.1	1	0.3	90	3.3
Quartz	89	4.3	134	46.5	173	44.9	396	14.4
Quartzite	4	0.2	47	16.3	72	18.7	123	4.5
Other	2	0.1	1	0.3	4	1.0	7	0.3
Early Woodland								
Metavolcanic	396	97.3	18	13.3	1	20.0	415	75.9
Chert	5	1.2	58	43.0	0	0.0	63	11.5
Quartz	5	1.2	57	42.2	4	80.0	66	12.1
Quartzite	1	0.2	2	1.5	0	0.0	3	0.5
Other	0	0.0	0	0.0	0	0.0	0	0.0
Late Archaic								
Metavolcanic	6,814	90.1	111	11.0	315	55.4	7,240	79.2
Chert	18	0.2	52	5.1	2	0.4	72	0.8
Quartz	566	7.5	556	54.9	210	36.9	1,332	14.6
Quartzite	50	0.7	283	27.9	41	7.2	374	4.1
Other	114	1.5	11	1.1	1	0.2	126	1.4
Middle Archaic								
Metavolcanic	5,579	82.2	33	8.6	480	67.2	6,092	77.2
Chert	17	0.3	10	2.6	2	0.3	29	0.4
Quartz	995	14.7	298	77.4	204	28.6	1,497	19.0
Quartzite	26	0.4	39	10.1	28	3.9	93	1.2
Other	171	2.5	5	1.3	0	0.0	176	2.2
Early Archaic								
Metavolcanic	1,584	88.6	15	21.7	70	60.9	1,669	84.6
Chert	16	0.9	24	34.8	4	3.5	44	2.2
Quartz	104	5.8	28	40.6	32	27.8	164	8.3
Quartzite	4	0.2	0	0.0	6	5.2	10	0.5
Other	80	4.5	2	2.9	3	2.6	85	4.3

common than metavolcanics in the Mountains (Figure 10), and quartz was the predominant raw material used in the Coastal Plain during the Woodland period (Figure 11).

Given its accessibility and quality, it is not surprising that groups in the Piedmont exploited metavolcanic stone far more frequently than any other raw material throughout the Archaic and Woodland periods (Figure 12). Even so, the use of local quartz appears to have increased slightly in the northeastern and south-central (Sandhills) Piedmont during the Middle and Late Archaic periods (Figure 13). Another slight increase in quartz use occurs in the northern Piedmont during the Late Prehistoric (Figure 14). These increases imply that resource use became more localized, since metavolcanic sources are concentrated primarily in the central Piedmont and are entirely absent in the Sandhills. Localization of resource use is consistent with increasing regionalization and decreasing mobility during the Middle and Late Archaic. During the Late Prehistoric, it presumably reflects a higher degree of sedentism.

Quartz exploitation also increased over time in the Coastal Plain (Figure 11). In this region, metavolcanic stone appears to gradually diminish in importance relative to quartz, which was presumably locally available in the form of riverbed cobbles. This pattern suggests that mobility decreased in the Coastal Plain from the Middle Archaic through the Late Prehistoric. In addition, the extremely low frequency of chert in this area suggests that groups inhabiting the North Carolina Coastal Plain did not regularly exploit Allendale chert from the South Carolina Coastal Plain.

Unlike the situation in the Piedmont and Coastal Plain, it appears that metavolcanics were never heavily exploited in the Mountains (Figure 10). The evidence from this area suggests that Early Archaic groups exploited a variety of raw materials, with the emphasis turning to locally available quartz and quartzite during the Middle and Late Archaic. During the Woodland period, nonlocal chert became increasingly important.

These patterns suggest that in the Mountains, a highly mobile Early Archaic lifestyle gradually gave way to a less mobile one. Furthermore, the low frequencies of metavolcanic projectile points after the Early Archaic imply that mountain peoples did not include the Piedmont within their regular settlement ranges and rarely exchanged raw materials with Piedmont groups. On the other hand, the Woodland emphasis on chert, which was available in the neighboring Ridge and Valley province of eastern Tennessee, has traditionally been interpreted to reflect the importance of exchange with groups to the west.

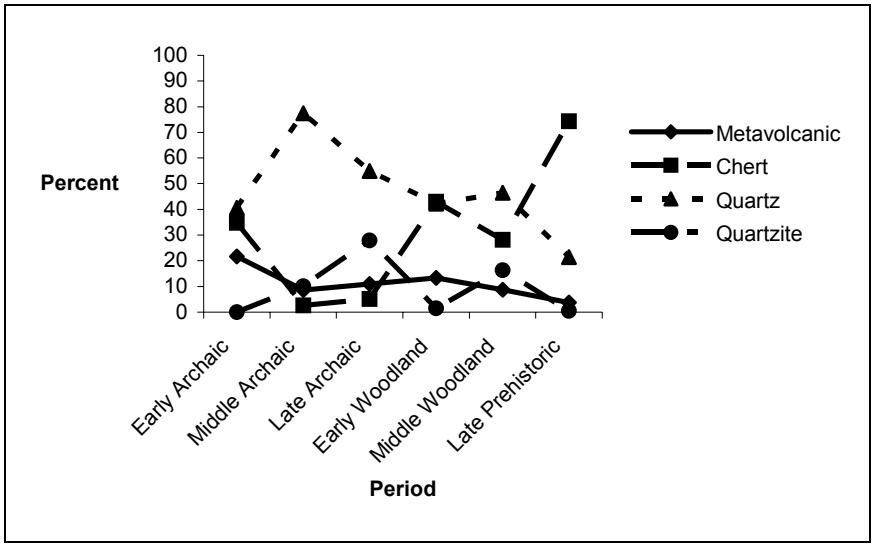


Figure 10. Distribution of projectile points from the Mountains by raw material and cultural period.

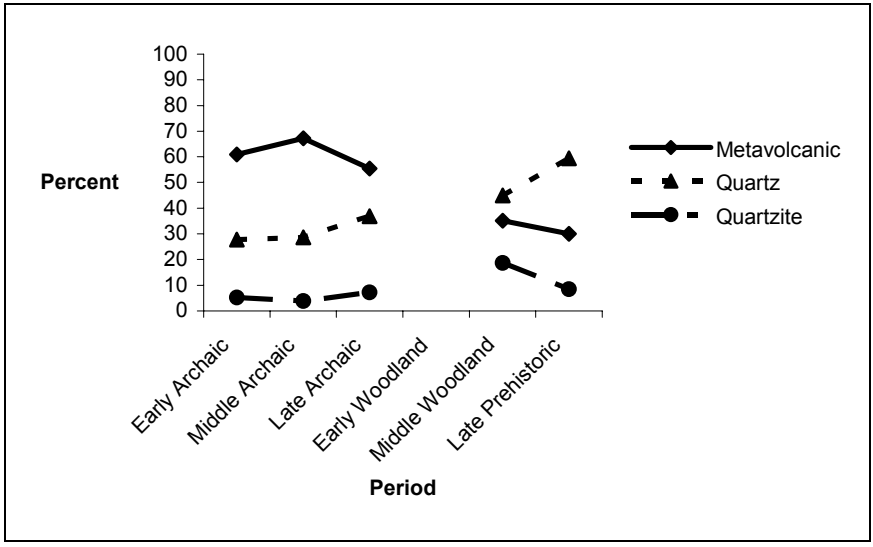


Figure 11. Distribution of projectile points from the Coastal Plain by raw material and cultural period.

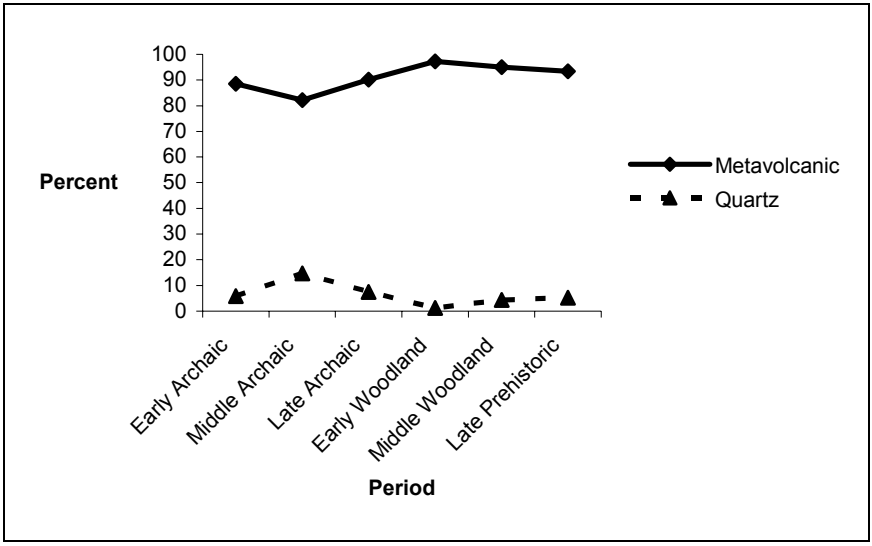


Figure 12. Distribution of projectile points from the Piedmont by raw material and cultural period.

Conclusions

The analyses described in this paper demonstrate that statewide projectile point distribution studies similar to those commonly conducted for the Paleoindian and Early Archaic periods can provide important insights into later Archaic and Woodland period settlement adaptations. In particular, projectile point distribution studies can reveal preferences for specific raw material types and patterns of regional and interregional interaction. They can also potentially distinguish areas that were repeatedly targeted for exploitation from areas that were only minimally used.

The distribution of projectile points in North Carolina suggests that, in general, the Piedmont was more heavily exploited than the Mountains and Coastal Plain provinces throughout prehistory. The large number of projectile points that have been found in the vicinity of the Carolina Slate Belt is consistent with the theory that prehistoric settlement adaptation in the Piedmont was heavily influenced by the availability of high-quality metavolcanic stone resources.

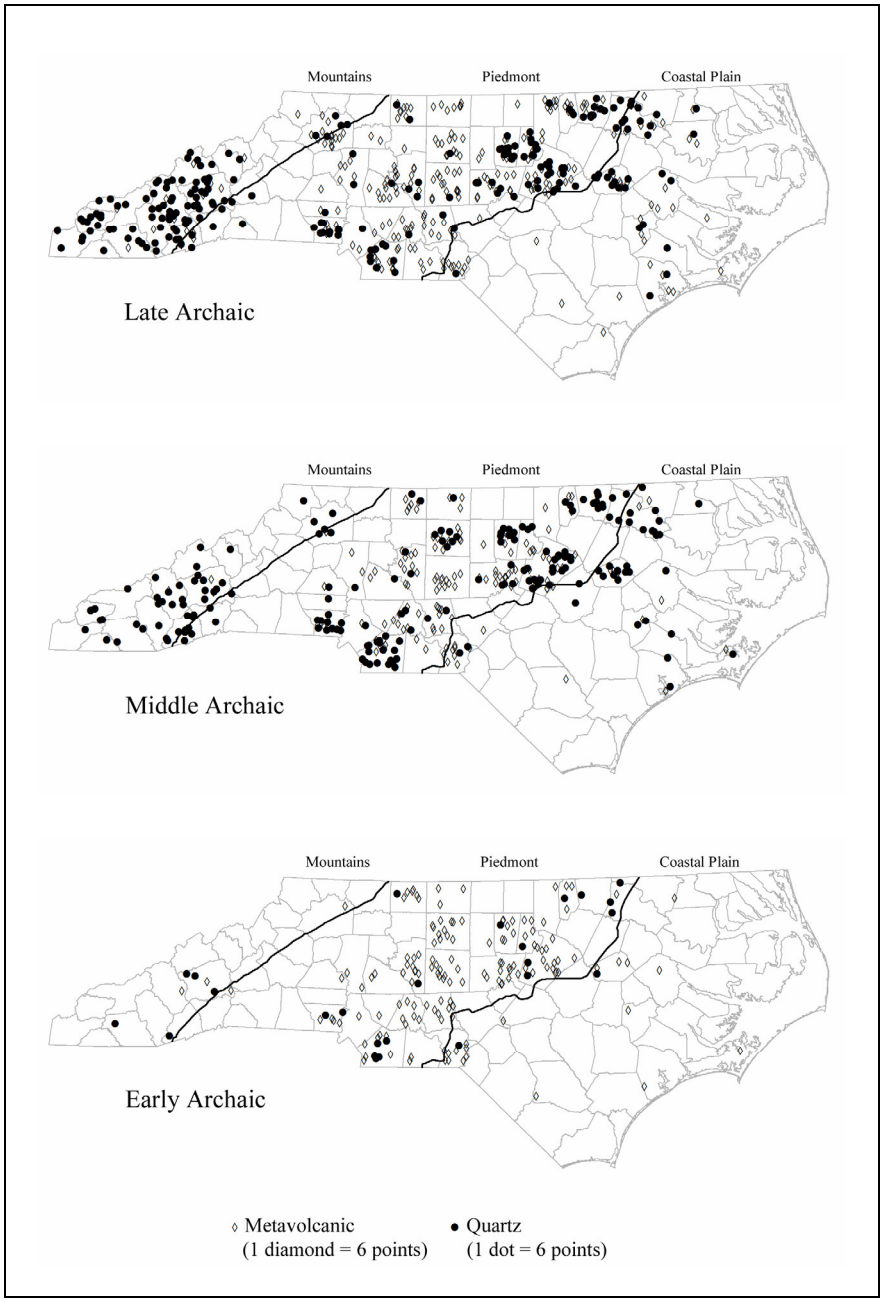


Figure 13. Distribution of metavolcanic and quartz Archaic projectile points.

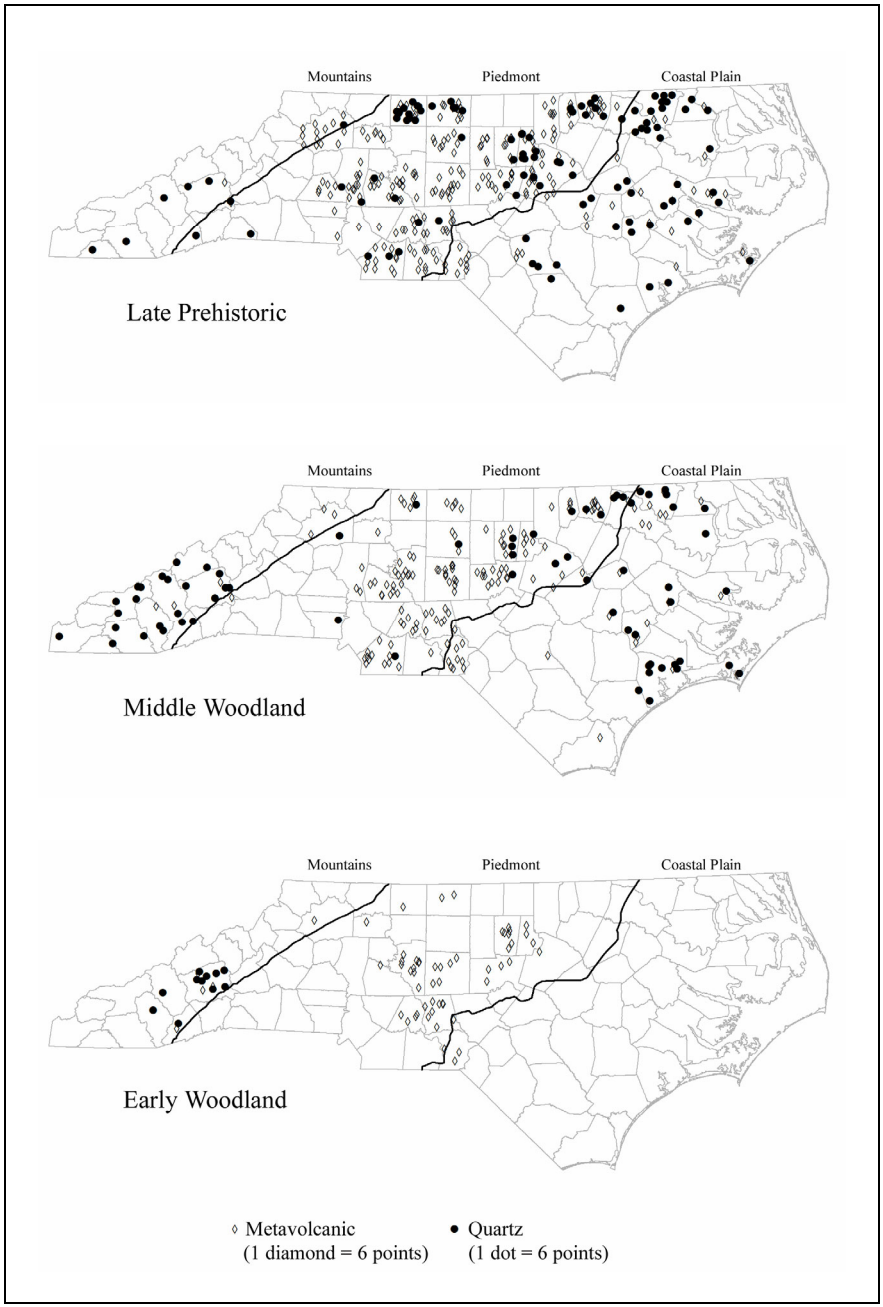


Figure 14. Distribution of metavolcanic and quartz Woodland projectile points.

Furthermore, three areas of the state appear to have been relatively underused during prehistory: the northeastern Coastal Plain, the southern Coastal Plain, and the corridor of counties along the Piedmont/Mountains boundary. Yet the actual significance of the low projectile point frequencies in these areas remains unclear. It is possible that projectile point data may be an inappropriate basis for any conclusions regarding prehistoric settlement in these three areas of North Carolina.

The general trends summarized here undoubtedly mask significant local variability, some of which could presumably be exposed through additional analyses conducted at a variety of spatial and temporal scales. Further study is needed in the Coastal Plain, both to clarify the projectile point chronological sequence and to address the relationship between projectile point distribution patterns and settlement adaptations. Finally, patterns in the distribution of North Carolina projectile points need to be considered in relation to the distribution of other artifact types in order to reconstruct the specific contexts within which projectile points functioned and thereby determine their ultimate roles within prehistoric settlement adaptations.

Notes

Acknowledgments. This study builds directly on the work of Steve Davis and Randy Daniel. I thank them for allowing me to use their PPCP database for my analyses. I am particularly indebted to Steve for explaining the methodology of the original project and for suggesting specific analyses. I would also like to thank Steve and Brett Riggs for answering my many questions about North Carolina prehistory and projectile point typology. Vin Steponaitis offered valuable suggestions for research design, background reading material, and figures. Vin, Steve, Margie Scarry, and Amber VanDerwarker provided valuable comments on early drafts of this paper.

References Cited

Anderson, David G.

1990 The Paleoindian Colonization of Eastern North America: A View From the Southeastern United States. In *Early Paleoindian Economies of Eastern North America*, edited by Kenneth B. Tankersley and Barry L. Isaac, pp. 163–216. Research in Economic Anthropology, Supplement 5. JAI Press, Greenwich, Connecticut.

1991 Examining Prehistoric Settlement Distribution in Eastern North America. *Archaeology of Eastern North America* 19:1–22.

1995 Paleoindian Interaction Networks in the Eastern Woodlands. In *Native American Interactions: Multiscalar Analyses and Interpretations in the Eastern Woodlands*, edited by Michael S. Nassaney and Kenneth E. Sassaman, pp. 1–26. University of Tennessee Press, Knoxville.

1996 Models of Paleoindian and Early Archaic Settlement in the Lower Southeast. In *The Paleoindian and Early Archaic Southeast*, edited by David G. Anderson and Kenneth E. Sassaman, pp. 29–57. The University of Alabama Press, Tuscaloosa.

Anderson, David G., and Michael K. Faught

1998 The Distribution of Fluted Paleoindian Projectile Points: Update 1998. *Archaeology of Eastern North America* 26:163–187.

2000 Palaeoindian Artefact Distributions: Evidence and Implications. *Antiquity* 74:507–513.

Anderson, David G., Michael K. Faught, and J. Christopher Gillam

1997 Paleoindian Site/Artifact Distributions Viewed from a Very Large Scale: Evidence and Implications. Paper presented at the 62nd Annual Meeting of the Society for American Archaeology, Nashville, Tennessee.

Anderson, David G., and Glen T. Hanson

1988 Early Archaic Settlement in the Southeastern United States: A Case Study from the Savannah River. *American Antiquity* 53:262–286.

Blanton, Dennis B., and Kenneth E. Sassaman

1989 Pattern and Process in the Middle Archaic Period of South Carolina. In *Studies in South Carolina Archaeology: Essays in Honor of Robert L. Stephenson*, edited by Albert C. Goodyear, III and Glen T. Hanson, pp. 53–72. Anthropological Studies 9, Occasional Papers of the South Carolina Institute of Archaeology and Anthropology. University of South Carolina, Columbia.

Daniel, I. Randolph, Jr.

1997 North Carolina Paleoindian Point Survey. Paper presented at the 54th Annual Meeting of the Southeastern Archaeological Conference, Baton Rouge, Louisiana.

1998 *Hardaway Revisited: Early Archaic Settlement in the Southeast*. University of Alabama Press, Tuscaloosa.

2000 Paleoindian Points in North Carolina. *Current Research in the Pleistocene* 17:14–16.

2001 The Paleoindian Occupation of North Carolina: A North Carolina Fluted Point Survey Update. Paper presented at the 58th Annual Meeting of the Southeastern Archaeological Conference, Chattanooga, Tennessee.

Daniel, I. Randolph, Jr., and R. P. Stephen Davis, Jr.

1996 *The Projectile Point Classification Project: The Classification of Projectile Points in Existing Archaeological Collections from North Carolina (Phase II).*

Technical Report No. 26. Research Laboratories of Archaeology, University of North Carolina, Chapel Hill.

Davis, R. P. Stephen, Jr., and I. Randolph Daniel, Jr.
1990 *The Projectile Point Classification Project: The Classification of Projectile Points in Existing Archaeological Collections from North Carolina*. Technical Report No. 19. Research Laboratories of Archaeology, University of North Carolina, Chapel Hill.

Dunbar, James S.
1991 Resource Orientation of Clovis and Suwannee Age Paleoindian Sites in Florida. In *Clovis: Origins and Adaptations*, edited by Robson Bonnichsen and Karen L. Turnmire, pp. 185–213. Center for the Study of the First Americans, Corvallis, Oregon.

Dunbar, James S., and Ben I. Waller
1983 A Distribution of the Clovis/Suwannee Projectile Points of Florida: A Geographic Approach. *Florida Anthropologist* 36:18–30.

Gillam, J. Christopher
1996 Early and Middle Paleoindian Sites in the Northeastern Arkansas Region. In *The Paleoindian and Early Archaic Southeast*, edited by David G. Anderson and Kenneth E. Sassaman, pp. 404–412. University of Alabama Press, Tuscaloosa.

Goodyear, Albert C., III, James L. Michie, and Tommy Charles
1989 The Earliest South Carolinians. In *Studies in South Carolina Archaeology: Essays in Honor of Robert L. Stephenson*, edited by Albert C. Goodyear, III and Glen T. Hanson, pp. 19–52. Anthropological Studies 9, Occasional Papers of the South Carolina Institute of Archaeology and Anthropology. University of South Carolina, Columbia.

Jones, George T., Charlotte Beck, Eric E. Jones, and Richard E. Hughes
2003 Lithic Source Use and Paleoarchaic Foraging Territories in the Great Basin. *American Antiquity* 68:5–38.

Lepper, Bradley T.
1983 Fluted Point Distributional Patterns in the Eastern United States: A Contemporary Phenomenon. *Midcontinental Journal of Archaeology* 8:269–285.

1985 The Effects of Cultivation and Collecting on Ohio Fluted Point Finds: A Reply to Seeman and Prufer. *Midcontinental Journal of Archaeology* 10:241–250.

Lepper, Bradley T., and David J. Meltzer
1991 Late Pleistocene Human Occupation of the Eastern United States. In *Clovis: Origins and Adaptations*, edited by Robson Bonnichsen and Karen L. Turnmire, pp. 175–184. Center for the Study of the First Americans, Corvallis, Oregon.

McGahey, Samuel O.
1987 Paleo-Indian Lithic Material: Implications of Distribution in Mississippi. *Mississippi Archaeology* 22(2):1–13.

North Carolina Department of Agriculture and Consumer Services
2003 Agricultural Statistics Division: County Estimates. Electronic document, http://www.ncagr.com/stats/cnty_est/cnty_est.htm.

North Carolina Office of State Planning
2003 North Carolina State Demographics: County/State Estimates. Electronic document, http://demog.state.nc.us/.

Phelps, David Sutton
1983 Archaeology of the North Carolina Coast and Coastal Plain: Problems and Hypotheses. In *The Prehistory of North Carolina: An Archaeological Symposium*, edited by Mark A. Mathis and Jeffrey J. Crow, pp. 1–51. North Carolina Division of Archives and History, Raleigh.

Purrington, Burton L.
1983 Ancient Mountaineers: An Overview of Prehistoric Archaeology of North Carolina's Western Mountain Region. In *The Prehistory of North Carolina: An Archaeological Symposium*, edited by Mark A. Mathis and Jeffrey J. Crow, pp. 83–160. North Carolina Division of Archives and History, Raleigh.

Rogers, J. J. W.
1999 History and Environment of North Carolina's Piedmont: Evolution of a Value-Added Society. Electronic document, www.geosci.unc.edu/faculty/rogers/piedmont_hist_env.pdf.

Sassaman, Kenneth E.
1995 The Cultural Diversity of Interactions Among Mid-Holocene Societies of the American Southeast. In *Native American Interactions: Multiscalar Analyses and Interpretations in the Eastern Woodlands*, edited by Michael S. Nassaney and Kenneth E. Sassaman, pp. 174–204. University of Tennessee Press, Knoxville.

Seeman, Mark F.
1994 Intercluster Lithic Patterning at Nobles Pond: A Case for "Disembedded" Procurement Among Early Paleoindian Societies. *American Antiquity* 59:273–288.

Shott, Michael J.
2002 Sample Bias in the Distribution and Abundance of Midwestern Fluted Bifaces. *Midcontinental Journal of Archaeology* 27: 89–123.

Trinkley, Michael B.
1989 An Archaeological Overview of the South Carolina Woodland Period: It's the Same Old Riddle. In *Studies in South Carolina Archaeology: Essays in Honor of Robert L. Stephenson*, edited by Albert C. Goodyear, III and Glen T. Hanson, pp. 73–89. Anthropological Studies 9, Occasional Papers of the South

Carolina Institute of Archaeology and Anthropology. University of South Carolina, Columbia.

Ward, H. Trawick
1983 A Review of Archaeology in the North Carolina Piedmont: A Study of Change. In *The Prehistory of North Carolina: An Archaeological Symposium*, edited by Mark A. Mathis and Jeffrey J. Crow, pp. 53–81. North Carolina Division of Archives and History, Raleigh.

Ward, H. Trawick, and R. P. Stephen Davis, Jr.
1999 *Time Before History: The Archaeology of North Carolina*. University of North Carolina Press, Chapel Hill.

LOST CHARLES TOWNE:
LOCAL MANIFESTATION OF WORLD EVENTS

by

Thomas C. Loftfield

Abstract

Excavations at the site of the failed seventeenth-century site of Charles Towne on the Cape Fear in North Carolina revealed post-in-ground structures with connecting ditches that defined an enclosed compound. Because the site plan seemed out-dated, sources of inspiration were sought in Barbados, the source of the funding and people at Charles Towne. A complex of social structures and defensive structures seems to have been transported to the Carolina wilderness relatively intact, but with adaptations required for survival in the new environment.

On the 29th of May, 1664, a group of colonists disembarked from their ships to start a new life in the Carolina wilderness (Lee 1965). Taking possession of a low knoll at the mouth of Town Creek, a large tributary of the Lower Cape Fear River in what is now Brunswick County, North Carolina, these settlers began an ill-fated adventure that was played out against the backdrop of a world-wide expansion of European culture (Figure 1).

Most of these colonists on the Cape Fear had their ultimate origin in England. Some few may have been born in other countries of Europe, or perhaps even in Africa, but they had all enjoyed an intermediate stay on the island of Barbados where they had had their first experience of colonization. There they first underwent the changes in culture wrought by living in a new environment—changes which resulted in people being no longer British, no longer African, and no longer even Native American, but something new.

Sugar in Barbados

The rise of the sugar industry in Barbados had resulted in wholesale shifts in demographics and economics on the island that made Barbados into a "mother of colonies" in its own right. From its settlement in 1627

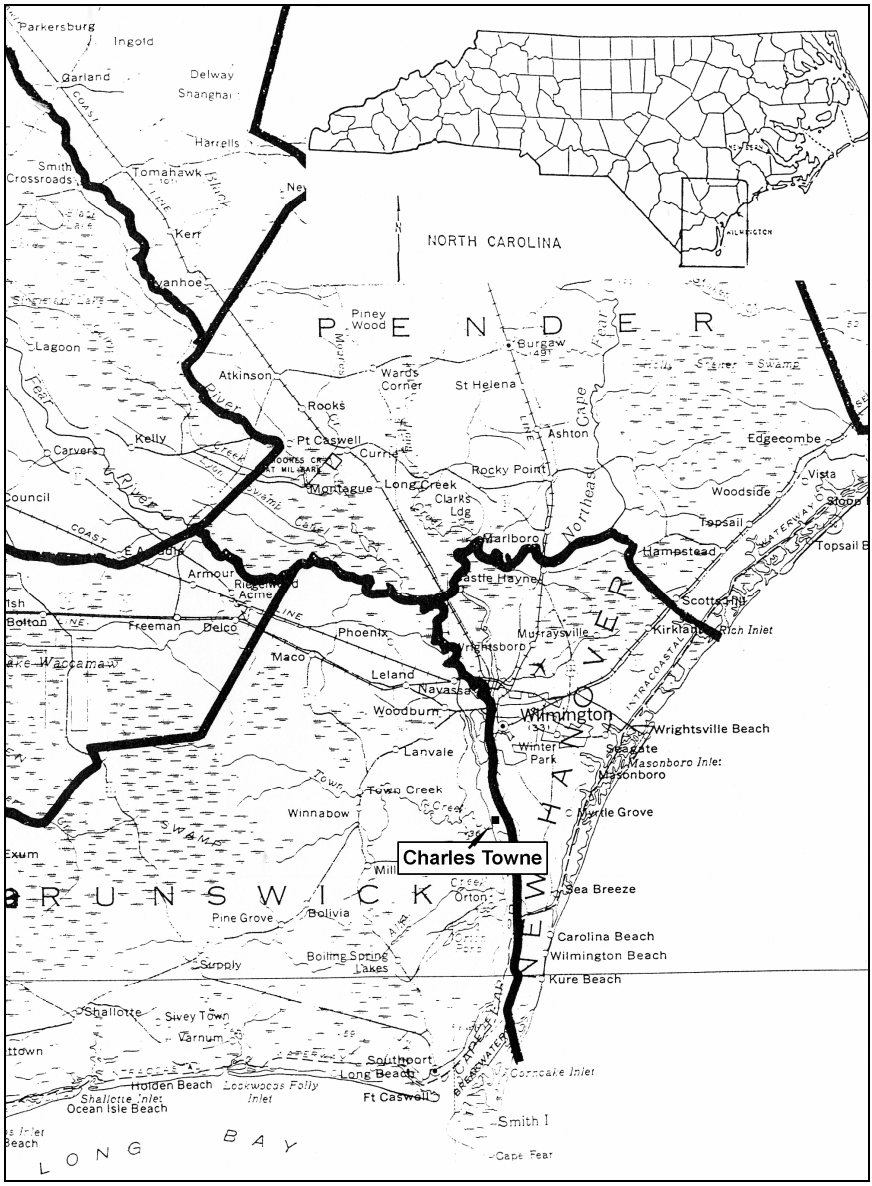


Figure 1. The location of Charles Town in Brunswick County, North Carolina.

until the mid-1640s, the Barbadian economy had been founded on the production of cotton, indigo, and tobacco. As the profitability of these commodities fell, the planters of Barbados sought new, exotic crops

(Beckles 1989; Harlow 1926). Their salvation came in the form of sugar, a crop that they had grown primarily as cattle feed. As the Portuguese reclaimed the sugar areas of Brazil from the Dutch in the 1640s, many non-Portuguese planters fled that South American colony, bringing to Barbados not only the arcane knowledge of sugar crystallization, but also needed capital for construction of sugar processing mills (Harlow 1926).

Unlike the majority of Caribbean islands, Barbados had initially been cleared and the crops grown by the labor of indentured servants, primarily from England, Scotland, and Ireland (Beckles 1989; Harlow 1926). However, with the introduction of sugar, incentives for servants to emigrate to Barbados were reduced, and in the course of a few decades the indentured labor was almost completely replaced by that of enslaved Africans (Beckles 1989). Former servants were disenfranchised, both politically and economically, and large numbers of the now landless and jobless yeomanry were ready to leave the island. At the same time, the sugar planters were becoming fabulously wealthy. Dunn (1972) states that more wealth was created in Barbados in the seventeenth century than in all of Britain's North American colonies put together. With this amount of capital available, many planters sought diversification of their portfolios and opted to support new colonial ventures with sugar money. The colonists going to Carolina represented examples of this peculiarly Barbadian effort by which the landless poor were enticed into emigration to new colonial venues supported by sugar wealth.

Charles Towne on the Cape Fear

The Carolina settlement of 1664 was intended as a colony of farmers. Eager for land, the Carolina colonists established an agricultural settlement with farmsteads dispersed along the river and its tributaries (Lee 1965). Charles Towne, geographically central within the colony, was the administrative center for the dispersed population. The site is high and dry, located on and adjacent to good productive land, and there is fresh water in immediate proximity. The location gave easy access to almost all of the biotic communities that the colonists could have utilized for hunting and gathering as a subsistence augmentation to their farming.

The precise reasons that the Barbadians chose the site they did for their colony remain unknown. On earlier expeditions of exploration, large tracts of land had been "purchased" from the local Indians (Lee 1965). From the perspective of energy economics, it would have made sense to take over a previously cleared village or field site. The site of

Charles Towne on the Cape Fear is, indeed, located on the site of a former aboriginal village, but whether the land had been so recently occupied by Indians that the forest would have been already cleared cannot be demonstrated archaeologically or by documents. That the Indians returned to the site and occupied it after the departure of the Barbadians has been demonstrated by the presence of Indian pottery placed stratigraphically above the remains of colonial architectural structures.

Other possible considerations in selecting the site would have been navigation, anchorage, defense, and centrality of position within the colony. While the Cape Fear River was of prime importance for communication, navigation on the river was limited by a depth at the bar at its mouth to an average of 18 ft. Above the bar the river was deep enough for any seventeenth-century vessels to navigate up to the confluence of Town Creek where silt from the creek created the "Flats" with a depth of 10 ft. While the Flats may have hindered navigation upriver to some small degree, the confluence of Town Creek would have provided a secure and protected anchorage affording easy transportation to an extensive interior area.

By the fall of 1667 the colony had been abandoned. The majority of the settlers slowly drifted away with most moving on to the Albemarle region of what is now North Carolina, to Virginia, Maryland, and to New England (Lee 1965). However, the leadership of the colony returned to Barbados where they formed the nucleus of a second Carolina venture that left Barbados in 1670 to establish what would grow into Charleston, South Carolina.

The Charles Towne colony failed due to forces far removed from Carolina. Failure to obtain essential patents and charters from the king and proprietors, war with Holland, and internal squabbles among the backers over where to settle all contributed to the demise of the colony (Lee 1965).

Project Background and Archaeology

The investigation of Charles Towne has followed a course that parallels in many respects the recent evolution of archaeological thinking. The first efforts at Charles Towne in the early 1960s would most easily be seen as an exercise in historic sites archaeology. The intention was to discover and uncover the remains of one site and to view that site as a monument to the particular historical events that had unfolded there. The project, entirely local and parochial, was local

history in the narrowest sense of the term (Debnam 1969).

A very limited effort in the late 1970s was intended simply to verify the location and age of the site. By the time that serious excavation commenced in 1987, archaeological thinking had moved from site-specific culture history to investigations of culture process, including adaptation to environment, acculturation, and systems theory analysis of stasis and change. When the field project was completed in 1992, archaeological thinking had moved on to post-processualism with its interest in deep cultural structure and the desire to determine the meaning that things and events had to the people present when the site was occupied.

Because single archaeological sites such as Charles Towne are today analyzed as components of much larger worldwide systems of behavior, the significance of Charles Towne lies in its manifestation as an element of the global European expansion that dominated the sixteenth through nineteenth centuries. The primary value of the ephemeral occupation of Charles Towne on the Cape Fear resides in its ability to contribute to our understanding of the social, economic, philosophical, and political forces that drove (or lured) people from England to the Caribbean, and then from the Caribbean to mainland North America. Viewed from a structuralist perspective, we should expect to find change apparent at the level of superficial context with concomitant maintenance of deeper values manifested in the competence of the colonists.

It has been noted by others that it is often possible to learn more from investigations of failed colonies than from studies of the successes. Charles Towne on the Cape Fear, even though a failure, did set the stage for the subsequent and successful settlement by Barbadians at Albemarle Point on the Ashley River that ultimately grew into Charleston, South Carolina. The lessons learned from the failure on the Cape Fear directly helped the backers to establish the more successful colony further south.

For many years Charles Towne on the Cape Fear was known only from documentary sources. As archaeological excavations at the site proceeded, the location of Charles Towne was verified at the confluence of Town Creek and the Cape Fear River. At an elevation of 10 ft above sea level, the site is on a low knoll overlooking the river on a broad peninsula. Located approximately one-half mile above the creek mouth, with marsh on two sides of the peninsula, this location was perhaps the most defensible on the river at the time. In this regard it resembles the location of the later Charles Towne on the Ashley River at Charleston, South Carolina (South 1969).

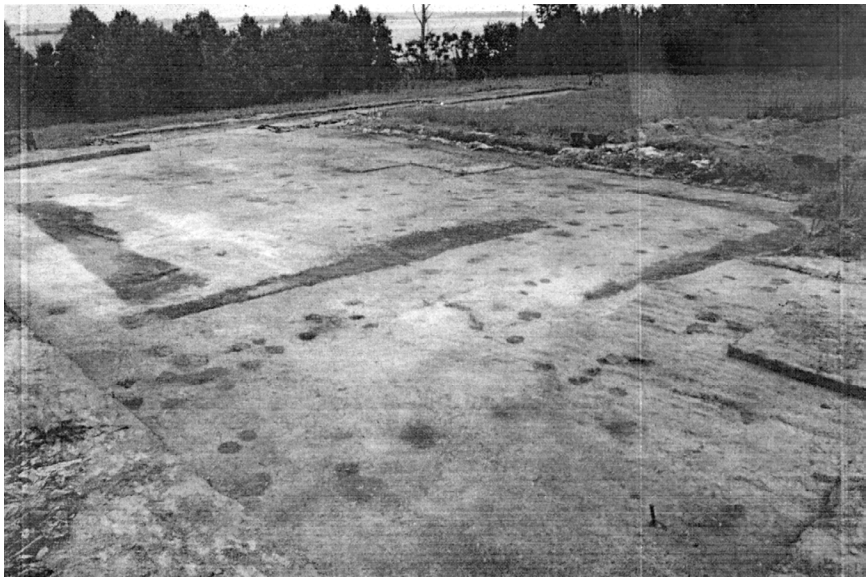


Figure 2: Overall view of excavation at Charles Towne.

After preliminary testing in the early 1960s and 1970s, excavations at Charles Towne were conducted through the University of North Carolina at Wilmington Summer Field Schools in Archaeology from 1987 through 1992. During these excavations, 15,500 sq ft of the site were opened (Figure 2), revealing ditches, rows of square postmolds in postholes, a small number of aboriginal storage pits and hearths, and a large area of unplowed midden containing quantities of aboriginal artifacts and seventeenth-century colonial artifacts.

The Charles Towne excavations were intended to produce a map of the settlement since no documentary evidence survives of its plan. The project was to determine the socio-economic status of the colonists and what, if any, elements of Caribbean influence that could be seen in the remains. In addition, it was thought that the data might contribute to a model of changed adaptation as the Barbadians adjusted to the resources of their new surroundings.

During the brief test excavations in 1979, a very distinct dark black discoloration was seen at the top of the undisturbed subsoil (Figure 3). A test excavated into this discoloration revealed a shallow but continuous ditch (Figure 4). Because Charles Towne was presumed to have had a defensive function in the colony, the ditch was interpreted as part of a defensive earthwork. Further work uncovered a series of discontinuous ditches that are perhaps the most immediate features at the site.

Figure 3. Ditch prior to excavation at top of subsoil.

Figure 4. Ditch after excavation. Note the shallow depth and lack of postmolds in bottom.

At the end of the 1991 season it became possible to discern the outline of several seventeenth century colonial post-in-ground structures (Figure 5) which articulated with the series of ditches to form what appears to be an enclosed compound (Figure 6). The enclosed compound, interpreted as a defensive structure, occupies the center of the area of densest seventeenth century artifact concentration as determined by the 1979 controlled surface collection. Test units opened to the north and west from the excavated area were sterile, and with the river to the east and Town Creek to the south it appears probable that the excavated area covers the majority of Charles Towne.

The shallow ditches and post-in-ground buildings at Charles Towne form an enclosed compound with extended defensive structures including an extension pointing upriver and a trench to the south. Due to

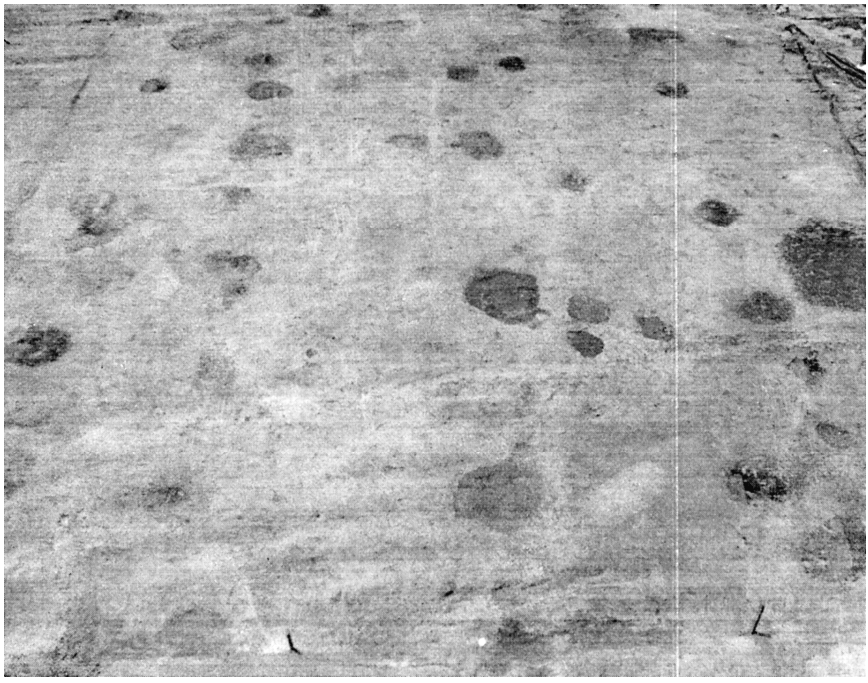


Figure 5. View of post-in-ground structure at top of subsoil.

incomplete excavation, the exact function of the southward extending ditch remains unknown. This ditch would appear, however, to be part of a defensive work extending downriver from the enclosed compound.

With interior dimensions of approximately 45 ft by 50 ft, the enclosed compound is not a large unit. Using the number of military artifacts recovered from the vicinity of the enclosed compound and from the fill of the ditches as a guide, it can be assumed that the area had, nonetheless, a defensive function.

A number of ditches outline a defensive element that faces northward, up the Cape Fear River. The northern end of the structure is lost due to riverbank erosion and recent landscaping in the area, but the general design can still be extrapolated from the surviving data. Originally thought to form an angled bastion, final excavation of this feature showed that the structure would have had a squared end rather than a pointed end. Several very large postmolds were noted within the bastion. These posts would have obstructed easy walking in the area but would have been necessary support elements for a gun emplacement. The suggested square end of the structure, plus the presence of the large

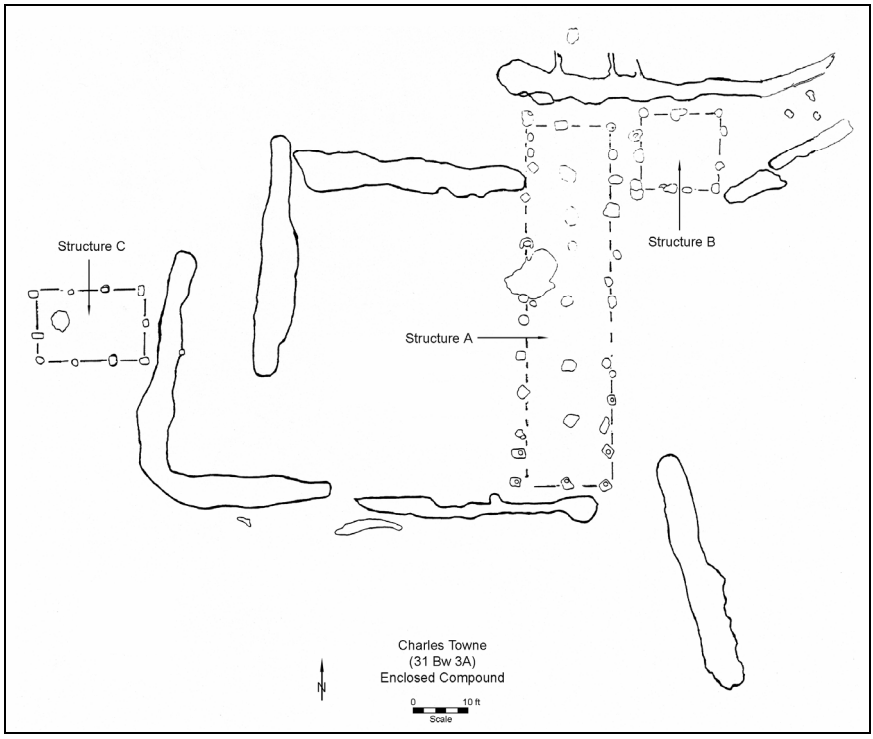


Figure 6. Map of Charles Towne, as revealed by archaeological excavation.

postmolds within the area, suggest that this structure was intended as an emplacement for a piece of artillery. Arming fortifications with artillery was an absolutely common practice during the seventeenth century, and pieces of ordnance were, indeed, dispatched to Charles Towne on the Cape Fear. The loss of the ship that was carrying the ordnance in the second supply precluded any artillery ever having been mounted at the town (Lee 1965), but it is apparent that preparations had been made to accommodate the ordnance had it survived the transportation.

Structure B backs up the gun emplacement. Located between Structure A (a large two-story building interpreted as the "Company Building") and the gun emplacement itself, Structure B appears to have been a blockhouse. Unlike the other two structures discovered at the site, Structure B has no apparent fireplace, suggesting that it did not serve as a residence and was probably not permanently occupied. The concentration of round balls, casting sprues, and flint debitage in the vicinity of Structure B further supports the interpretation of its having

been a military structure. If powder was stored in this building, the lack of a fireplace would be further explained.

In its general appearance, Charles Towne on the Cape Fear does not resemble its contemporaries in Virginia, Maryland, or New England so much as it does earlier settlements such as Flowerdew Hundred (Deetz 1993) or Wolstenhome Town at Martin's Hundred (Noël Hume 1982). Because these earlier forms would have been out-dated at the time of the Charles Towne settlement, an explanation must be sought for its design.

Defense

In the early period of their settlement, all mainland colonies in the seventeenth century needed to consider defense against marauding Indians and against the greater threat of sea-borne attacks by operatives of other European powers, privateers, and even pirates. Systems of defense had to meet the challenges of new territories, typically quite far removed from succor or assistance from the homelands. Of necessity responsive to local conditions, these systems of defense were rooted in familiar patterns and traditions.

The development of a local defense based upon known practices is perhaps nowhere so clearly seen as in Barbados. From the local defense perspective, the north and east coasts of the island were protected naturally by reefs, vertical cliff faces, and large surf at the shore. Along 24 miles on the southwest and western sides, however, landings could be effected at numerous places along stretches of gentle beach. It was this vulnerable stretch of coastline that the seventeenth-century colonists set out to defend. The system of defense adopted displays elements derived from those then current in England, but locally designed and implemented. The system was, thus, at heart English but modified for the particulars in Barbados.

The Barbadian system of defense relied on an active militia and on a series of fortifications constructed along the vulnerable sections of coastline. Defensive works consisted of a chain of "forts" which were, in effect, little more than barbettes, or gun platforms (Figure 7). The small coastal gun platform forts all appear to have been designed and constructed locally, benefiting little, if at all, from formal military instruction. The forts have no apparent bastions or outer works for self-protection. Surviving examples and extant plans show that most had no landward facing defenses, eschewing even loop holes for small arms fire toward the land. They were placed on the beaches rather than on nearby heights, making them more vulnerable to gunfire from ships than was

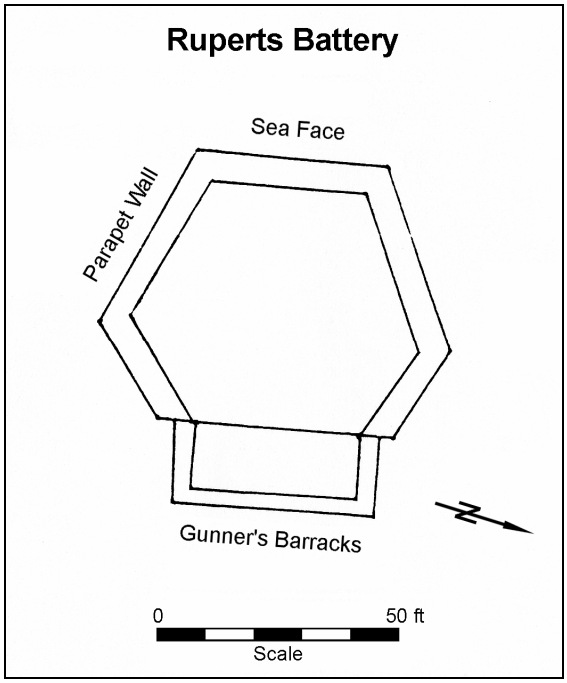


Figure 7. Ruperts Battery, a seventeenth-century fortification on Barbados.

necessary. Finally, the gunner's barracks, located behind the guns, had massive stone walls which would have produced extensive ricochet and flying stone splinters from in-coming fire, potentially resulting in extensive casualties to the gun crews within the forts (Trollope, personal communication 1994). These Barbadian forts were considered worthless by most European military professionals (Campbell 1975; Lilly 1705).

By the end of the seventeenth century, a line of these forts had been constructed along the leeward side of the island from Speightstown to Oistins. Their placement, almost entirely on the littoral and disdaining the higher cliffs and rocks from which a downward fire could be directed, shows that their intended use was to prevent, or at least discourage, landings of enemy personnel rather than to necessarily keep ships far from shore. Campbell (1975:3) has suggested that the plan of defense called for the forts to prevent landings, and if these forts were breached, for the militia, in line behind the forts, to force the enemy to retreat.

The Militia and Society in England and Barbados

The key element to the defense system of Barbados was the mobile militia. Its composition mirrors that of the British system of militia and "trained bands" developed during the reign of the Tudors (Boynton 1967). The Barbadian system of defense combined significant elements from the English homeland with locally devised innovations.

Strong patterns of behavior related to the militia were practiced which had meaning at deep levels of English society. The higher a person's wealth and status in the society, the greater were his responsibilities to provide arms and armor for the militia, while at the same time that higher status was reflected in the elevation of nobles and gentry to officer rank in the militia (Boynton 1967). Thus, the militia organization and operation served to further enhance the public visibility of gentry while further validating their elevated social status.

The English colonists in Barbados, intimately familiar with the militia system, valued its role in defense and in defining social status. By the middle of the seventeenth century, the evolution of the sugar business created a "plantocracy"—a small number of wealthy planters who controlled not only the mechanisms of government, but who served as militia officers, providing not only external protection, but internal control of an unstable labor force made up of indentured servants and enslaved Africans (Harlow 1926). That the militia became, during the seventeenth century, the major element of island defense and of social display is, thus, of no surprise.

Continuity and Change at Charles Towne

The defensive posture and philosophy at Charles Towne on the Cape Fear is less apparent. No documents survive to describe the structure of the site or how the colonists intended to provide for their defense. The population of Charles Towne is also unclear, although preliminary archival work in Barbados suggests that the leadership was comprised of second and third sons of wealthy planters from the northern parishes of the island (Lindley Butler, personal communication 1998). The remainder are suspected of being members of the disenfranchised yeoman class. Analysis of ceramics from the Charles Towne site indicates a very high status for the occupants of the administrative center (Table 1).

Table 1. Analysis of Ceramics from Charles Towne.

Type	N	%	Description	Date/Range
Chinese Porcelain	10	1.10	Underglaze Blue	1574–1644
Delftware	322	35.35	Polychrome tin glaze	1600–1802
Slipware	29	3.18	Brown combing on yellow	1610–1795
Bellarmine	82	9.00	Typical	1620–1700
Salt-glaze stoneware	104	11.42	Gray with blue manganese	1650–1725
Underglaze earthenware	143	15.70	Yellow/brown glaze	Ancient
Unglazed earthenware	64	7.03	Red/yellow/brown	Ancient
Merida (Spanish?)	7	0.77	Unglazed, untempered	?
Orange micaceous	67	7.35	(Spanish?) mica temper	?
Olive Jar (Spanish)	77	8.45	Typical	?
Whiteware	6	0.66	Typical	Modern
Total	911	100.00	Mean Ceramic Date (without whiteware)	1649

In addition, the overall structure of the enclosed compound at Charles Towne on the Cape Fear has many similarities with the small coastal fortifications in Barbados. The placement of the blockhouse at the rear of the gun emplacement is reminiscent of the construction of the small coastal gun platform fortifications in Barbados with the gunners quarters at the rear of the gun platform. With the gun emplacement pointing upriver, the postulated gun emplacement pointing down-river, the large two-story building lying parallel to the river, and the small size of the compound itself, it becomes apparent that the fortification provided its strongest defense towards the river. This deviation from the typical Renaissance imperative of a 360 degree of enfilade fire is a hallmark of Barbadian coastal fortifications.

The above noted similarities between Barbadian defensive structures and the enclosed compound at Charles Towne suggest continuity in defense policy and procedure. Whether the structural values associated with the militia were also imported into Charles Towne remains unattested. Given that the leadership of the colony was drawn from the sons of wealthy planters in the island, while the majority of yeoman farmers were former servants who had been economically and politically disenfranchised by the development of sugar and African slavery, it is likely that the entire package of defense and social meaning was intact on the Cape Fear River. As a note, a similar militia existed in the Virginia colony (Shea 1983).

What is apparent is that while the basic elements of coastal forts and militia seem to have been transported to Charles Towne, the colonists quickly adapted to the absence of stone and the presence of much wood by building their structure of the locally available materials. Defense at Charles Towne provides, then, an example of a conservative cultural construct modified to fit within the local parameters of a new colonial setting.

The social constructs were also apparently transported intact with leadership provided by sons of wealthy sugar planters in Barbados. Unlike Barbados, but essential to the founding of the new colony, the yeomanry were initially granted relatively large holdings of land (Lee 1965). These land grants were geographically dispersed, unlike the pattern of landholdings in Barbados. In 1666, the arbitrary imposition of contiguous landholding patterns typical of England and Barbados, which were unworkable in the swampy setting of coastal North Carolina, led to discouragement of settlers and contributed to abandonment of the colony (Lee 1965). In sum, the colony failed because the adjustment to the new physical and cultural environment had begun, but was incomplete.

References Cited

Beckles, Hilary
1989 *White Servitude and Black Slavery in Barbados, 1627–1715*. University of Tennessee Press, Knoxville.

Boynton, Lindsay
1967 *The Elizabethan Militia, 1558–1638*. London.

Campbell, Peter F.
1975 St. Ann's Fort and the Garrison. *Journal of the Barbados Museum and Historical Society* 35(1):3–16.

Debnam, John
1969 Old Town Plantation Archaeology Project. *Lower Cape Fear Historical Society Bulletin* 12:1–5.

Deetz, James
1993 *Flowerdew Hundred: The Archaeology of a Virginia Plantation, 1619–1864*. University of Virginia Press, Charlottesville.

Dunn, Richard
1972 *Sugar and Slaves: The Rise of the Planter Class in The British West Indies, 1623–1713*. W.W. Norton and Co., New York.

Harlow, Vincent T.
1926 *A History of Barbados, 1625–1685*. Clarendon Press, Oxford, England.

Lee, E. Lawrence
1965 *The Lower Cape Fear in Colonial Days*. University of North Carolina Press, Chapel Hill.

Lilly, Christian
1705 Report Upon the Fortifications of Barbados. Presented to Governor Sir B. Grenville. *Journal of the Barbados Museum and Historical Society* 35(4):12–14.

Noël Hume, Ivor
1982 *Martin's Hundred: The Discovery of a Lost Colonial Virginia Settlement*. Dell Publishing Company, New York.

Shea, William L.
1983 *The Virginia Militia in the Seventeenth Century*. Louisiana State University Press, Baton Rouge.

South, Stanley
1969 Excavating the Fortified Area of the 1670 Site of Charles Towne, South Carolina. *The Conference on Historic Site Archaeology Papers* 4(1):37–60.

HET REGENT PIJPESTELEN AT BRUNSWICK TOWN: A QUANTITATIVE ANALYSIS OF WHITE CLAY TOBACCO PIPES AND SMOKING BEHAVIORS IN COLONIAL NORTH CAROLINA

by

Thomas E. Beaman, Jr.

Abstract

A complete reanalysis of the white clay pipe fragments from households at Brunswick Town yielded valuable quantitative data on the 40-plus year old excavated collections. The accuracy of the pipe stem dating formulas by Binford, Hanson, and Heighton and Deagan are considered when compared to known mean occupation dates of individual households. Data from this study were also used to test the consistency of Binford's formula, with new bore diameter measurements yielding new dates to compare with previously calculated dates. Very high Tobacco Pipe functional artifact group percentages and high bowl-to-stem ratios of imported white clay tobacco pipe fragments were recovered among a number of excavated households. These, when compared with other contemporary eighteenth-century sites that have been archaeologically investigated in North Carolina, may be indicative of personal preferences for smoking or a cultural response to one or more environmental factors at Brunswick Town.

"Little Tube of mighty pow'r, Charmer of an idle hour,
Object of my warm desire, Lip of wax and eye of fire:
And thy snowy taper waist, With my finger gently brac'd;
And thy pretty swelling crest, With my little stopper prest,
And the sweetest bliss of blisses, Breathing from thy balmy kisses…"
(reprinted in Mackenzie 1957:196)

Originally published in 1736, the beginning lines of this verse extol the pleasures that a pipe of "fragrant Indian weed" could bring to those who partook in the social rituals of smoking. As one of the most commonly encountered forms of material culture on British colonial-era archaeological sites, the widespread presence of pipe fragments clearly represents the power and influence that tobacco had over British culture. Imported white clay pipe fragments have been found in almost every archaeological context imaginable, from residences, public buildings, industrial sites, and agricultural fields to underwater shipwrecks, and

across lines of socio-economic status and gender. The great volume of pipes imported to the America colonies by British, Dutch, and Scottish manufacturers made them an inexpensive commodity—an object that was to be used, readily discarded, and replaced with another. As such, the clay tobacco pipe may be considered one the first disposable products. Archaeologist Ivor Noël Hume (1969:296) observed them to be "as expendable as cigarettes, though vastly more durable, ensuring that their fragments survive in the ground in prodigious quantities."

As recent artifact studies on delftware tiles (Beaman 1997), colonowares (Loftfield and Stoner 1997), and olive and oil jars (Beaman and Mintz 1998; Mintz and Beaman 1997, 2004) from the excavations at Brunswick Town helped to illuminate different aspects of status, ethnicity, and trade, a chance to document the imported white clay pipe stem and bowl fragments offers an opportunity to study an aspect of daily life within the colonial port. The author undertook a comprehensive study of tobacco pipes from the site in 1997 and 1998 with several research goals in mind. Quantitative data questions involved the recounting and measurement of stems and bowls from the collection. This would provide comparative data for the original catalog sheets and allow an assessment of the Brunswick Town artifact collection, from its initial processing and storage at the site in the 1960s to its archival repackaging and secure storage in the 1990s. The data generated from measuring the pipe stems would also allow a comparative test of mean pipe-stem dating formulas by Binford (1962), Hanson (1971), and Heighton and Deagan (1972) against a number of excavated features with known mean occupation dates. Additionally, these results of Binford's formula could provide a test of the consistency of pipe-stem dating formulas by comparing the newly measured results to South's (1962) and Gray's (1989, 1997) previous results. Qualitative research issues were designed to create a comprehensive catalog of pipe maker's marks and decorations, as well as to consider other types of pipes within the collection (comprising eleven fragments of the stub-stemmed variety and one locally made "colono" pipe stem). These findings will be detailed in a separate study.

While studies of the white clay pipe fragments from North American archaeological sites are not uncommon, the majority of these studies have historically tended to focus on pipe collections as chronological tools based on bore diameter. Rafferty and Mann (2004:xiii–xiv) purport that this practice resulted from positivist and functionalist archaeologists from the 1960s and 1970s not knowing what to make of such artifacts that served no real physical need to their users.

As such, they assert that pipes became cultural and chronological markers to facilitate the study of other issues, a legacy that is still all too pervasive in such studies today. With this in mind, the final phase of this study endeavors to offer insights into the culture of smoking at Brunswick Town and compares the presence of pipes in individual households within the town as well as to other contemporary eighteenth-century archaeological sites in North Carolina. These comparisons will help to illuminate what the Tobacco Pipe functional artifact group from South's (1977) Carolina Artifact Pattern, as well as bowl-to-stem ratios, can reveal about the behavior and cultural practice of smoking in colonial society.

A Brief History of Brunswick Town

In the spring of 1726, Proprietary Governor George Burrington issued land grants along the Cape Fear River in excess of 9,000 acres to Maurice Moore, Roger Moore, Eleazer Allen, and John Porter (North Carolina Land Grants [NCLG], II: 224, 236, 272–273; New Hanover County Deed Book [NHCDB] E: 242). These four men and their families were rice planters and tar-and-pitch manufacturers from the Goose Creek area of Saint James Parish in South Carolina and were all apparently related through blood or marriage (Clifton 1973:365; Lee 1965:104). The surrounding area along the Cape Fear River was quickly populated by other South Carolina planters from the Goose Creek area and several prominent families who had been active in the settlement of the Albemarle region of North Carolina (Lefler and Powell 1973:87).

The town of Brunswick was founded in 1726 by Maurice Moore, who set aside 360 acres within his 1500-acre land grant for the town (NHCDB, AB:71). Newton (later renamed Wilmington), established in 1731 a few miles to the north, began to eclipse Brunswick Town as the center of society, politics, and economy in the region. Port Brunswick, however, endured as one of the British Colonial Empire's most valuable ports for the export of naval stores. This port, which included both Brunswick Town and Wilmington, was consistently responsible for more than 50% of North Carolina's export of naval stores prior to the American War for Independence (Merrens 1964:90–91). Given its better access to a deep-water channel, the majority of naval stores exported from Port Brunswick were loaded and shipped from Brunswick Town (Lee 1951:64–65). Brunswick Town's excellent shipping industry might have been what attracted Spanish raiders, who attacked and briefly captured the town in 1748 (Lefler and Powell 1973:136–137).

In addition to its economic activities, Brunswick Town was an important political center in North Carolina during the third quarter of the eighteenth century. The elite planters of Lower Cape Fear River, many of whom owned houses in the town, formed the most stable and solid political region in colonial government, as their expansive kinship network related on a local, regional, and colony level (Wood 2004a, 2004b). From 1758 until 1770, Russellborough, a residence located on the 55-acre tract at the north end of Brunswick Town, served as home to royal governors Arthur Dobbs and William Tryon. Russellborough also was the scene of a large, armed resistance by citizens of the Lower Cape Fear region against the Stamp Acts in 1765, what Butler (1976:21–24) considers the first visible example of North Carolina's resistance to British governance. Brunswick Town also joined with other towns in boycotting the importation of British tea after the Edenton Tea Party of October 1774. Scottish traveler Janet Schaw (1921:147) noted that she was without "a dish of tea" during a month-long visit to Brunswick Town in 1775, a testament to its scarcity.

The town was abandoned and partially burned during the American Revolution. It was reoccupied on a limited basis, although no formal effort was made to resettle or reconstruct. One factor for this lack of effort was a general decline in British demand for vast quantities of naval stores. Wilmington and other coastal ports were able to satisfy the reduced demand. In 1842, Dr. Frederick J. Hill purchased the town site for $4.25 and reincorporated the land as part of Orton, a plantation located north of Brunswick Town (NCLG, CL:150). Although construction of Civil War earthworks for Fort Anderson in the early 1860s covered a portion of the former town site, its presence was not forgotten. One solider remarked that during the construction of the earthworks, "the laborers found some old coin and other relics" (Waddell 1890:214). The site of Brunswick Town remained relatively undisturbed until 1952, when the Sprunt family of Orton Plantation donated the land containing the remains of the historic town to the State of North Carolina.

The archaeological research at Brunswick Town was conducted as part of a plan by William S. Tarlton, Superintendent of Historic Sites, to develop the site into an historical park. In the summer of 1958, Lawrence Lee conducted the initial phase of archaeological exploration at the site by identifying stone foundations and conducting preliminary archaeological testing (Lee 1958). In August of 1958, as Lee returned to his position as a professor of Colonial American History at The Citadel, Tarlton hired Stanley South as site manager and archaeologist. Between

1958 and 1968, South identified over 60 colonial-period architectural features and oversaw the excavation of 23 colonial-period structures. Due to the presence of Civil War earthworks related to Fort Anderson, these excavations primarily focused on the central and southern portion of the town site on loci initially identified by Lee. Since South's departure in 1968, only limited archaeological investigations associated with site maintenance activities or the installation of new interpretive signs have occurred (Beaman et al. 1998). Continued reanalysis of the artifacts unearthed during these excavations further illuminate many aspects of colonial-period life such as issues of ethnicity (Loftfield and Stoner 1997; Beaman 2001a), household status (Beaman 1997), and trade (Beaman and Mintz 1998; Mintz and Beaman 1997, 2004; Robinson 1997). Additional studies of artifact pattern recognition in households have also been conducted (Beaman 2001b; Gray 1989, 1997; Moss-Brown 2002). As noted by Ewen (1997:90), "no matter what the current paradigm, there will always be a place for sound archaeological research at a productive site. Brunswick Town has only begun to be mined for the wealth of data it contains."

The Introduction, Production, and Consumption of Tobacco and Smoking Pipes

The earliest smoking pipes in Eastern North America were made of stone by Native Americans and have been found associated with complex mortuary practices during the Late Archaic period (Rafferty 2004). However, such pipes have not been documented in southern coastal North Carolina until the Late Woodland period (Irwin 2004). As Europeans began their exploration of the New World—beginning in 1492 with Columbus in the Caribbean, through Cartier's investigation of the Saint Lawrence River in 1534, and to the abortive attempts at English settlement on Roanoke Island in the late sixteenth century—historical records document Native American use of tobacco in all forms, including pipes, snuff, "cigarettes" (a cane or corn husk tube), and cigars. As a product from the New World, tobacco was first introduced to the populations of Europe in the early sixteenth century, first through Portugal, to France, and then to England. There is some controversy over how and who first introduced it to England, but the first "appreciable amounts" were brought by Hawkins in 1565, who returned from what is now Florida after observing natives using a clay bowl and cane stem to consume it (Walker 1977:25, 30).

As time passed, the demand for tobacco continued to grow in England and Europe. After experimenting with a number of European and native crops, tobacco became North Carolina's leading export or "money crop" during the colonial period. Primarily grown in the Albemarle Sound area, the Roanoke River valley, and counties bordering Virginia, Lefler and Powell (1973:155–156) note that the tobacco produced at this time in North Carolina was of the burley variety and was air-cured or sun-cured. Colonial regulations stated that tobacco for export had to be packed in a hogshead cask, and each hogshead must contain a minimum of 1,000 pounds each and be approved by an official inspector. By 1772, over 1,500,000 pounds of tobacco was being exported from North Carolina ports, not to mention a great deal shipped out through Virginia ports as well as some kept for domestic use (Lefler and Powell 1973:156).

While tobacco was consumed in several ways, such as snuff and cigars, smoking pipes appear to be most widely used. The first European reference to a smoking pipe was in 1497 by missionary Ramon Pane, who described a hollow fork-shaped piece of wood that fitted both nostrils used by medicine men to inhale smoke as a stimulant (Walker 1977:25). Accounts of the earliest pipes in England were straw and walnut shell varieties, imitating the type noted by Hawkins in Florida. By the late sixteenth century, clay, base metal, and silver pipes had appeared; yet it is generally accepted that the Native pipes brought back from Roanoke Island to England in the 1580s served as prototypes for the early development of the English clay pipe industry (cf. Clusius 1605:310 for a period description). London was the first major pipe production center in the first half of the seventeenth century, but production soon spread to other areas, including Liverpool and Bristol, which also became major centers (Walker 1977:245). Mackenzie (1957:148) lauds this industry and claims one of the major achievements of the English was teaching the rest of Europe to smoke.

Clay pipes produced in Europe, specifically in England and Holland, were made of locally dug clays. The most common clay type was white ball clay, often erroneously referred to in archaeological literature as "kaolin" (Oswald 1975:11–13; Walker 1977:211–214; Bradley 2000:108). The general process of clay pipe manufacture was simple. After the clay was prepared, it was rolled into the rough shape of a pipe. A rod or wire was passed through the shank of the pipe as the clay was placed into a two-piece mold. The assembled mold was then placed into a press, where a lever was pulled to form the hollow in the bowl portion. The rod was then removed (which formed the bore in the

stem), and the pipe removed from the mold. The rough edges were trimmed, and eventually the pipe was kiln fired (Ayto 1979:12). A skilled journeyman could produce approximately 20 gross (about 3,000) of average length, undecorated clay pipes in a week (Walker 1977:85, 131).

The demand for tobacco pipes was great in England and in the colonies. Whether in Britain, mainland Europe, the Caribbean, or mainland colonies, the consumption of tobacco and demand for tobacco pipes was an individual choice made by the consumer, as was the quantity each individual consumed. The number of pipes used by a smoker was roughly proportional to the amount of tobacco needed (i.e., more pipes used equals more tobacco needed). Walker (1977:77) consulted modern pipe-smokers and tobacconists who consistently reported the "average" pipe smoker uses between half an ounce to one ounce of tobacco daily, but laments that it is impossible to estimate the amount of tobacco an "average" pipe smoker would consume in "earlier times." However, he does recount several primary source accounts that illustrate the wide disparity of pipes needed, which reinforces the notion of individual preference for both tobacco use and for smoking pipes. These accounts ranged from an average of four pipes consumed per week (derived from household financial records), to fishermen who would take two to three dozen pipes on a fishing trip, to a report of two bushels of broken pipe fragments in the fireplace of a guardhouse where sentries were smoking (Walker 1977:3). Early eighteenth-century Dutch tobacco enthusiast Worb claimed that 20 pipes a day was a reasonable allowance (Mackenzie 1957:148). The account of the bushels in the guardhouse and Worb's thoughts may help explain the Flemish saying *het regent pijpestelen*, literally translated as "it's raining pipe stems" (Walker 1977:3).

It is not known how many pipes were consistently available for sale and consumption to colonists, though from all accounts there was no shortage. Surviving pages of the Port Brunswick Shipping Register from late 1773 to early 1775 provide insight to the quantity of pipes being imported into Brunswick Town and Wilmington during the late colonial period. As illustrated in Table 1, a total of five ships brought tobacco pipes, along with numerous additional imported consumable goods, to Port Brunswick. Based on these port records, 1,170 gross of pipes (or approximately 168,480 individual pipes) were brought into Port Brunswick from London and Bristol during late 1773 and 1774. As Port Brunswick was a primary point for goods imported and distributed into the Cape Fear Region and up to Cross Creek, Campbellton, and beyond,

Table 1. Pipes Imported to Port Brunswick in 1774, as reported in the Port Brunswick Shipping Register (1773–1775).

Date	Ship Name	Cargo	Point of Origin
(portion of page missing)	(portion of page missing)	"40 gross pipes"	Bristol
(portion of page missing)	(portion of page missing)	"40 gross pipes"	London
July 19, 1774	*Friendship*	"40 gross pipes"	London
September 18, 1774	*Commerce*	"1000 gross pipes"	Bristol
November 29, 1774	*Mary*	"50 gross pipes"	London

it is extremely doubtful that all of these pipes were intended for or used solely at Brunswick Town and Wilmington. However, as the vast quantity of fragments recovered during the archaeological investigations attests (some of which are shown in Figure 1), the residents of Brunswick Town certainly exhausted their share of imported white clay pipes. Overland trade with other settlements (e.g., the Moravian settlements of Salem, Bethabara, and Bethania) and other colonial ports during this time also could have provided access to pipes (both imported and domestically produced varieties), tobacco, and many other goods.

A Quantitative Reanalysis: Artifact Counts and Bore Diameter Dates

The quantitative data questions in this study were designed to help assess the condition of the Brunswick Town artifact collection, from its initial excavation, processing, and storage in a trailer at the site to its archival repackaging and secure storage in the 1990s. As suggested by a reported difference in Tobacco Pipe artifact group totals in the Nath Moore's Front residence presented by South (1977:126, n=1,829) and Gray (1989:73, n=1,517), a primary quantitative research issue was to compare the counts of imported white clay tobacco pipe fragments that were recorded in the 1960s and 1970s on standardized catalog sheets to what actually remained in the present Brunswick Town artifact collection. As it was presumed different totals (potentially due to accidental loss, discard, breakage, loan, or theft over the past 40 years since its excavation) as well as different probable ratios in measured bore diameters would be reached, this comparison could also serve to evaluate the results produced by different quantitative counts in pipe-stem dating

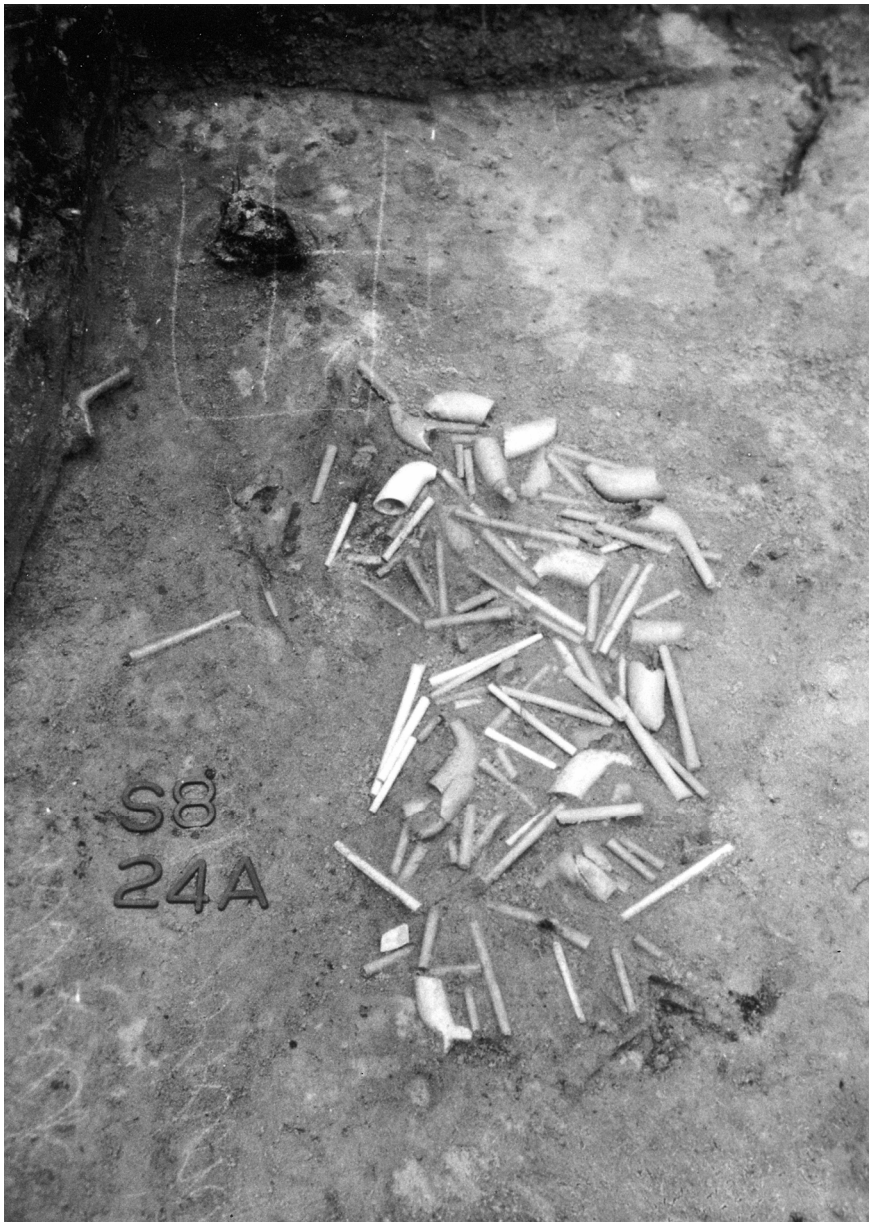


Figure 1. A cache of used pipes discovered during the 1968 excavation of the James Espy House at Brunswick Town. Courtesy of the North Carolina Department of Cultural Resources.

formulas on the same assemblage. A restudy of such a large quantity of artifacts from the different features and households at Brunswick Town could serve as a valuable insight to the compatibility of the original catalog sheets to the present artifact collection. The results would also be important when considering future quantitative studies from the Brunswick Town artifact collection.

Artifact Catalog vs. Artifacts

To address the first question posed in this study, the logical initial step was to compile the totals of tobacco pipe fragments previously documented at each excavated context from the original artifact catalog sheets. As noted in Beaman (2001b:60–61), Stanley South completed catalog forms for many of the early investigations at Brunswick Town, though fully quantitative artifact catalogs for some excavated areas were not completed until 1971, after he had moved to South Carolina and begun work there. Prior to this move, South was in busy with archaeological investigations at Bethabara and other North Carolina sites (cf. Beaman et al. 1998:13; Carnes-McNaughton 2005; South 2005:187–202). Under the direction of Stuart Schwartz, Archaeologist of the then North Carolina Department of Art, Culture and History, assistant archaeologists Andrea Upchurch, Merrikay Everett, Margaret Bailey, and two women noted only as Frances S. and Becky W. completed standardized artifact catalog sheets for sites where the excavation was finished but the artifact collection had not been inventoried. From Brunswick Town, these individuals cataloged the artifacts from residences and features investigated by South after 1963 (including the Judge Maurice Moore House and Smokehouse, Russellborough House and Kitchen, St. Philip's Church, Richard Quince House, James Espy House, and the Leach-Jobson House and well).

Although working on a standardized form designed by South, the personal biases introduced by these individuals in the cataloging process makes the artifact catalog sheets difficult to compare with each other. For example, the method for arriving at the artifact counts on each catalog sheet is not entirely clear and may have been different for each cataloger (e.g., as ceramics and glass vessels were reconstructed from this assemblage, it is not known if each sherd was counted individually or if the mended vessel was counted as one artifact). Also, forms from each excavated feature may not be consistent in how an artifact was cataloged (e.g., a fragment of a bowl with a portion of stem could be classified as either a bowl or stem fragment by different catalogers).

Likewise, in 1968 South established a type collection of historic ceramics now housed at the Office of State Archaeology Research Center, and by 1971 a number of artifacts were on display in the Brunswick Town Visitor Center. It is not known if any or all of these artifacts are included in the total counts on the artifact catalog sheets. However, in an effort to present a consistent artifact profile for each residence, the artifact totals that appear in this study are based solely on the artifact catalog sheets as completed. No recent studies from Brunswick Town, such as Gray (1989, 1997), Beaman (1997), Mintz and Beaman (1997), or Moss-Brown (2002), supersede the totals presented on the original artifact catalog sheets.

The next step was to reassess the tobacco pipe fragments in the Brunswick Town artifact collection. Given the potential biases recognized in the initial cataloging, a standardized procedure was established by the author and observed throughout the documentation of the pipe fragments, both to minimize such biases and to allow for the results to be replicated by future researchers. First, each stem and bowl fragment were counted individually. Mended stems were counted by the number of pieces in the mend, not as a single fragment. Second, a stem fragment with a bowl portion would be considered a bowl only if the bowl portion was larger than a standard, modern U.S. penny; otherwise, the fragment would be counted as a stem. Third, the same set of standardized Craftsman® drill bits were used through the analysis to sort the stems by bore diameter. Fourth, the bore diameter of each stem was measured on both ends. If a discrepancy was noted in the measurements, such as one side being larger than the other (as was the case more often than not), the smaller of the two measurements was recorded. Fifth and finally, as with the previous studies of Brunswick Town artifacts by the author (Beaman 1997; Mintz and Beaman 1997), each individual fragment was weighed. Weight is a more consistent way to track future changes in the condition of the collection (e.g., rough handling of a collection could result in additional breakage, but would represent a negligible change in weight).

The process of recounting and assessing the white clay pipes from the Brunswick Town artifact collection began in early 1997 and continued into early 1999. In addition to those specimens in the artifact collection, additional pipe stem and bowl fragments from Brunswick Town on display at the Museum of the Cape Fear in Fayetteville, the McDonalds on Highway 133 north of Brunswick Town State Historic Site, and in the original exhibit at the Brunswick Town Visitor Center were counted as part of this study. Upon completion, a total of 20,891

pipe stem fragments and 2,315 pipe bowl fragments had been documented. Counts of pipe fragments from the artifact catalog sheets and those documented in the artifact collection were then compared. While all fragments of several different pipe types were recounted, only the imported white clay tobacco pipes from primary households and features were considered in this evaluation. The results of this comparison are presented in Table 2.

At a first glance of Table 2, it is apparent that there are different stem and bowl totals for each of the households presented. However, a closer look can delineate three general groups of cataloged pipes. First, several of the residences—the Judge Maurice Moore House, the Public House, Russellborough, and the James Espy House—show more pipe fragments than were originally cataloged. The second group—Nath Moore's Front, the Public House Wall, the Leach-Jobson Residence, the Edward Scott House, and the Newman-Taylor House—have fewer stems. Finally, except for items on exhibit, the collections from the Hepburn-Reonalds House, the McCorkall-Fergus House, and the Roger Moore House have almost entirely disappeared.

While some differences in artifact counts were expected, these discrepancies are difficult to explain. One cause of identifying more stems and bowls in the recent analysis may be having originally counted mended stems as a single piece over the total amount of its parts. This may have happened in ruins not cataloged by South. It is interesting to note that with the exception of the Public House, the other three ruins that show an increase in stem fragments were excavated by South but not cataloged by him. The loss of stems in many ruins is discouraging, especially when the differences are as dramatic as those seen at the Hepburn-Reonalds House, McCorkall-Fergus House, and the Roger Moore House. Theft may also be a factor. South (2005:129–131) complained that the original exhibits were too "touchy-feely" for the visitors and provided no security precautions. Also, examples of pipes and other artifacts may have been removed, without documentation, to other institutions for use in type collections. Only the James Espy House, one of the last ruins excavated, shows the least difference in totals, as a sorting bias of stems versus bowls only appears to have been a factor with perhaps a small amount of additional breakage or mended stems originally counted as one. This may have also occurred in other residences, though that may be not as obvious in the totals.

Yet when considering this collection as a whole, the overall total of pipe fragments missing is only 253, a mere 1.18% less than the previously cataloged total. The differences seen in totals of this

Table 2. A Comparison of Imported White Clay Pipe Stems and Bowls at Brunswick Town from the Original Artifact Catalog Sheets and the Present Artifact Collection.

Excavated Feature	Tobacco Pipe Stems			Tobacco Pipe Bowls			Total	
	Catalog Sheet	Collection (Actual)	Difference	Catalog Sheet	Collection (Actual)	Difference	Difference	Percent
Judge Maurice Moore House	3,784	4,359	+ 575	259	326	+ 67	+ 642	+ 15.88%
Public House	2,524	2,917	+ 393	306	313	+ 7	+ 400	+ 14.13 %
Russellborough	30	66	+ 36	9	22	+ 13	+ 49	+ 125.64%
James Espy House	3,372	3,219	- 153	325	484	+ 159	+ 6	+ 0.16 %
Nath Moore's Front	1,725	1,457	- 268	104	154	+ 50	- 218	- 11.92 %
Public House Wall	569	506	- 63	56	69	+ 13	- 50	- 8.00 %
Leach-Jobson House	5,045	4,930	- 115	390	459	+ 69	- 46	- 0.85 %
Edward Scott House	1,723	1,648	- 75	150	181	+ 31	- 44	- 2.35 %
Newman-Taylor House	64	58	- 6	4	2	- 2	- 8	- 11.76 %
Hepburn-Reonalds House	326	1	- 325	48	7	- 41	- 366	- 97.86 %
McCorkall-Fergus House	388	19	- 369	13	18	+ 5	- 364	- 90.77 %
Roger Moore House	228	2	- 226	36	8	- 28	- 254	- 96.21 %
Total	19,778	19,182	- 596	1,700	2,043	+ 343	- 253	- 1.18 %

collection are most likely a result of the past care of this collection, which is almost as interesting as the assortment of artifacts contained within it. Following the excavation of each household or feature, the artifacts were washed, sorted, and cataloged by provenience, and, when necessary, conserved under the direction of Stanley and Jewell South (South n.d.). Artifacts from each provenience were placed in a paper bag and stored in a box inside a trailer that served as the "Archaeological Laboratory" on the Brunswick Town site. This location of this trailer is noted on South's original base map of the town. A similar procedure was followed for artifacts from features not cataloged by South (previously mentioned), except the cataloging was done in Raleigh under the direction of Schwartz. The artifacts were then returned to the site and stored in the trailer. All of the artifacts were stored in non-archival materials, in this non-climate controlled and questionably secure environment until 1988. At that time, under the direction of Historic Sites staff archaeologist Jack Wilson, Bob Noel and Bill Jurgelski repackaged the artifacts. Many of the bags had places that were torn, and artifacts had likely spilled loosely into boxes. The paper bags were replaced with plastic sandwich bags and the boxes were replaced with archival quality boxes. These plastic bags have open tops, and additional loose artifacts from these bags have already been noted in previous collections research. Artifacts from Brunswick Town were subsequently moved to a secured old dormitory building at the Charlotte Hawkins Brown State Historic Site, and the mostly collapsed trailer was removed from the site. In 2003, all of the Historic Sites archeological collections (including Brunswick Town) were removed to the Office of State Archaeology Research Center, where they may one day be repackaged to modern archival standards.

It is likely in the history of this collection that additional breakage has resulted in unmarked artifacts, previous site employees may have removed artifacts, and proveniences may have been mixed. It is easy to place a blame of poor collection management and the chaos that it creates on the previous archaeologists who have been in charge of the collection, but decisions were made at the time that either were considered appropriate or were controlled by budgetary concerns. The collection of artifacts from Brunswick Town, though spread out in storage, study collections, and exhibits, is still a very valuable resource from which much can be learned. However, as this part of the study of the white clay smoking pipes illustrates, it must be approached with caution when used for quantitative research.

In future quantitative studies, the standardized catalog sheets for each ruin and feature should be considered the authority by which the counts are measured. The potential biases in cataloging these forms, noted above, are presently outweighed by the inconsistency of the artifact collections. These catalog forms should now be viewed as much as primary documentation as the excavation notes and drawings, and they should always be consulted and considered when a quantitative study is undertaken of any material from Brunswick Town.

Artifact Counts and Measurements vs. Mean Pipe Stem Dates

Since the excavation of many of the households at Brunswick Town, a number of analytical techniques have been devised to aid in the interpretation of an assemblage. In the 1960s and 1970s, when science dominated archaeological investigations and statistics governed interpretation, archaeologists sought to establish methods of analysis of historic-period sites independent of archival documents or historical records. As such, several regression formulas were developed to explore the relationship between periods of manufacture for different items of material culture and their use. The previous successes with these formulas have shown that they can generally determine the mean occupation date of an historic structure by artifacts in its assemblage, such as the presence of ceramic types, window glass thickness, and bore diameters of pipe-stem fragments.

Three primary regression formulas were developed that compute the mean occupation date of a structure based upon bore-diameter measurements taken from imported white clay pipe stems. These are based on Harrington's (1954) original study of white clay pipes, which recognized a reduction in stem bore diameter of approximately $^{1}/_{64}$ inch every 20 or so years. This decrease in bore diameter occurred during the manufacturing process over time as the lengths of pipe stems increased (i.e., smaller gauge wires had to be used to create the hole in longer stems [I. Noël Hume 1969:297]). Interestingly, it was Harrington's wife Virginia, while drinking martinis with her husband, who first suggested the use of drill bits as a tool to measure and quantify pipe-stem bore diameters (Harrington, cited in Deetz and Deetz 2000:214).

Using Harrington's findings, three main regression formulas were developed and used over the past 30 plus years. The first formula was by developed Lewis Binford (1962) and assumes a constant rate of bore diameter decrease of $^{1}/_{64}$ inch every 38.26 years. Lee Hanson (1971) devised a second method to calculate mean bore diameter dates. Instead

of a constant rate of bore diameter decrease, Hanson offered 10 relational straight line regression formulas that cover smaller periods of time, of which one or two may best reflect the general range of occupation for a site. For this calculation, the tenth formula was used, a formula that ranges from 1710–1800 and carries a standard deviation value of ±22.5 years (Hanson 1971). A third formula by Heighton and Deagan (1972) views the relationship of mean dates and bore diameters to best fit a second-degree polynomial curve, a similar method used to compute compound interest rates. These formulas are well documented and need not be reprinted here.

Based on the recounted and remeasured white clay pipe stems in the Brunswick Town collection, these data provide an opportunity to test several aspects of the formulas by Binford, Hanson, and Heighton and Deagan. Given the rich information of lot sales, property transfers, and archaeological evidence for the construction and abandonment/destruction of households at Brunswick Town, the first aspect is to assess the general accuracy of these formulas versus the mean occupation dates for many of the ruins. Second and perhaps most interesting, with the differences found in artifact counts and measurement discussed above, will be to assess the consistency of pipe stem dating by comparing newly calculated dates of ruins using Binford's formula with previously reported mean bore diameter dates from several ruins by South (1962) and Gray (1989, 1997).

Prior to the calculation of mean bore diameter dates, two observations made by previous studies must be considered. First, these formulas should only be used on pipes manufactured in England, specifically London and Bristol, as heterogeneous assemblages of pipes made in other countries tend to provide more erratic dates (Bradley 2000:119). Based on the import records in the Port Brunswick Shipping Register and bowl shapes documented in the qualitative portion of the study, all of the white clay pipe bowls (with few exceptions) at Brunswick Town appear to have been made in these British cities. Second, a study by Audrey Noël Hume (1963) illustrated that a minimum quantity of 900 stems are needed to produce a reliable, accurate date. With these observations in mind and re-measured pipe stems in hand, mean dates were calculated for the households at Brunswick Town. These households were chosen based on several factors, but primarily the quantity of pipe stems recovered. However, the Newman-Taylor House and the Public House Wall, despite having fewer than 900 stem fragments, were also calculated to measure against South's (1962) original calculated mean dates. Table 3 summarizes the calculated mean

Table 3. Newly Calculated Mean Pipe Stem Bore Diameter Dates (MPD) from Formulas by Binford (1962), Hanson (1971), and Heighton and Deagan (1972), Based on Recounted and Re-measured Stems and Compared with Mean Dates of Occupation at Brunswick Town.

Excavated Feature	Pipe Stem Bore Diameter 4/64”	5/64”	6/64”	7/64”	Mean Occupation [1]	Binford MPD	Binford Difference	Hanson MPD	Hanson Difference	Heighton & Deagan MPD	Heighton & Deagan Difference
Leach-Jobson House	2031	2691	207	1	1752	1755	+ 3 years	1753	+ 1 year	1757	+ 5 years
James Espy House	1217	1797	203	3	1754	1753	- 1 year	1750	- 4 years	1754	=
Edward Scott House	330	1096	219	3	1755	1743	- 12 years	1735	- 20 years	1745	- 10 years
Nath Moore’s Front	313	931	207	5	1764	1743	- 21 years	1735	- 29 years	1745	- 19 years
Public House Wall	165	326	15	0	1766	1752	- 14 years	1749	- 17 years	1754	- 12 years
Public House	1038	1786	89	1	1766	1753	- 13 years	1750	- 16 years	1755	- 11 years
Judge Maurice Moore House	849	3063	447	0	1780	1744	- 36 years	1737	- 43 years	1746	- 34 years
Newman-Taylor House	12	41	5	0	1785	1745	- 40 years	1738	- 47 years	1747	- 38 years

[1] Calculated by the author based on lot sales, property transfers, and archaeological evidence for construction and abandonment/destruction (from Beaman et al. 1998).

dates of formulas by Binford, Hanson, and Heighton and Deagan, as well as mean dates of occupation, by individual ruin.

Given the mean occupation date as a bullseye, and without considering standard deviations, Heighton and Deagan's polynomial curvilinear regression formula generally performed better—and in one case hit the mean occupation date—than the straight line regression formulas offered by Binford and Hanson. Even with standard deviations, three of Hanson's derived dates—Nath Moore's Front, Judge Maurice Moore House, and the Newman-Taylor House—well exceed the range of his formula. Dates obtained using the Heighton and Deagan formula were generally closer to the mean occupation dates than those based on Binford's formula, though not by much. In fact, the majority of dates calculated by each formula were only three to ten years different, though always further away from the date of mean occupation. This contradicts Fox's (1998:112–113) findings, where the Binford formula performed better than Heighton and Deagan's method on white clay pipes recovered from seventeenth-century contexts in Port Royal, Jamaica, and perhaps indicates differing degrees of accuracy when using these formulas on sites of different centuries.

What is apparent by this comparison is that, after the middle of the eighteenth century, pipe stem assemblages with later mean occupation dates will produce less accurate bore diameter dates using either bore diameter formula. This may be a result of several factors, such as the long periods of manufacture using each bore diameter size, the fact that a pipe maker often used wires of different thickness (to create the bore while the pipe was still in the mold) during the same period, or the shrink and swell ratios for wet clay versus dry clay during production. Any one of these factors could produce inaccurate dates (I. Noël Hume 1969:297). The results of this exercise disproved Cook's (1989) assertion that statistical dating formulas using bore diameters are accurate on assemblages as late as the 1780s, and it confirmed part of South's (1962) original conclusions (as well as those of many other archaeologists too numerous to mention) that the accuracy of such formulas tends to diminish after the middle of the eighteenth century. However, when considering the use of pipe stem formulas to date an assemblage, all three formulas are recommended and should be employed to obtain the best range of dates possible.

The second part of this pipe stem dating exercise is to measure the consistency of Binford's formula with different counts and measurements for the same archaeological assemblages. Unfortunately, due to the less-than-favorable condition of the artifact collection as

Table 4. A Comparison of Newly Calculated Mean Pipe Stem Bore Diameter Dates based on Re-measured Pipe Stems versus Previously Reported Mean Dates at Brunswick Town.

Excavated Feature	Mean Pipe Date (based on Binford 1962) New	Previously Reported	Difference
Newman-Taylor House [1]	1745	1745	=
Nath Moore's Front [1]	1743	1738	+ 5 years
Nath Moore's Front [2]	1743	1762	- 19 years
Public House [1]	1753	1746	+ 7 years
Public House Wall [1]	1752	1754	- 2 years

[1] From South (1962).
[2] From Gray (1989, 1997).

reported above, a number of mean pipe dates could not be calculated and compared to South's (1962) original dates for the Hepburn-Reonalds House, Roger Moore House, Judge Maurice Moore Smokehouse, the Newman Kitchen and the McCorkall-Fergus House. The remaining dates from South (1962) are for the Newman-Taylor House, Nath Moore's Front, the Public House, and the Public House Wall. Also included is Anna Gray's (1989, 1997) mean pipe stem date for Nath Moore's Front from her thesis. A comparison of the newly derived mean dates with these previously calculated dates is presented in Table 4.

The measured accuracy of Binford's formula for Table 4 is not based on the mean occupation date, but the previously calculated mean dates from the same assemblages. The results of this test were generally positive. Even with different measurements and counts, the newly calculated Newman-Taylor House date matched the original exactly, and the other dates calculated by South matched within seven years. Unfortunately, Gray's date did not match up well. Gray used only the pipe stems from within the burned layer of Nath Moore's Front, whereas South and this study also considered all of the pipes from the surrounding yard space. Yet ironically, Gray's calculated date was the closest to the mean occupation date of 1764!

Statistical bore diameter dating formulas still represent good tools of analysis when ample collections of pipe stems are available. However, like any tool, they have their limitations, the primary one of which (illustrated in this study) is the decline in accuracy on assemblages after

the middle of the eighteenth century. Given the results of this test, it would be interesting to test and compare these formulas on large pipe assemblages from shipwrecks where the exact year (and possibly even the date) of the site is known. Even with different counts and measurements from collections in a less than favorable condition, the recalculated mean dates using Binford's formulas closely matched those done over 40 years ago by South. This finding also reaffirms the value of South's original catalog sheets for the Brunswick Town ruins, as they were used to compute his mean pipe stem dates. The next portion of the study also illustrates the research value of these catalog sheets, as they were used as the basis to compare the tobacco pipe fragments to the other artifacts recovered at Brunswick Town.

Brunswick Town and Tobacco Pipes: A Community Perspective

The final quantitative aspect of the Brunswick Town tobacco pipe study was to consider the role of pipes and smoking in each individual household. To accomplish this phase of analysis, the Carolina Artifact Pattern was decided upon as the best format for comparison, as it isolates the white clay pipe fragments within a single artifact group. South (1977:97) noted that he separated these tobacco pipes into their own artifact class due to their high frequency of recovery on sites and the variability as compared to other artifacts among different sites. Other types of pipes, such as stub-stemmed and locally made "colono" pipes, fall within the Activities functional artifact group. This was based on South's decision that their presence as the result of regional trade or local manufacture was more significant than their use as smoking pipes. While problems and objections to this method have been noted (cf. Beaudry et al. 1991:152; Orser 1989; Warfel 1980, 1983), the functional artifact groups of the Carolina Artifact Pattern do provide the most readily available method for comparing data sets from multiple British colonial sites at the level of the individual artifact. It is especially useful here, as three of the structures from Brunswick Town were used to define the pattern.

In the Carolina Artifact Pattern, the expected presence of white clay tobacco pipes in a normal colonial household ranges from 1.8% to 13.9% of the total artifacts recovered, with a mean value of 5.8% (South 1977:107). While smoking was a culturally accepted practice by men and women of all social classes in colonial times, the variability noted by South may represent a number of different factors. These include the

Table 5. The Tobacco Pipe Artifact Group from Excavated Residences at Brunswick Town.

Brunswick Town Residences	Imported Pipe Fragments	Total Artifacts Recovered	Tobacco Pipe Group	Source
Edward Scott House	1,873	8,539	21.9 %	Catalog Sheets
Judge Maurice Moore House	4,043	26,850	15.1 %	Catalog Sheets
Leach-Jobson House	5,435	37,843	14.4 %	Catalog Sheets
Nath Moore's Front	1,829	13,118	13.9 %	South 1977:127
McCorkall-Fergus House	401	3,012	13.3 %	Catalog Sheets
James Espy House	3,697	32,559	11.4 %	Catalog Sheets
Roger Moore House	264	3,303	8.0 %	Catalog Sheets
Public House	2,830	42,497	6.7 %	South 1977:127
Hepburn-Reonalds House	374	8,183	4.6 %	South 1977:127
Newman-Taylor House	68	2,977	2.3 %	Catalog Sheets
Russellborough	39	17,353	0.2 %	Beaman 2001b:62, from Catalog Sheets

availability and affordability of pipes and tobacco, as well as individual preferences for smoking frequently, smoking only in social situations, or perhaps not smoking at all.

Brunswick Town Households

Using Beaman's (2001b) previous success in compiling artifact totals for Russellborough from the original catalog sheets, it was decided to complete artifact profiles for each excavated residence at Brunswick Town. Only residences and the immediate surrounding yard spaces were considered, as the household is the center of the social sphere for the lot and its inhabitants. Artifact profiles for other lot features, such as wells, kitchens, smokehouses, and public buildings, also were tallied, but they did not significantly change the percentage of pipes for any lot considered (i.e., lots with households that had a high percentage of pipes also had high percentages of pipes recovered at other features) and therefore were not considered for this comparison. The Tobacco Pipe Group for each excavated residence is presented in Table 5.

The mean percentage for the Tobacco Pipe Group from the Brunswick Town residences is 10.2%, which is almost double that of the

general Carolina Artifact Pattern mean of 5.8% (Table 5). The variability in occurrence of white clay pipe fragments recovered from the excavated households, noted in Table 5, generally fit the expected ranges of the Carolina Artifact Pattern, from 2.3% at the Newman-Taylor House to 13.9% at Nath Moore's Front, with exceptions. The Tobacco Pipe groups from the Edward Scott House, the Judge Maurice Moore House, and the Leach-Jobson House exceeded the expected pattern maximum, and Russellborough did not meet the expected minimum percentage. In several cases, the excavation methodology may have affected the totals. First, the low return of pipes from Russellborough may be a result of only excavating within the foundation walls, while the foundation ruin and surrounding yard spaces were investigated at the other residences. For the Edward Scott House, it was noted that some of the refuse from the James Espy House may have covered the Scott house ruin and subsequently affected the general total of pipes recovered from this residence.

While the percentage of tobacco pipes presented for each household is certainly pertinent to the interpretation of each residence, what is perhaps more significant on a community level is the high percentage of tobacco pipes from the houses along Front Street (Figure 2). At the James Espy House, the Edward Scott House, the Leach-Jobson House, Nath Moore's Front, and Judge Maurice Moore's House, tobacco pipe fragments comprise a larger percentage of artifacts than at any other residences or areas within the town. To consider this pattern, three hypotheses are suggested:

1. These five houses were occupied longer than any other residences at Brunswick Town and, as a result, have larger quantities of tobacco pipe fragments and other artifacts than the other residences in the town.
2. In addition to being residences, these five buildings could have had other secondary functions, such as a store or tavern, that would result in an increased Tobacco Pipe Group over other artifact groups.
3. As a result of smoking more tobacco than others, the occupants of these households actively consumed more tobacco pipes than the other residences in the town.

Each of these hypotheses will be considered individually and evaluated on archaeological and historical evidence.

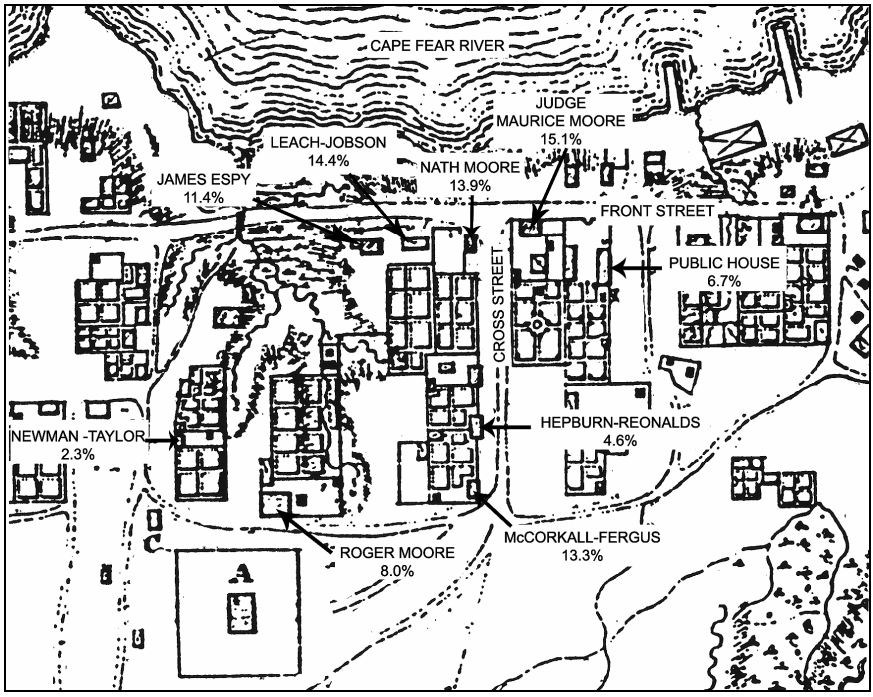


Figure 2. Excerpt from Sauthier's 1769 map of Brunswick Town that illustrates percentages of tobacco pipes recovered by residence. The Edward Scott House (21.9%) and Russellborough (0.2%) are not shown. For orientation, the Cape Fear River borders the town on the east. Labels have been added by the author. The Sauthier map is reproduced courtesy of the North Carolina Department of Archives and History.

The first hypothesis, that certain buildings were occupied longer than others at Brunswick Town, is not a likely hypothesis to explain the prodigious quantities of pipe stems and bowls in these particular households. The concept of pattern-based analyses, such as the Carolina Artifact Pattern, allows that a longer occupation of a structure would likely see greater quantities of artifacts deposited from all functional artifact groups. This would not affect one single artifact category, such as pipes, and not other artifact groups like kitchen or activity based artifacts. The time between lot sales and transfers that these residences could have stood empty or been seasonally or infrequently occupied would be a factor in the formation of the archaeological record, yet would still affect the entire artifact pattern of the household. Historical documentation also argues against this hypothesis, as the Judge Maurice

Moore House was not constructed until the late 1750s and early 1760s, while the other residences were constructed in the late 1720s and 1730s.

The second hypothesis states that these five houses could have had other secondary functions, such as stores or taverns. Just as South suggested the presence of a tailor shop in the Public House structure (South 1977:102–104), artifact patterns can reveal secondary functions in the absence of historical documentation. While the percentages of tobacco pipes falls within or just outside of the expected ranges for these residences, archaeological evidence for secondary functions in each of these five structures is somewhat lacking. However, historical records do illuminate the possibility of other activities within each household. Occupations listed in deed transfers and wills indicate that at least one of the owners in each of the five structures was a merchant and may have operated a small store out of his residence. But, the Hepburn-Reonalds House was a known residence and merchant shop, and it has a less than mean value of Tobacco Pipes at 4.6%. Additionally, court records indicate that Edward Scott was issued a permit in 1737 to operate an ordinary (tavern) in the cellar of Nath Moore's Front, which may have continued until Scott's death in 1744 (cited in Gray 1989:28, 1997:74). No pattern for this social function has been ascertained in repeated analyses of this assemblage, possibly due to the brevity and small scale of the operation. Perhaps patterns based on artifact classes and groups for taverns or stores will be suggested in the future and may reveal more secondary activities in these residences. Also, the vast majority of pipes (over 95%) at each of these residences were smoked, evidenced by the blackened insides of a pipe bowl, as opposed to unused pipes with no charring that may have been merchant stock (cf. Fox 1998:73–82). At this time secondary functions seem an unlikely explanation for the vast quantity of tobacco pipe fragments recovered from these households.

The final hypothesis, that more tobacco and pipes were consumed in these households than others at Brunswick Town, may be the simplest and the most probable. But why were these particular households the location of the highest consumption of tobacco pipes (and presumably, tobacco) within the town? One potential explanation is perhaps to consider the location of these residences on the cultural landscape. This high bluff on the western bank of the Cape Fear River provided excellent scenic access to watch the activity on the river. Front Street, on which the houses were located, stretches to the southern area of town that is shown on Sauthier's 1769 town plan as the wharf areas. As noted by Robinson (1997:63–65), these wharf areas likely contained warehouses and industrial sites (e.g., a blacksmith or cooper) that supported the port.

Individuals passing to and from the busy port would have passed these residences if traveling along Front Street to the north end of town, or further west into the town on Cross Street. These residences were located in one of the more actively traveled areas of the town and, as such, would have provided more opportunities for pipes to be used, broken, and discarded. High bowl-to-stem ratios for the James Espy House (1:10.4), the Edward Scott House (1:11.5), the Leach-Jobson House (1:12.9), Nath Moore's Front (1:16.6), and Judge Maurice Moore's House (1:14.6), when compared to a normative eighteenth-century white clay pipe ratio of 1:4, may indicate more itinerant individuals (Bradley 2000:126–127). The spatial distribution of pipe fragments at these residences may be interpreted as a confirmation of this pattern (e.g., see the distribution at Nath Moore's Front in South [1977:64]), as much higher concentrations of stems and bowls were recovered in the yard areas that border Front or Cross streets than anywhere else in the excavated areas around and within these households.

The location of these residences within the larger, natural landscape of the town is a less likely explanation for the larger percentage of pipe fragments recovered in these residences as a cultural response to the environmental conditions. To the immediate north of the James Espy House is a natural drainage in which water becomes stagnant. It is visible on Sauthier's map of Brunswick Town and, even following the construction of Fort Anderson over a portion of the town, still appears in modern drawings and can be viewed at the site today. Traditionally, areas such as this drainage have been breeding grounds for mosquitoes, gnats, and other types of flying pests. Similarly, the residences are on a river bluff, the base of which could pose similar environmental conditions. The use of pipes over snuff (and perhaps also cigars) would provide a protective cloud of smoke that could keep such nuisances away from one's face. Most visitors to the site of Brunswick Town can certainly attest to the flying pests during the summer months. Even in recent history, one of South's excavators commented on the problem, noting that the "site's fogger doesn't faze flies" (Mayhew 1966: May 6). Yet the Hepburn-Reonalds House, the Roger Moore House, and the Newman-Taylor House also border this drainage, and all have Tobacco Pipe Group values that fall well within the normative range of use proposed by South, again suggesting this possibility as a less-than-likely explanation.

While these explanations for the third hypothesis are plausible, can it just be that the occupants of these residences smoked more out of

personal choice? As previously noted, South (1977:106) kept the Tobacco Pipe Group separate from the Personal or Activities groups in the Carolina Artifact Pattern because it was expected to vary widely between ruins depending on the smoking habits of the occupants, stating that "no independent explanation for the wide variability can be suggested other than variability in behavioral habit." Unfortunately, no other excavated residences at Brunswick Town share a similar setting, making these potential explanations for the third hypothesis difficult to evaluate. However, data from additional eighteenth century residential sites can be considered for comparative purposes.

Comparative Eighteenth-Century Archaeological Sites

In an effort to understand the generally high percentages of white clay tobacco pipe fragments recovered from residences within Brunswick Town, 16 other archaeological sites from North Carolina with eighteenth-century domestic contexts were chosen to provide a comparative context for the Brunswick Town households. All have received advanced testing or have been excavated. As seen in Figure 3, these sites are situated: (1) in the Albemarle Region (the Reid Site [31Pk8], the Joseph Scott Plantation and Newbold White House [both 31Pq7], Eden House [31Br52], and the Hobson-Stone House at Hope Plantation [31Br187]); (2) in the Cape Fear Region (31Cb86, 31Cb88, 31Cb92, the Neale Plantation [31Cb110], and the mansion site at Old Town Plantation [31Bw3]); and (3) within the colonial towns of Edenton (cellar from the Snuff and Tobacco Manufacture site [31Co17]), Halifax (Joseph Montfort House [31Hx1*52*1]), Bath (Michael Coutanche House [31Bf85*24*1]), and New Bern (Tryon Palace [31Cv3], the United Carolina Bank site [31Cv183], and the Samuel Cornell House [31Cv310]). These sites were selected based upon their geographic diversity within the state, different settings of the residences within towns and rural areas, variable socio-economic statuses of the occupants, and freely available artifact data for excavated eighteenth-century households. These particular household assemblages were also chosen based on the presence of all functional artifact groups and classes in an attempt to eliminate any sampling or excavation bias.

To be as comparable as possible with the Brunswick Town households presented in Table 5, artifacts recovered from these sites were tallied or converted into the Carolina Artifact Pattern format by the author based upon either original catalog forms or artifact lists presented as appendices in published reports. In many cases, some of the artifacts

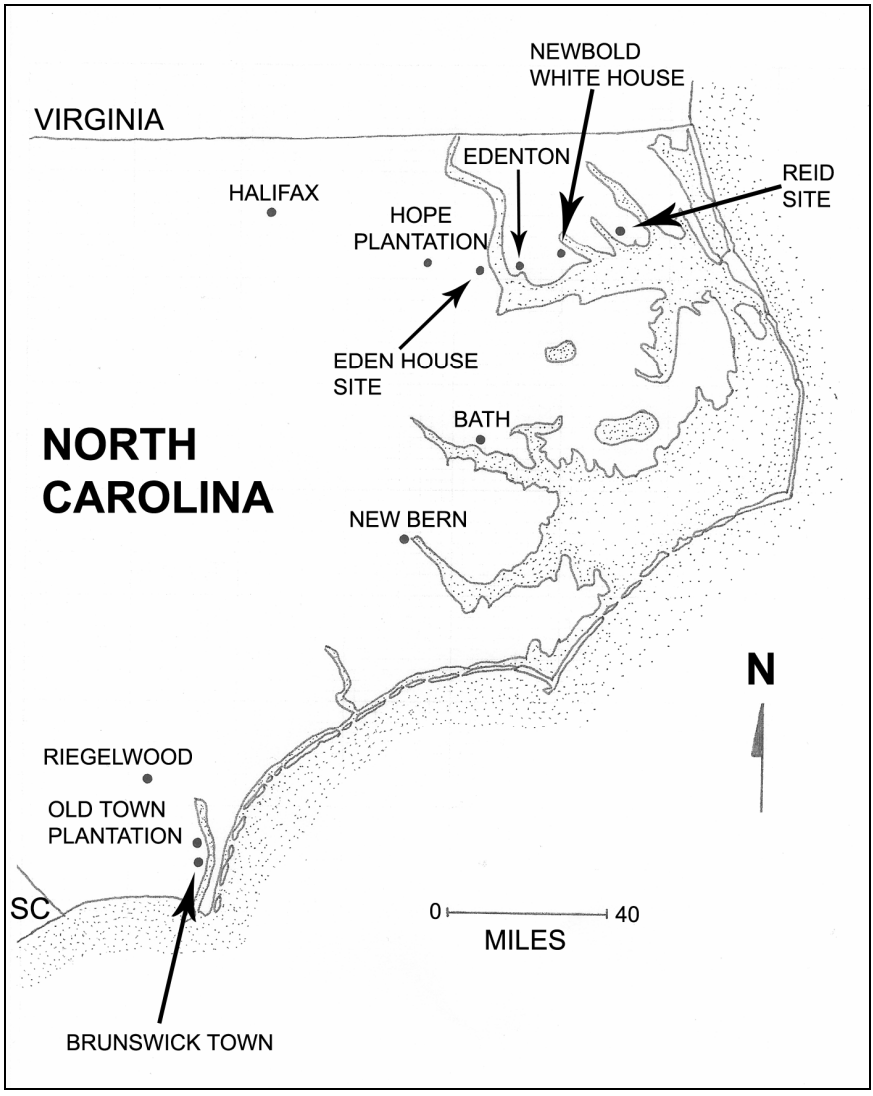


Figure 3. The general locations of the British colonial sites with white clay pipes discussed in this study are shown here on the coast and coastal plain of eastern North Carolina. Note that the Newbold-White House, New Bern, Riegelwood, and Brunswick Town locations represent more than one individual archaeological site used in this comparative study.

recovered would not fit into the groups and classes, and were not included in these profiles. These include common building materials, such as bricketage, mortar and wood fragments, charcoal, unidentified

artifacts (such as melted glass), and prehistoric materials not attributed to historic-period collecting behavior. Modern artifacts (post ca. 1950) were omitted as well. *The conversion of these artifact assemblages into Carolina Artifact Pattern profiles was done to provide a standardized, consistent means of household comparison where white clay pipes could be isolated as an artifact group, not to question or challenge any previously reported site interpretation(s)*. Additionally, bowl-to-stem ratios were calculated for each of these comparative residences to measure against the Brunswick Town ratios. As a pipe's stem is reduced through breakage a number of times during its use life, more stem fragments are recovered than bowls at most sites. Richie (1978:135) calculated that the 12-inch average stems on eighteenth-century pipes break four times before the pipe is discarded, producing a normative ratio of 1 bowl to 4 stem fragments (1:4). After 1780, stems are reduced in length and only produce a normative ratio of 1 bowl to 1.5–2 stem fragments in typical distributions (Bradley 2000:127). Brief site descriptions and the white clay tobacco pipe fragments recovered at each are described below.

Reid Site. Some of the earliest settlers of the Albemarle Region were Quakers seeking religious freedom. One of these, Solomon Poole, moved from Middlesex, England, to what is now Pasquotank County in 1670. In 1684 he received a land grant for 200 acres, and in 1718 he acquired 67 additional acres on the east side of the Little River (Gray 1989:23). Following his death in 1739, his property was subdivided between his four children, one of which likely occupied the residence until it burned sometime in the last quarter of the eighteenth century (Gray 1997:76–77). John Clauser conducted a week-long archaeological investigation at 31Pk8, the Reid Site (named for its present owners), in 1985. This included an intensive surface collection focused on diagnostic artifacts and the excavation of a 10-foot by 16-foot ballast stone cellar with a brick floor. Anna Gray (1989, 1997) analyzed this collection and identified a Tobacco Pipe Group of 5.8%. A reexamination of the collection found a total of 153 white clay pipe fragments (97 stems and 56 bowls).

Joseph Scott Plantation and Newbold White House. In neighboring Perquimans County, the Newbold-White House property (31Pq7) has been the subject of repeated archaeological investigations. Based on dendrochronology of timbers, the brick residence on the property was constructed in the 1730s (Heikkenen 1994) and occupied until the mid-

twentieth century. The two most conclusive investigations of the Newbold-White House property were conducted around the main residence by Alain Outlaw (1973) and in the grape arbor area by Steve Allen (1995). Excavations by Outlaw around the 1730s structure revealed features related to the construction of the early brick residence, a possible smokehouse, root cellar, and three late-eighteenth to early-nineteenth century trash pits. As recovered by Outlaw (1973), the Tobacco Pipe Group from this area totaled 11.6% (n=45 [26 stems and 19 bowls] of 388 artifacts). Allen's (1995) investigations in the arbor area uncovered evidence of several dependency buildings and domestic refuse that relates to the late seventeenth-century occupation of the property by Joseph Scott and his descendants (Bandy 2000:110). The most common artifacts recovered from this area were white clay pipe fragments (n=829 [728 stems and 101 bowls] of 3,768 artifacts), and comprise a Tobacco Pipe Group of 22.0%. Former site manager Stephanie Bandy re-cataloged both the Outlaw and Allen artifact collections, an inventory of which was included in Bandy's (2000) study and from which these comparative data were extracted.

Snuff and Tobacco Manufacture Site. The town of Edenton, incorporated in 1712, is located along the Chowan River. Development and construction of a detention facility prompted the excavation of a cellar feature in 1977. Documentary evidence placed a mid-eighteenth century snuff and tobacco manufacturing facility near or on this property. Following the excavation of a cellar feature (31Co17), Foss et al. (1979:118) reached the conclusion, more from documentary than archaeological evidence, that the cellar did relate to the early snuff and tobacco manufacture facility. The stratified deposits and related artifacts led to the conclusion that the industrial structure was converted into a house as early as 1764, and was used until approximately 1800 when it was abandoned. The cellar likely stood open until approximately 1820, when it then appeared to be rapidly filled. The combined artifact profiles for the surviving domestic layers yielded a Tobacco Pipe Group of 457 fragments (438 stems and 19 bowls) of 23,401 artifacts, or 2.0% (Foss et al. 1979:105–106).

Eden House Site. The Eden House site (31Br52), situated on the western bank of the Chowan River, was partially excavated as part of a highway improvement project (Robinson 1994; Lautzenheiser et al. 1998). This site was the location of the house and plantation built by Royal Governor Charles Eden in the early eighteenth century. However,

archaeological investigations on the southern end of the property revealed evidence of three historic periods of occupation. The tobacco pipes considered in this study are from the first period of the site, which was dated between ca. 1680, when the first buildings were constructed, and 1718, when Governor Eden purchased and began to further develop the property (Lautzenheiser et al. 1998:131, 146). Only 21 white clay pipe fragments (20 stems and one stem with a bowl fragment on end) were identified from 382 artifacts, or 5.5% of the total artifacts recovered from Period I contexts (Lautzenheiser et al. 1998:135, Appendix D:121–123).

Hobson-Stone House. The Hobson-Stone House, located in what later became Hope Plantation (31Br187) in western Bertie County, was constructed soon after the Lords Proprietors' land grant to John Hobson in 1727. The property was passed through the marriage of Elizabeth Hobson to Zedekiah Stone in 1767, one of whose children, David, was elected Governor of North Carolina in 1808. It is suspected David Stone's wife and family occupied this house until the construction of the Hope House in 1803. Initial investigations of the Hobson-Stone House by Stone (1970a) and Phelps (1980) revealed excellent site integrity, and the systematic archaeological survey of Hope Plantation by Buck (1999a, 1999b) likewise produced eighteenth-century artifacts from this residence. Recent advanced testing of the house revealed a builder's trench, a brick foundation with areas of "robbed brick," a tile floor, and a number of eighteenth-century artifacts (Madsen et al. 2002:47–62). The recovered artifacts in Carolina Artifact Pattern format totaled 823, of which 11 were white clay pipe fragments (8 stems and 3 bowls), and yielded a Tobacco Pipe Group of 1.3 %. The artifacts from the 1976 investigation of the King Site in Bertie County, the original location of the King-Bazemore House prior to its move to Hope Plantation, was also considered as potential comparative data, but this collection (presently housed at Hope) unfortunately has never been fully processed or cataloged (Phelps 1980:39; Glenn Perkins, personal communication 2005).

Joseph Montfort House. On the colonial map of the town of Halifax made by Swiss cartographer Claude Joseph Sauthier in 1769, the Joseph Montfort House (31Hx1*52*1), illustrated with outbuildings and a formal garden, appears as the predominant residence of the town in size and location (Carnes-McNaughton 1992; Ewen et al. 2002:334–335). Joseph Montfort acquired the property, identified as Lot 52, in 1762, and

the house was likely completed by 1765. Other prominent Halifax families, including the Stiths and the Daniels, also occupied the residence. Unknown tenants lived in the structure when it caught fire and burned between 1865 and 1868 (Cross 1973). Archaeological investigations of the site in 1973 by Stuart Schwartz, in 1974 by Larry Babits (1974), and by Tom Funk in 1978 (Garlid 1978) led to a full excavation of the house foundation and surrounding lot under the direction of Funk in 1979 (Harper 1984). The four bound volumes of artifact catalog sheets from the Montfort House investigations list 129,733 total artifacts, from which a Carolina Artifact Pattern profile of 116,015 artifacts was constructed. The 836 stem and 182 bowl fragments (1,018 total) constitute a Tobacco Pipe Group of 0.9%.

Michael Coutanche House. Like the Montfort House, the Palmer-Marsh House appears as the premier residence on the 1769 Sauthier map of Bath. The extant structure, built in 1751, was the subject of archaeological investigations by Stanley South (1960). The areas tested in the yard revealed a cellar feature (31Bf85*24*1), a stone-lined well, and a midden from an earlier structure, this work also identified changes to the basement entrances to the Palmer-Marsh House. The cellar feature was from an earlier building that was likely constructed in the 1730s and torn down by 1751. Historical records and etched window glass fragments indicate that Michael Coutanche was the owner (Baicy 2003:64–65; South 1960:2; Watson et al. 2005:84–85). Carl Steen reanalyzed the artifacts recovered from this pre-Palmer-Marsh House occupation in 1984, and a total of 50 white clay pipe fragments (48 stems and 2 bowls) were identified from 1,420 total artifacts. This comprises a Tobacco Pipe Group of 3.5%.

Tryon Palace. Three comparative eighteenth-century sites were identified in the town of New Bern. Tryon Palace (31Cv3), considered to be one of the premier, elite colonial residences of North Carolina, served as the opulent pre-Revolutionary, Palladian-villa style home of loyalist governors William Tryon and Josiah Martin. Construction first began on the Palace in August 1767. Tryon moved his family into the residence in the summer of 1770 and occupied it until he left in 1771. Josiah Martin moved in that same year and lived there until May 1775, when he and his family fled with the fear of rebellion. The people of New Bern used the main building for a variety of purposes until it burned in February 1798 (Dill 1955). From 1952 until 1958, landscape architect Morley Jeffers Williams conducted extensive archaeological excavations

that guided the interior and exterior restoration, and reconstruction of the buildings and other architectural features (Beaman 2000). A large sample of the artifact collection from Williams' investigations was analyzed by Beaman (2001b, 2001c), who identified a Tobacco Pipe Group of 19.7% (n=4,295 [3,867 stems and 428 bowls] of 21,735 artifacts).

United Carolina Bank Site. Coastal Carolina Research conducted data recovery excavations at the United Carolina Bank site (31Cv183) in March 1994 (Lautzenheiser et al. 1994). The site contained a ballast-stone foundation with a rear addition, as well as a stratified trash pit containing eighteenth-century deposits. A total of 267 white clay pipe fragments (200 stems and 67 bowls) were recovered from the site, the majority (n=246) of which came from Feature 102, the ballast-stone cellar feature (Lautzenheiser et al. 1994: Appendix A, Part 6 [pp. 97–101]). Given a total of 9,743 artifacts recovered from the site in Carolina Artifact Pattern format, the Tobacco Pipe Group represents 2.7 % of that total.

Samuel Cornell House. The third context from New Bern, the Samuel Cornell House (31Cv310) on Lot 10, was also the subject of data recovery excavations by Coastal Carolina Research (Brady et al. 2001). In May and June 2000, investigation of the site identified *in situ* remains of an eighteenth-century dwelling, including a ballast-stone foundation, post holes, and an intact eighteenth-century midden. Eight distinct strata were documented behind the structural remains, from which five distinct historical periods of the property were recognized. This study is only concerned with the strata and features assigned as Period II (1754–1777), when Samuel Cornell, reputed to be the wealthiest merchant in North Carolina and instrumental in helping Royal Governor William Tryon raise funds for the construction of his Palace, owned the property (Green 2000). Artifacts recovered from Period II contexts (based on Brady et al. 2001:36–81, Appendix D [pp.147–309]) were re-tabulated in Carolina Artifact Pattern format, yielding a total of 102 white clay pipe stem fragments (66 stems and 36 bowls) from 1,556 total artifacts (or 6.6%).

Sites 31Cb86, 31Cb88 and 31Cb92. Three of the comparative sites, 31Cb86, 31Cb88 and 31Cb92, are part of the Neils Eddy Archaeological District in Columbus County and are likely part of the same historic plantation. The data from these sites originated from a 1996 advanced testing of the International Paper property in Riegelwood by Coastal

Carolina Research. High status artifacts and architectural information identified 31Cb86 as the main residence (Lautzenheiser et al. 1997:56–88). Fifty-six white clay pipe fragments (36 stems and 20 bowls) were identified from the 1,531 artifacts recovered during this testing at 31Cb86, comprising a Tobacco Pipe Group of 3.6%. Based on its large size, location on the landscape, and artifact assemblage, Lautzenheiser et al. (1997:96) postulated 31Cb88 was the site of an overseer residence. The Tobacco Pipe Group for this site was an astounding 19.0% (n=50 fragments [25 stems and 25 bowls] of 263 total artifacts). Site 31Cb92, one of the smaller sites west of the main residence, contained the largest concentration of artifacts of the six sites identified as quarters of enslaved African-Americans (Lautzenheiser et al 1997:96, 98–100). Thirteen white clay pipe fragments (7 stems and 6 bowls) were noted in the 201 recovered artifacts, representing a Tobacco Pipe Group of 6.4%. To date, none of these sites have been investigated further.

Neale Plantation. A fourth site on the International Paper property tested in 1996 was the subject of data recovery excavations by New South Associates in 1997. Site 31Cb110 was primarily occupied during Samuel Neale's ownership of this property from 1735 to 1773 (Adams 1998:18). Based on comparisons of artifact data in South Carolina and Virginia to site 31Cb110, Lautzenheiser et al. (1997:113–120) and Adams (1998:111) suggest the occupants of the site were of low status, though the ethnic identity of the residents was never established. Faunal information also indicates the site was only occupied seasonally (Adams 1998:111). With 40 stem and 14 bowl fragments, combined data totals from both investigations at 31Cb110 place the Tobacco Pipe Group at 12.3% (Adams 1998:112–114).

Old Town Plantation. Finally, approximately seven miles north of Brunswick Town, the mansion house site of Old Town Plantation (31Bw3) was identified in early 1969. William R. Henry, Jr., assistant archaeologist for the Department of Archives and History, Dr. Gerald Shinn, and volunteers from UNC-Wilmington and the Lower Cape Fear Historical Society conducted initial investigations at the site in April, August, and September 1969. Garry Wheeler Stone completed the exploration of the areas revealed during these investigations, roughly a third of the mansion house, in September 1970. These excavations revealed the mansion house to be a four-room structure with a central chimney. It contained well-preserved stratified deposits of construction, occupation, and destruction layers, all from the first half of the

eighteenth century (Stone 1970b). Based on the artifact catalog sheets from these investigations, 62 white clay tobacco pipe fragments (45 stems and 17 bowls) were identified from a total of 2,221 artifacts, or 2.8% of the artifacts in the Carolina Artifact Pattern format.

Discussion

The wealth of comparative data presented above, including the excavated residences at Brunswick Town, is summarized in Table 6. Bowl-to-stem ratios were also calculated for each residence. While the Carolina Artifact Pattern illustrates the percentage of tobacco pipes recovered as opposed to other artifacts on different sites, the bowl-to-stem ratio provides a potentially valuable interpretive aid in bringing behavioral meaning to the Tobacco Pipe Group at each site. This ratio is demonstrated as an indispensable tool when attempting to illuminate specific pipe-smoking practices that occurred on a site. The data in Table 6 also allow for general observations of pipe-smoking behaviors in colonial North Carolina to be measured by a number of factors and patterns to be identified and documented.

First, the comparative data presented will provide a basis for evaluating the hypotheses and explanations put forth above regarding the residences at Brunswick Town. As previously discussed, five residences from Brunswick Town—the James Espy House, the Edward Scott House, the Leach-Jobson House, Nath Moore's Front, and the Judge Maurice Moore's House—all have large Tobacco Pipe artifact groups, as well as some of the highest bowl-to-stem ratios of excavated eighteenth-century domestic sites in North Carolina. This comparison helps to clarify several of the hypotheses and explanations put forth in the previous section about the possible explanations for these high percentages. First, the comparative data do not argue for high percentages of pipes as evidence of a secondary function of shops in these five residences. Archaeological evidence and historical documents both attest that the Michael Coutanche House in Bath and the Samuel Cornell House in New Bern were both owned by merchants who stored inventory or ran shops out of their cellars (Brady et al. 2001:36–81; South 1960; Watson et al. 2005:85). Both had relatively minor Tobacco Pipe Groups with 3.5% and 6.6%, respectively, but vastly different bowl-to-stem ratios, suggesting different use patterns at these similar sites.

The data also do not seem to support the notion of pipe use for the protective cloud of smoke to keep flying pests away from one's face. A number of these sites, such as the Reid site, Old Town Plantation House,

Table 6. A Comparison of Tobacco Pipe Artifact Groups and Bowl-to-Stem Ratios from Excavated Eighteenth-century Residences in North Carolina.

Site Name	Locale of Residence	Approximate Dates of Occupation	Tobacco Pipe Group	Bowl-To-Stem Ratio	Source
Joseph Scott Plantation	Rural	1684 – 1726	22.0 %	1 : 7.2	Catalog Sheets from Bandy (2000)
Edward Scott House	Town	1733 – 1776	21.9 %	1 : 11.5	Catalog Sheets
Tryon Palace	Town	1767 – 1798	19.7 %	1 : 9.0	Beaman 2001c:50
31Cb88	Rural	"Late 18th c."	19.0 %	1 : 1.0	Lautzenheiser et al. 1997:89–96
Judge Maurice Moore House	Town	1759 – ca. 1800	15.1 %	1 : 14.6	Catalog Sheets
Leach-Jobson House	Town	1728 – 1776	14.4 %	1 : 12.9	Catalog Sheets
Nath Moore's Front	Town	1728 – ca. 1800	13.9 %	1 : 16.6	South 1977:127
McCorkall-Fergus House	Town	1734 – 1769	13.3 %	1 : 29.8	Catalog Sheets
Neale Plantation	Rural	1735 – 1773	12.3 %	1 : 2.9	Adams 1998:114
Newbold White House	Rural	ca. 1730s – mid 20th c.	11.6 %	1 : 1.4	Catalog Sheets from Bandy (2000)
James Espy House	Town	1731 – 1776	11.4 %	1 : 10.4	Catalog Sheets
Roger Moore House	Town	1731 – ca. 1800	8.0 %	1 : 6.3	Catalog Sheets
Public House	Town	1732 – ca. 1800	6.7 %	1 : 8.2	South 1977:127
Samuel Cornell House	Town	1754 – 1777 (Period II)	6.6 %	1 : 1.8	Brady et al. 2001: Appendix D
31Cb92	Rural	"second half of 18th c."	6.5 %	1 : 1.2	Lautzenheiser et al. 1997:101–102
Reid Site	Rural	ca. 1740 – "last quarter 18th c."	5.8 %	1 : 1.7	Gray 1989:46, 1997:77
Eden House	Rural	1680 – 1718 (Phase I)	5.5 %	1 : 20.0	Lautzenheiser et al. 1998: Appendix D, 121–123
Hepburn-Reonalds House	Town	1734 – 1776	4.6 %	1 : 6.8	South 1977:127
31Cb86	Rural	"last quarter of 18th c."	3.6 %	1 : 1.8	Lautzenheiser et al. 1997:56, 85
Michael Coutanche House	Town	ca. 1730 – 1760s	3.5 %	1 : 24.0	Catalog Sheets

Table 6 continued.

Site Name	Locale of Residence	Approximate Dates of Occupation	Tobacco Pipe Group	Bowl-To-Stem Ratio	Source
Old Town Mansion Site	Rural	ca. 1725 – 1755	2.8 %	1 : 2.6	Catalog Sheets
UCB Bank Site	Town	"mid to late 18th c."	2.7 %	1 : 3.0	Lautzenheiser et al. 1994: Appendix A
Newman-Taylor House	Town	1769 – ca. 1800	2.3 %	1 : 16.0	Catalog Sheets
Edenton Snuff & Tobacco Cellar	Town	ca. 1764 – 1800	2.0 %	1 : 23.1	Foss et al. 1979:105–106
Hobson-Stone House	Rural	ca. 1727 – 1803	1.3 %	1 : 2.7	Madsen et al. 2002: 53–54, Appendix B
Montfort House	Town	ca. 1765 – 1868	0.9 %	1 : 4.6	Catalog Sheets
Russellborough	Town	1751– 1776	0.2 %	1 : 3.3	Beaman 2001b:62, from Catalog Sheets

Samuel Cornell House, the Neale Plantation, and 31Cb86 fall along a large stream, river, or bay that would present similar environmental conditions favorable to the breeding of mosquitoes, gnats, and other types of flying pests. The small quantities of pipe fragments found at these sites, as well as low bowl-to-stem ratios, do not suggest a cultural response to pests in similar environmental conditions was a primary factor in pipe use.

Based on the limited likelihood of the two explanations provided above, it seems the high percentages of these five residences at Brunswick Town may be a result of being in a well-trafficked area. The yards of these structures on the bluff overlooking the Cape Fear River could have provided an excellent place for social interactions to occur or to enjoy the scenic view, and was a convenient place for the discard of used pipe stems by those passing through. As previously noted, the high bowl-to-stem ratio indicates that stems were much more commonly discarded than bowls, which may be indicative of a less stable, higher transient population (Bradley 2000:126–127).

Given the Tobacco Pipe Group percentages and bowl-to-stem ratios presented in Table 6, it also is possible to make several general observations about pipe-smoking behaviors in Colonial North Carolina. These statements are based on manipulating the data to measure how

much pipe-smoking behavior is influenced by four criteria: (1) the general location in region (regionalism); (2) the setting (town versus rural); (3) the socio-economic status of the site occupants; and (4) and the ethnicity of those occupants. In the first comparison, the 27 sites presented in Table 6 were grouped into two different geographic regions—Albemarle (including the Montfort House in Halifax) and Cape Fear (including sites in Bath and New Bern)—which roughly mirror the two different historic economies of North Carolina. In this first comparison, no pattern is clearly visible in either the Tobacco Pipe Groups or the bowl-to-stem ratios. The Tobacco Pipe Group ranges in the Albemarle sites from 22.0% to 0.9%, and from 21.9% to 0.2% in the Cape Fear sites. Bowl-to-stem ratios are equally as diverse. It can therefore be stated, based on the data presented in this study, that *the location of a site within a specific geographic region is not a factor in the use of smoking pipes during the colonial period in North Carolina*. The absence of such a pattern is significant, especially in the Albemarle region where tobacco formed the primary economic basis of the region during and after the colonial period.

Next, the sites in Table 6 were arranged to compare town residences to ones in a rural setting. Again, no clear pattern is visible among the Tobacco Pipe Group values. However, the bowl-to-stem ratios were generally higher than the normative value (1:4.0) in town sites and lower than the normative value in rural sites. Exceptions do exist in the town and rural categories. The two earlier rural sites, the Joseph Scott Plantation (1:7.2) and Eden House (1:20.0), had higher than normative values. Supplies were likely more limited in these two seventeenth-century sites, and pipe bowls may have received a higher degree of curation and reuse, though this may have been true for the eighteenth-century rural sites as well. Additionally, pipes purchased in towns may be partially used or stems accidentally broken by their owners prior to their return to a rural area, thereby not having a full stem that would be discarded later. In town sites, cellars either left standing empty for a time, which accumulated refuse, or filled immediately with displaced secondary refuse, as suggested in the case of Edenton Snuff and Tobacco factory cellar (Foss et al. 1979:112–113, 118) and the Michael Coutanche House (South 1960, Watson et al. 2005:85), have likely affected the extremely high bowl-to-stem ratios. This also may be a factor in other cellars from town sites. However, town sites would also have had a higher population density, more residents and visitors moving around and through areas regularly, and better access to imported goods than their rural neighbors. For whatever the reason, the data in this study

suggest that *the town or rural setting of a site does appear to affect the bowl-to-stem ratio of white clay smoking pipes in Colonial North Carolina*. The next step would be to develop testable conditions that could be evaluated against additional comparative data from collections research or from new excavations of eighteenth-century sites.

The complex and dynamic issue of status generally refers to one's rank or standing within a particular group or society. For example, wealth, or the absence of it, is a major determinant of one's social position within a society. Thus, wealth defines higher-status households versus lower-status households. Archaeological means to determine status have received much space in journals and on bookshelves, though generally low, middle and high have been primarily used as categories to determine social and economic class. Unfortunately, the sites presented in Table 6 that form the basis of this comparative study are not a balanced sample to adequately measure pipe use and behaviors across all levels of society. With the exception of the Neale Plantation, 31Cb88, and 31Cb92, all the sites selected are considered or were determined to have been occupied by either high- or elite-status residents. If these first three sites, documented as lower class households, are considered as a representative sample, no pattern of the Tobacco Pipe Group can be discerned. However, these households do have lower than normative bowl-to-stem ratios. If the remaining sites in Table 6 (minus the previously mentioned three sites) are considered as high-status or elite-status households, no pattern is clearly visible in either the Tobacco Pipe Groups or the bowl-to-stem ratios. As such, it may be initially stated that *status does not appear to be a factor regarding the use of smoking pipes during the colonial period in North Carolina*. However, it is hoped that further investigations of middle- and lower-status sites will be conducted and provide additional clarification on the role household status may have played in the use of smoking pipes.

Ethnicity is equally as complex and dynamic as status, and historically has been closely linked to it. The concept of ethnic identity is usually defined by a group who share common traits, such as place of origins, language, history, or religion, though perceptions of ethnicity may differ based on whether people are inside or outside of the group. In archaeological literature, recognition of ethnicity has usually involved the process of attempting to define characteristics of non-European peoples, such as those of African, Native American, or Oriental descent. A problem exists in this study for attempting to determine whether the ethnic identity of a household affects the use of smoking pipes. Only one site, 31Cb92, was interpreted as having been occupied by enslaved

African-Americans, while the remaining sites were predominantly of European ancestry. Unfortunately, at this time, there is not enough data to suggest whether the ethnic identity of a household affects the use of smoking pipes. Just as with status, it is hoped that further exploration of seventeenth and eighteenth-century archaeological sites will provide more data on smoking pipes to compare with these preliminary conclusions.

Conclusions

In many ways, fragments of white clay tobacco pipes recovered on archaeological sites are almost an ideal artifact to help understand past cultural behaviors of smoking. They were inexpensive, readily available to most consumers, and something that was regularly encountered in everyday life. Stems, easily broken following use, entered the archaeological record with little likelihood of being scavenged or recycled. The high-fired white clay body allows it to survive harsh depositional environments. Bowls (and occasionally stems) have maker's names or other decorative marks and motifs that allow for the location and identification of the pipe's origin, and they exhibit variability in form over time. Recent studies have even illustrated how pipes can reflect differences in class, status, ethnicity, and political affiliation (Fox 1998; Gojak and Stuart 1999; Rafferty and Mann 2004).

This quantitative study on the white clay tobacco pipe fragments from Brunswick Town has provided valuable insight into the condition of the Brunswick Town artifact collection, the value and reliability of pipe-stem dating formulas, and the use of tobacco pipes at Brunswick Town and other eighteenth-century archaeological sites in North Carolina. The realization of the condition of the Brunswick Town artifact collection, through the varying numbers of pipes fragments, was both disappointing and illuminating. The explicitly stated method of analysis and its consistent application should allow future researchers the ability to replicate the counts and measurements in this study, a good lesson for all studies of material culture. While there is still a great wealth of information that can be gleaned from the Brunswick Town artifact collections, this portion of the study primarily serves to highlight the importance of the original artifact catalog sheet counts that should be considered along with future quantitative studies from this collection.

Pipe stem bore-diameter dating formulas remain a useful tool in the analysis of colonial period artifact assemblages. When compared to the actual mean occupation date of the residences at Brunswick Town,

calculations using the formulas presented by Binford, Hanson, and Heighton and Deagan all performed well with a degree of accuracy. The most effective use of these formulas would be to use them all as a group to obtain a range of possible mean occupation dates from an assemblage. However, as was observed, the accuracy of these formulas declines on sites with a mean occupation date later than approximately 1750. Recalculated mean bore-diameter dates using Binford's formula were generally consistent with those calculated with the same formula over 40 years ago by Stanley South on the same assemblages. As a chronometric tool, the potential of these formulas during the reanalysis of older collections remains as viable as ever, even with assemblages that were stored in less than favorable conditions.

The interpretive value of the Carolina Artifact Pattern and bowl-to-stem ratios are demonstrated in the final section of this study, through evaluating hypotheses for high percentages of recovered pipes at certain households in Brunswick Town as well as putting forth three potential hypotheses for smoking behavior in sites based on regionalism, setting, and status. This portion of the study has also served to highlight the methodological benefits and drawbacks of both the Carolina Artifact Pattern and the bowl-to-stem ratio as tools to measure smoking behaviors. First, South was indeed correct to separate tobacco pipes into an individual artifact group due to the high rate of recovery and idiosyncratic variability of use on sites, as noted by the vast range illustrated in Table 6 (from 0.2% to 22.0%). As intended, the percentages of specific functional artifacts (in this case, white clay pipes) recovered can be a good basis for revealing general interpretative patterns of the range of activities and behaviors that may have occurred on a site. While a large predictive range exists in the classic Carolina Artifact Pattern, it is warranted and provides the basis for interpretive discussions. This was demonstrated above, as the Tobacco Pipe Groups that were at the upper end and exceeded the predictive range of normative British Colonial households suggested a higher rate of smoking in certain locations and households at Brunswick Town. The negative of the Tobacco Pipe Group in the classic Carolina Artifact Pattern, however, is that it does not fully account for the range of pipe smoking and tobacco use at a specific site. South placed the stub-stemmed variety of pipes in the Activities Group, implying the smaller range of expected recovery of this type during the colonial period may be more suggestive of local trade practices. However, like many artifacts, the stub-stemmed pipes can be viewed in several analytical contexts. The same is true of "colono" pipes, in which it is again implied that

smoking function was secondary to their possible local manufacture or trade value. However, while this study uses the classic Carolina Artifact Pattern definition and considers only white clay pipes in its Tobacco Pipe Group percentages, most archaeologists today have amended this facet of the pattern and consider all smoking pipes in the same functional group in their interpretations. And while the Carolina Artifact Pattern may provide a general interpretive pattern when considering an entire artifact assemblage, it is the bowl-to-stem ratio that is a clearer indicator of both the presence and more specific use of smoking pipes on a site. However, it is important to remember this ratio, like the Carolina Artifact Pattern, is just a tool to assist in site interpretations and should be used cautiously and not overextended or abused by treating the explanatory results as fact.

Above all, what this third section of the study has served to reinforce is that pipe smoking was, and remains, an active choice made by individuals. It should be remembered that snuff and cigars were equally popular methods of tobacco consumption available in the eighteenth century, but neither is as conspicuous archaeologically as pipe smoking. Mackenzie (1957:193) claims that snuff was more accepted and widespread in Europe during this time than smoking. He jokingly questions whether the American colonies would have been lost if British statesmen had continued to smoke their "sedative pipe, or even the more soothing cigar" instead of switching to snuff, which "tempted men to action" (Mackenzie 1957:218). Also, just as in modern society, not all individuals in Britain or its colonies practiced the social rituals of smoking. Bad breath, burned holes in clothing, and being detrimental to one's health are all consistently mentioned in period arguments against the use of tobacco. It would be negligent not to mention that with the 1604 publication of *A Counterblaste to Tobacco*, written by King James I of England, the first public arguments against the use of tobacco began. The truth is there is little difference in the behaviors of tobacco use between the seventeenth and eighteenth centuries and today. For those individuals who did choose to consume tobacco at Brunswick Town and other sites in North Carolina, the broken fragments of imported British, Dutch, and Scottish white clay pipes remain their archaeological legacy.

Notes

Acknowledgments. A multifaceted study of this magnitude is not the sole effort of an individual but a collaborative endeavor of many, for which the author wishes to thank for their valuable assistance and encouragement and hopes the final product reflects well on their efforts. Special thanks go to Linda Carnes-McNaughton for assisting me in

pulling the artifacts for analysis, freely providing encouragement, discussion, references, and information, and for commenting on several drafts of this study. Editorial advice was also generously offered by John Mintz and Pam Beaman, for which it is much improved. My thanks also go to students in the Fall 1998 East Carolina University ANTH 5125 (Historical Archaeology) class—Sabrina Buck, Mark Cooke, Kyle England, Courtney Hill, Ryan Hunt, John Mark Joseph, Amy Joyce, Daniel Ketchum, Chris Moore, Jami Northam, Aaron O'Keefe, Jessica Lynn Pittard, John Rossi, and Deanna Swain—for assisting me in measuring pipe stems from the Public House, and to Charlie Ewen for making it into a class project. Kathyrn Beach, Rob Seivers, and Bill Service, from the Museum of the Cape Fear, Fayetteville, provided access to the Brunswick Town pipe stems and bowls on display. Stanley South, John Mintz, Steve Davis, Michael Trinkley, Denis Gojak, Lauren Cook, Kris Courtney, Dane Magoon and "Smoke" Pfeiffer all provided helpful information, advice, encouragement or copies of references, for which I am appreciative.

For comparative data, Tom Loftfield recommended the excavated mansion of Old Towne Plantation (31Bw3), and Scott Simmons of UNC- Wilmington provided excellent assistance and hospitality in providing access to the field records and artifact collections of this site. Sarah Parr, Site Manager of the Newbold-White House, hosted and assisted in researching the quantity of pipe stems and bowls recovered in past archaeological investigations on the property. My thanks to Glenn Perkins, Curator of The Historic Hope Foundation, Inc., for his hospitality and information on the Hobson-Stone House and King-Bazemore House artifact collections. At the Office of State Archaeology Research Center (OSARC), Billy Oliver was helpful in locating the artifact collection from the Reid site for a visual confirmation of the pipe fragments. I am grateful for all their time, assistance, and support of this study. All of the other comparative data were found in public reports at the North Carolina Office of State Archaeology or on artifact catalog sheets on file at OSARC.

A special thanks goes to my wife Pam, without whose love, understanding, and encouragement this project would not have been completed. I should also mention assistance, as she just reminded me that several of our first dates involved sorting white clay pipe stems by bore diameter size.

And of course, thank you to R. P. Stephen Davis, Editor of *North Carolina Archaeology*, for his patience in awaiting this long-promised manuscript and providing the support necessary to see this manuscript into print.

Finally, this study is fondly dedicated to the memory of my Uncle Billy (William R. Beaman, Jr.), one of the only people I've ever known who regularly smoked a pipe. Even now, years after his death, the smell of Sir Walter Raleigh pipe tobacco conjures fond memories of his boisterous laughter.

Figure Credits. Figure 1 is from the Historic Sites Archaeology Branch slide files housed at OSARC. It is reproduced here courtesy of the North Carolina Department of Cultural Resources. Figures 2 and 3 were created for this publication, which Lt. Dennis Bissette provided Photoshop assistance.

Collections. At the time of this study, the numerous pipe fragments excavated at Brunswick Town were part of the Brunswick Town artifact collection in storage at the Charlotte Hawkins Brown State Historic Site. This collection, including the pipe fragments, was relocated to the OSARC in Raleigh in 2003. Representative pieces are in artifact study collections at OSARC, and additional pieces are on display at the Brunswick Town State Historic Site Visitor Center Museum, at the Museum of the Cape Fear in Fayetteville, the Maritime Museum in Southport, and the McDonalds restaurant

on Highway 133 south of Wilmington. A small collection of Brunswick Town artifacts (including a few pipe fragments) is in the study collection of St. Mary's City in Maryland. All of these artifacts were considered and counted as part of this study.

Collections used as comparative data are housed at OSARC (Reid site, Montfort House, Michael Coutanche House, Eden House, Edenton Snuff and Tobacco cellar, UCB Bank site, and all Reigelwood sites), Tryon Palace Historic Sites and Gardens (Tryon Palace and Samuel Cornell House), Newbold-White House (Newbold-White House and Joseph Scott Plantation), Hope Plantation (Hobson-Stone House), and UNC-Wilmington (Old Town Mansion site).

Disclaimer. Even with the tremendous support and assistance of the individuals acknowledged above, the author assumes full responsibility for any factual errors and the interpretations presented in this article.

References Cited

Adams, Natalie P.
1998 Archaeological Investigations at the Neale Plantation (31Cb110**), Columbus County, North Carolina. Technical Report 530. New South Associates, Inc., Stone Mountain, Georgia.

Allen, Steven C.
1995 Archaeological Investigations at the Newbold-White House Site, Perquimans County, North Carolina, Arbor Area Excavations, 1989–1994. Draft manuscript on file, Perquimans County Restoration Association, Hertford, North Carolina.

Ayto, Eric G.
1979 *Clay Tobacco Pipes*. Third edition, reprinted (2002). Shire Publications Ltd., Pembrokeshire, England.

Babits, Larry
1974 Halifax, Lot 52, 1974 Excavations. Report on file, North Carolina Office of State Archaeology, Raleigh.

Baicy, Daniel
2003 *Historic Bath: A Research Design for the Study of a Colonial Community*. Unpublished Master's thesis, Department of Anthropology, East Carolina University, Greenville.

Bandy, Stephanie
2000 *"…Wth All the Houseing Thereon…": A Reassessment of the Seventeenth and Early Eighteenth Century Occupation of the Newbold-White House Site, Perquimans County, North Carolina.* Unpublished Master's thesis, Department of Anthropology, East Carolina University, Greenville.

Beaman, Thomas E., Jr.
1997 "Some fragments of blue Dutch tiling" at Brunswick Town: Decorative Delftware Tiles from Russellborough, Prospect Hall, and the Public House. *North Carolina Archaeology* 46:16–34.

2000 Fables of the Reconstruction: Morley Jeffers Williams and the Excavation of Tryon Palace, 1952–1962. *North Carolina Archaeology* 49:1–22.

2001a A Proposed Descriptive Typology for North Carolina Colonowares. *North Carolina Archaeological Society Newsletter* 11(2).

2001b *The "Castle" and The "Palace": Comparing Artifact Patterns at Russellborough and Tryon Palace, Two Elite Colonial Carolina Residences*. Unpublished Master's thesis, Department of Anthropology, East Carolina University, Greenville.

2001c Beyond the Restoration: Reconstructing a Pattern of Elite Lifestyle at Colonial Tryon Palace. *North Carolina Archaeology* 50:47–72.

Beaman, Thomas E., Jr., and John J. Mintz
1998 Iberian Olive Jars at Brunswick Town and Other British Colonial Sites: Three Models for Consideration. *Southeastern Archaeology* 17(1):92–102.

Beaman, Thomas E., Jr., Linda F. Carnes-McNaughton, John J. Mintz, and Kenneth W. Robinson
1998 Archaeological History and Historical Archaeology: Revisiting the Excavations at Brunswick Town, 1958–1968. *North Carolina Archaeology* 47:1–33.

Beaudry, Mary C., Lauren J. Cook, and Stephen A. Mrozowski
1991 Artifacts and Active Voices: Material Culture as Social Discourse. In *The Archaeology of Inequality*, edited by Randall H. McGuire and Robert Paynter, pp. 150–191. Basil Blackwell, Inc., Cambridge, Massachusetts.

Binford, Lewis R.
1962 A New Method of Calculating Dates from Kaolin Pipe Stem Fragments. *Southeastern Archaeological Conference Newsletter* 9(1):19–21.

Bradley, Charles S.
2000 Smoking Pipes for the Archaeologist. In *Studies in Material Culture Research*, edited by Karlis Karklins, pp. 104–133. The Society for Historical Archaeology, Tuscon.

Brady, Ellen M., Patricia Samford, Susan E. Bamann, and Loretta Lautzenheiser
2001 Archaeological Data Recovery, Site 31Cv310, The Samuel Cornell House Site, Craven County, North Carolina. Coastal Carolina Research, Inc., Tarboro.

Buck, Sabrina C.
1999a An Archaeological Survey of Hope Plantation, Windsor, North Carolina. Phelps Archaeology Laboratory, East Carolina University, Greenville.

1999b *Reinterpreting Hope: An Archaeological Perspective on the Spatial Layout of an Eastern North Carolina Plantation.* Unpublished Master's thesis, Department of Anthropology, East Carolina University, Greenville.

Butler, Lindley S.
1976 *North Carolina and the Coming of the Revolution, 1763–1776*. North Carolina Department of Archives and History, Raleigh.

Byrd, William
1967 *William Byrd's Histories of the Dividing Line betwixt Virginia and North Carolina*. Edited by William K. Boyd. Dover, New York.

Carnes-McNaughton, Linda F.
1992 Claude Joseph Sauthier: Colonial Cartographer of North Carolina. Paper presented at the 25th Annual Meeting of the Society for Historical Archaeology, Kingston, Jamaica.

2005 Praising the Poet Archaeologist: Stanley South's Contributions to North Carolina Archaeology. In *In Praise of the Poet Archaeologist: Papers in Honor of Stanley South and his Five Decades of Historical Archaeology*, edited by Carl Steen and Linda F. Carnes-McNaughton, pp. 4–12. Publications in South Carolina Archaeology, Number 1. The Council of South Carolina Professional Archaeologists, Columbia.

Clifton, James M.
1973 Golden Grains of White: Rice Planting in the Lower Cape Fear. *The North Carolina Historical Review* 50(4):365–393.

Clusius, Carolus
1605 *Exoticorum libri decem: quibus animalium, plantarum, aliorum que peregrinorum fructuum historiae describuntur / item Petri Belloni observationes eodem Carolo Clusio interprete; series totius operis post praefationem indicabitur, Caroli Clvsii.* Publication: *Antverpiae: Ex officina Plantiana Raphelengii*. On file, Duke University Special Collections Library, Durham, North Carolina.

Cook, Lauren J.
1989 Tobacco-Related Material and the Construction of Working-Class Culture. In *Interdisciplinary Investigations of the Boott Mills, Lowell, Massachusetts, Volume III: The Boarding House System as a Way of Life*, edited by Mary C. Beaudry and Stephen Mrozowski, 209–229. Cultural Resources Management Study No. 21. North Atlantic Regional Office, National Park Service, Boston.

Cross, Jerry L.
1973 Historic Halifax, Research Report for Lot 52. North Carolina Department of Archives and History, Raleigh.

Deetz, James, and Patricia Scott Deetz
2000 *The Times of Their Lives: Life, Love, and Death in the Plymouth Colony*. W. H. Freeman and Company, New York.

Dill, Alonzo Thomas
1955 *Governor Tryon and His Palace*. University of North Carolina Press, Chapel Hill.

Ewen, Charles R.
1997 The Once and Future Research Project: The Role of Brunswick Town in Historical Archaeology. *North Carolina Archaeology* 46:84–90.

Ewen, Charles, Patricia M. Samford, and Perry Mathewes
2002 The Sauthier Maps and the Formal Gardens at Tryon Palace: Myth or Reality? *The North Carolina Historical Review* 79(4):327–346.

Foss, Robert W., Patrick H. Garrow, and Silas D. Hurry
1979 *Archaeological Investigations of the Edenton Snuff and Tobacco Manufacture*. Prepared by Soil Systems, Inc., Marietta, Georgia. Published jointly by the North Carolina Archaeological Council and the Archaeology Branch of the North Carolina Division of Archives and History. Second Printing (1982). North Carolina Archaeological Council Publication Number 12.

Fox, Georgia Lynne
1998 *The Study and Analysis of the Kaolin Clay Tobacco Pipe Collection from the Seventeenth-Century Archaeological Site of Port Royal, Jamaica*. Unpublished Ph.D. dissertation, Department of Anthropology, Texas A&M University, College Station, Texas.

Garlid, Jennifer
1978 Halifax, Lot 52: 1978 Excavations. Report on file, North Carolina Office of State Archaeology, Raleigh.

Gojak, Denis, and Iain Stuart
1999 The Potential for the Archaeological Study of Clay Tobacco Pipes from Australian Sites. *Australasian Historical Archaeology* 17:38–49.

Gray, Anna L.
1989 *Be Ye Friend or Foe? An Analysis of Two Eighteenth Century North Carolina Sites*. Unpublished Master's thesis, Department of Anthropology, College of William and Mary, Williamsburg, Virginia.

1997 Return to the Port of Brunswick: An Analysis of Two Eighteenth-Century North Carolina Sites. *North Carolina Archaeology* 46:69–83.

Green, John B.
2000 Perfect Hurricanes and Awful Conflagrations: The Historical Significance and Archaeological Potential of the Craven County Convention Center Parking Lot Sites, New Bern, North Carolina. Report on file, Craven County Planning Office, New Bern.

Hanson, Lee
1971 Kaolin Pipe Stems – Boring in on a Fallacy. *The Conference on Historic Site Archaeology Papers, 1969* 4, Part 1:2–15.

Harper, Terry M.
1984 The Joseph Montfort House Excavations, Historic Halifax, Halifax County, North Carolina. Preliminary Report. Historic Sites Section, Division of Archives and History, North Carolina Department of Cultural Resources.

Harrington, J.C.
1954 Dating Stem Fragments of the Seventeenth and Eighteenth Century Clay Tobacco Pipes. Archaeological Society of Virginia *Quarterly Bulletin* 9(1): 10–14.

Heighton, Robert F., and Kathleen A. Deagan
1972 A New Formula for Dating Kaolin Clay Pipestems. *The Conference on Historic Site Archaeology Papers, 1971* 6:220–229.

Heikkenen, Herman J.
1994 The Last Year of Tree Growth for Selected Timbers Within the Newbold-White House as Derived by Key-year Dendrochronology. Manuscript on file, Perquimans County Restoration Association, Hertford, North Carolina.

Irwin, Jeffrey D.
2004 Stone Pipes of the Southern Coastal Region of North Carolina: Smoke, Ritual, and Contact. In *Smoking and Culture: The Archaeology of Tobacco Pipes in Eastern North America*, edited by Sean Rafferty and Rob Mann, pp. 43–72. University of Tennessee Press, Knoxville.

Lautzenheiser, Loretta E., Thomas Hargrove, Jane Eastman, Patricia Samford, Jody Carter, and Mary Ann Holm
1997 Archaeological Testing, Neils Eddy Tract, International Paper, Riegelwood Operations, Riegelwood, Columbus County, North Carolina. Coastal Carolina Research, Inc., Tarboro and Archaeological Research Consultants, Raleigh.

Lautzenheiser, Loretta E., Patricia Samford, Annie Holm, and Jane Eastman
1994 Archaeological Data Recovery, Site 31Cv183, United Carolina Bank, New Bern, North Carolina. Coastal Carolina Research, Inc., Tarboro, North Carolina.

Lautzenheiser, Loretta E., Patricia Samford, Jaquelin Drane Nash, Mary Ann Holm, and Thomas Hargrove
1998 Data Recovery at Eden House, Site 31Br52, Bertie County, North Carolina, TIP R-2512, Federal Aid Project DPI-0199(005). Coastal Carolina Research, Inc., Tarboro.

Lee, E. Lawrence, Jr.
1951 *The History of Brunswick in North Carolina: The Political and Economic Development of a Colonial Town.* Unpublished Master's thesis, Department of History, University of North Carolina, Chapel Hill.

1958 Brunswick Town State Historical Site Project, Summer 1958. Manuscript on file, Office of State Archaeology Research Center, Raleigh.

1965 *The Lower Cape Fear in Colonial Days*. University of North Carolina Press, Chapel Hill.

Lefler, Hugh T., and William S. Powell
1973 *Colonial North Carolina: A History*. Charles Scribner's Sons, New York.

Loftfield, Thomas C., and Michael Stoner
1997 Brunswick Town Colonowares Re-examined. *North Carolina Archaeology* 46:6–15.

Mackenzie, Compton
1957 *Sublime Tobacco*. Chatto and Windus, London.

Madsen, Andrew D., Rebecca A. Madsen, and Loretta Lautzenheiser
2002 The Halifax Road and Hope Plantation: An Archaeological Investigation to Determine the Influence of Transportation on the Slave Community of the Antebellum South. Coastal Carolina Research, Inc., Tarboro.

Mayhew, Don
1966 Unpublished Notes on the Excavation of Russellborough. On file, North Carolina Office of State Archaeology Research Center, Raleigh.

Merrens, Harry Roy
1964 *Colonial North Carolina in the Eighteenth Century: A Study in Historical Geography*. The University of North Carolina Press, Chapel Hill.

Mintz, John J., and Thomas E. Beaman, Jr.
1997 Invaded or Traded? Olive Jars and Oil Jars from Brunswick Town. *North Carolina Archaeology* 46:35–50.

2004 Invaded or Traded? Three Models for Explaining the Presence of Iberian Olive Jars at Fort Raleigh and Other British Colonial Sites. In *Searching for the Roanoke Colonies: An Interdisciplinary Collection*, edited by E. Thomson Shields, Jr. and Charles R. Ewen, pp. 132–141. Historical Publications Section, Office of Archives and History, North Carolina Department of Cultural Resources, Raleigh.

Moss-Brown, Anna P.
2002 *Examination of Consumer Choice Between Domestic and European Ceramics in North Carolina Household Assemblages*. Unpublished Master's thesis, Department of Anthropology, East Carolina University, Greenville.

New Hanover County Deeds [NHCDB]
n.d. On file, Office of the Registrar of Deeds, Wilmington. Microfilm copy on file, North Carolina State Archives, Raleigh.

Noël Hume, Audrey
1963 Clay Tobacco Pipe Dating in the Light of Recent Excavations. *Quarterly Bulletin of the Archeological Society of Virginia* 18(2): 22–25.

Noël Hume, Ivor
1969 *A Guide to Artifacts of Colonial America*. Sixth Printing (1980). Alfred A. Knopf, New York.

North Carolina Land Grants [NCLG]
n.d. North Carolina Land Grants. On file, Office of the Secretary of State, Raleigh. Microfilm copy on file, North Carolina State Archives, Raleigh.

Orser, Charles
1989 On Plantations and Patterns. *Historical Archaeology* 23(2):28–40.

Oswald, Adrian H.
1975 Clay Pipes for the Archaeologist. *British Archaeological Reports* 14. London, England.

Outlaw, Alain C.
1973 Historical Archaeology at the Newbold-White House, Perquimans County, North Carolina. Manuscript on file, North Carolina Office of State Archaeology, Raleigh.

Phelps, David S.
1980 An Archaeological Study of the King-Bazemore House, Bertie County, North Carolina, with Appendix: Additional Research at Hope Plantation. Archaeological Research Report No. 2, Archaeology Laboratory, East Carolina University, Greenville.

Port Brunswick Shipping Register
1773–1775 Port Brunswick Shipping Register. Manuscript on file, North Carolina State Archives, Raleigh.

Rafferty, Sean
2004 "They Pass Their Lives in Smoke, and at Death Fall into the Fire": Smoking Pipes and Mortuary Ritual during the Early Woodland Period. In *Smoking and Culture: The Archaeology of Tobacco Pipes in Eastern North America*, edited by Sean Rafferty and Rob Mann, pp. 1–41. University of Tennessee Press, Knoxville.

Rafferty, Sean, and Rob Mann
2004 Introduction: Smoking Pipes and Culture. In *Smoking and Culture: The Archaeology of Tobacco Pipes in Eastern North America*, edited by Sean Rafferty and Rob Mann, pp. xi–xx. University of Tennessee Press, Knoxville.

Richie, Clarence F.
1978 Nineteenth-Century Clay Tobacco-Pipes from the High Arctic. *Canadian Journal of Archaeology* 2:123–127.

Robinson, Kenneth W.
1994 Archaeological Study of Improvements to US 17 from West of Chowan River to US 17 Business East of Edenton, Including Bridge No. 38 Over the Chowan River, Bertie and Chowan Counties, North Carolina. North Carolina Department of Transportation, Raleigh.

1997 Port Brunswick and the Colonial Naval Stores Industry: Historical and Archaeological Observations. *North Carolina Archaeology* 46:51–68.

Schaw, Janet
1921 *Journal of a Lady of Quality; Being the Narrative of a Journey from Scotland to the West Indies, North Carolina, and Portugal, in the Years 1774–1776*. Edited by Evangeline Walker Andrews and Charles McLean Andrews. Yale University Press, New Haven.

South, Stanley A.
n.d. Notes on Treatment Methods for the Preservation of Iron and Wooden Objects. Typed manuscript on file, North Carolina Office of State Archaeology, Historic Sites Archaeology Branch, Raleigh.

1960 Final Progress Report, No. 4: The Exploratory Excavation in the Yard to the North of the Palmer House in Bath, North Carolina. Report on file, Historic Sites Archaeology Branch, North Carolina Office of State Archaeology, Raleigh.

1962 Kaolin Pipe Stem Dates from the Brunswick Town Ruins. *Southeastern Archaeological Conference Newsletter* 9(1):22–25.

1977 *Method and Theory in Historical Archaeology*. Academic Press, New York.

2005 *An Archaeological Evolution*. Springer Science + Business Media, Inc., New York.

Stone, Garry Wheeler
1970a Unpublished Field Notes from the 1970 Archaeological Investigations at Hope Plantation. On file, Office of State Archaeology, Raleigh.

1970b Old Town Plantation, Brunswick County, North Carolina, BW3, The Mansion House Site, Circa 1725–1755, Description of Stratigraphy and Features. North Carolina State Department of Archives and History, with the Lower Cape Fear Historical Society and the University of North Carolina at Wilmington.

Waddell, Alfred Moore
1890 *A Colonial Officer and His Times, 1754–1773: A Biographical Sketch of General Hugh Waddell of North Carolina*. Edwards and Broughton, Raleigh.

Walker, Iain C.
1977 *Clay Tobacco-Pipes, with Particular Reference to the Bristol Industry*. History and Archaeology Series, Volume 11A. National Historic Parks and Sites Branch, Parks Canada, Ottawa.

Warfel, Stephen G.
1980 *A Critical Analysis and Test of Stanley South's Artifact Patterns*. Unpublished Master's thesis, Department of Anthropology, Brown University, Providence.

1983 A Critical Analysis and Test of Stanley South's Artifact Patterns. In *Forgotten Places and Things*, edited by A. Ward, pp. 267–275. Center for Anthropological Studies, Albuquerque, New Mexico.

Watson, Alan D., Eva C. Latham, and Patricia M. Samford
2005 *Bath, The First Town in North Carolina*. Historical Publications Section, Office of Archives and History, North Carolina Department of Cultural Resources, Raleigh.

Wood, Bradford J.
2004a *This Remote Part of the World: Regional Formation in Lower Cape Fear, North Carolina, 1725–1775*. University of South Carolina Press, Columbia.

2004b Politics and Authority in Colonial North Carolina: A Regional Perspective. *The North Carolina Historical Review* 81(1):1–37.

COLONOWARE AND THE CONTEXT FOR THE DEVELOPMENT OF A CREOLIZED SLAVE CULTURE AT HOPE PLANTATION, BERTIE COUNTY, NORTH CAROLINA

by

Andrew D. Madsen

Abstract

Few primary sources survive which detail the nature and function of Hope Plantation in Bertie County, North Carolina, during the late eighteenth and early nineteenth centuries. Archaeological investigations of the "Hope Tract" have revealed surprising details concerning elements of slave life at Hope. A notable quantity of colonoware was recovered from the Hope excavations which yielded percentages of colonoware comparable to South Carolina plantation sites. The high percentage and variety of colonoware recovered offer unique insights into the dynamic of creolization in the eastern coastal plain of North Carolina during the colonial and Federal periods. The 2001–2002 archaeological investigations at Hope Plantation suggest that, although considered economic property, the slaves at Hope Plantation were able to incorporate African traditions into the production and use of ceramics and foodstuffs not just in the slave quarter but also in the master's house. The material record of the slaves at Hope Plantation speaks eloquently to the rich heritage of African-Americans in Bertie County during this era. The active participation in the maintenance and practice of traditional African lifeways at Hope Plantation by the enslaved Africans is evidenced by the rich archaeological record of slave life at Hope Plantation.

In December 2001, Coastal Carolina Research, Inc., of Tarboro, North Carolina, initiated archaeological investigations at Hope Plantation in Bertie County, North Carolina, in conjunction with the North Carolina Department of Transportation (NCDOT) under a grant funded by the Transportation Enhancement Program and titled "The Road to Hope" (Figure 1).

Hope Plantation was the home of North Carolina Governor David Stone between 1808 and 1810, and is thought to have been constructed in 1803 (Figure 2). During the mid and late eighteenth century, the property was the location of the Hobson-Stone House, occupied by Stone's parents Zedekiah and Elizabeth during the post-1767 to 1796 period. Historic Hope Foundation, Inc., in order to enhance the

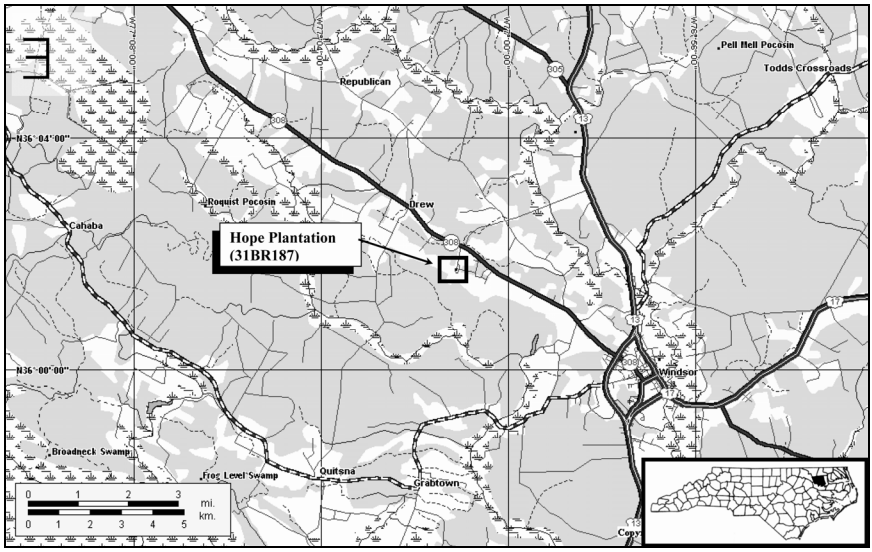


Figure 1. General location of Hope Plantation (31Br187) in Bertie County, North Carolina. Courtesy of Coastal Carolina Research for Historic Hope Foundation, Inc.

interpretation of the plantation and formulate a history curriculum with the Bertie County School System, plans to utilize the archaeological information derived from the archaeological investigations.

The 2001–2002 investigations sought to study the lifeways of the enslaved African-Americans. Archaeology is one vehicle through which the African-American experience at Hope Plantation can be understood, and was seen as a key aspect in assessing slave culture, creativity, and the manner in which slaves may have retained and expressed African traditions and identity in spite of their enslaved status. Also important to the archaeological investigations was the goal of empowering the modern African-American community of Bertie County by illustrating the resiliency, character, and skills of the enslaved Africans at Hope Plantation, many of whom undoubtedly were craftsmen.

The manufacture and use of colonoware in the context of the plantation system is just one example of African-American creativity found in the archaeological record. Enslaved African-American artisans have been recognized historically as furniture makers, blacksmiths, and cobblers (Samford 1992:10; 1996:102). Scholar Carl Bridenbaugh (1950:15–16, 139–141) has commented that "in the Carolinas the overwhelming majority of artisans were Negro slaves." Few signs of the skilled arts of African slaves can be viewed archaeologically; however,

Figure 2. View of the south face of the ca. 1803 Hope Plantation mansion, Bertie County, North Carolina. Photo by Andrew D. Madsen.

the colonowares found on Southern plantations, including Hope Plantation, allow archaeologists the ability to document the skill of the enslaved African potters. The archaeological record, although subject to bias through preservation of discarded remains in the ground, allows an unfettered glimpse into late eighteenth-century African American lifeways. Archaeology has the promise of discovering ways in which the enslaved Africans at Hope Plantation integrated African foodways and cultural practices into their daily lives. Further, archaeology can offer insight into traditional African lifeways through analyzing the varieties of artifacts found and their association or context within the archaeological site.

Archaeology is critical to the understanding of the plantation system at Hope because very few written records remain which illustrate the locations of the various outbuildings during the late eighteenth and early nineteenth centuries, and no primary documents written by the enslaved are known to exist that elaborate on the lifeways of the African-Americans at Hope. The archaeological investigations sought to learn more about the specific ways in which the enslaved Africans retained

elements of traditional West African cultural practices, beliefs, foodways, and culture despite their enslaved status.

The spatial analysis of the archaeological contexts of the slave quarters can be utilized to assess and identify activity areas used by the slaves at Hope. The identification of activity areas has the potential to broaden our understanding of slave life in a poorly understood section of northeastern North Carolina. Unlike Euro-Americans who spent a great deal of time inside their houses, many Africans lived, not just in their houses, but in the general space near their houses (Ferguson 1992:69; Morgan 1998:104; Samford 1996:92). Often, socializing, cooking, and other tasks were performed outside of the main dwelling. The use of space, as viewed through the archaeological record, is culturally variable. The archaeological interpretation of the material record of slave communities such as the one at Hope Plantation can help to address the bias of the historical record which was written by the literate few, generally depicting marginalized groups such as slave communities in a less-than-positive light. In a very real way the artifacts left behind in the living spaces used by African-Americans at Hope speak to their achievements, successes, resiliency, creativity, and retention of traditional African cultural practices. Through the artifacts, "they (the African-American slaves) will be able to give voice to their own lives" (Madsen 2001:4).

Summary of Archaeological Investigations

The 2001–2002 archaeological investigations, in addition to identifying possible locations of slave quarters, also sought to provide information about the eighteenth and nineteenth-century road network. A discussion of this network is beyond the scope of this article, but the interested reader may wish to consult the technical report on the archaeology at Hope (Madsen et al. 2002).

Results of the 2001–2002 archaeological investigations suggest that the general area of the late eighteenth and early nineteenth-century slave quarters were likely located approximately 150 ft to the southwest of the eighteenth-century Hobson-Stone house (Figure 3). Although these investigations were modest, the identification of the Hope slave quarters in this area is supported by: (1) the high percentage of kitchen-related artifacts found in this area; (2) the high proportion of hollowware to flatware vessel fragments found in this area; (3) the high percentage of locally made colonowares which were only recovered in quantity in this area; (4) the percentage occurrence of colonoware, relative to other

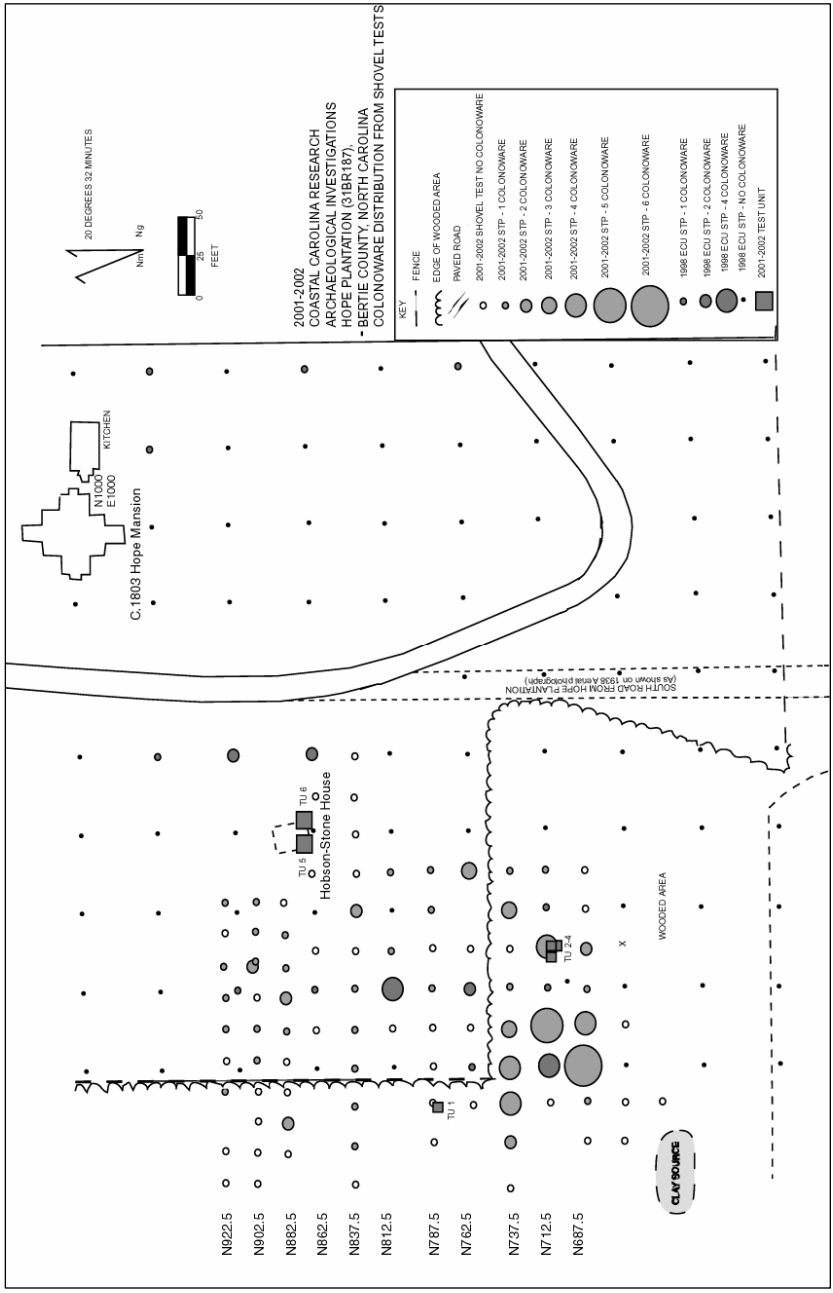


Figure 3. Map of Hope Plantation, Showing Location of Shovel Tests, Test Units, and the Distribution of Recovered Colonoware from the 1998 ECU and 2001-2002 CCR Excavations. Courtesy of Coastal Carolina Research for Historic Hope Foundation, Inc.

Table 1. Ceramics Recovered from Possible Slave Quarters Area at Hope Plantation (31Br187).*

Ceramic Type	Date Range	Total	Percent
Coarseware (glaze missing)	No firm date	4	1.18
Coarseware (lead glazed)	No firm date	11	3.24
Colonoware	1723–?	184	54.12
Creamware	1762–1820	89	26.18
Fulham Stoneware	1671–1775	2	0.59
Pearlware	1775–1830	12	3.53
Refined Earthenware	No firm date	3	0.88
Slip-Dipped White Salt-Glazed Stoneware	1715–1775	1	0.29
Staffordshire Manganese Mot.	No firm date	2	0.59
North Midlands Slipware	1723**–1800	13	3.82
Tin Enameled Earthenware	1723**–1800	11	3.24
Unident. Refined Earthenware	No firm date	2	0.59
Unident. Stoneware	No firm date	1	0.29
Westerwald Stoneware	1723**–1775	3	0.88
White Salt-Glazed Stoneware	1723–1805	2	0.59
Total		340	100.01

*Area of the possible slave quarters considered to include south of line N837.5.
**Starting date for this ceramic type designated as 1723, the date of first historic occupation at Hope Plantation.

varieties of ceramics, in quantities similar to those recovered from known slave quarter sites in South Carolina; (5) the presence of personal artifacts, such as a midnight blue bead recovered from this area; and (6) oral history accounts in 1970 of a slave quarter structure located to the southwest of the circa 1803 Hope house (Joyce 1998:58).

Based on the data recovered from a 1998 Phase I survey of Hope Plantation and shovel test pits excavated by Coastal Carolina Research, Inc. in 2001–2002, three test units measuring 5 ft by 5 ft and one test unit measuring 2.5 ft by 5 ft were excavated in the vicinity of identified artifact concentrations to evaluate possible features associated with the slave quarters. These excavations yielded sealed archaeological deposits dating to the period 1760–1810. A sample of 133 temporally diagnostic historic ceramics yielded a mean ceramic date of 1783.99 (Table 1). These archaeological deposits, possibly related to the slave quarters,

appear contemporary with the Hobson-Stone house and possibly the early nineteenth-century period of the circa 1803 Hope mansion. Of the 340 total ceramic fragments found within the possible slave quarters area, 184 (54.11%) were colonowares—a locally produced, unglazed, low fired, burnished earthenware commonly found on eighteenth-century plantation sites. Other ceramics recovered are known to have been imported from Europe and include ceramics from England (Staffordshire/Yorkshire slipware, 1660–1745; white salt-glazed stoneware, 1720–1805; creamware, c. 1762–1820; pearlware, c. 1775–1820); ceramics imported from Germany (Westerwald stoneware, c. 1650–1775); and some lead-glazed earthenwares that likely were produced locally.

What is Colonoware and Who Made It?

Commonly found in the vicinity of slave quarters and on sites occupied by Africans and African-Americans during the colonial through antebellum periods, colonoware is an unglazed, hand-built, low-fired earthenware which is often burnished (Figure 4). Colonowares have been found on archaeological sites from as far north as Maryland to as far south as northern Florida, and on islands in the Caribbean (Deetz 1993:83). Although colonowares have been found in small quantity on many North Carolina sites occupied by Africans, Virginia and South Carolina examples have been the most intensively documented.

The ceramic forms characteristic of Virginia colonowares include a variety of European, specifically English, shapes. These include pipkins, porringers, milk pans, chamber pots, large punch bowls, teapots, and footed bowls (Deetz 1993:80). All are faithfully reproduced to perfection in this local earthenware that archaeologists call colonoware. Interestingly, the South Carolina variety of colonowares includes a significantly higher number of vessels produced in traditional African forms, specifically hemispheric bowls and large and small jars (Anthony 2002:48–49); less common are vessels in the forms typical of traditional English ceramic types.

Colonowares are typically produced using potting techniques known as coiling and slab building, both typical of traditional African and Native American pottery manufacture. English ceramic traditions instead utilize wheel throwing and various molding techniques to produce a ceramic vessel. Colonowares were likely fired at a low temperature and probably on a surface hearth built of stones. Thus, few archaeological traces of manufacture locations have been found.

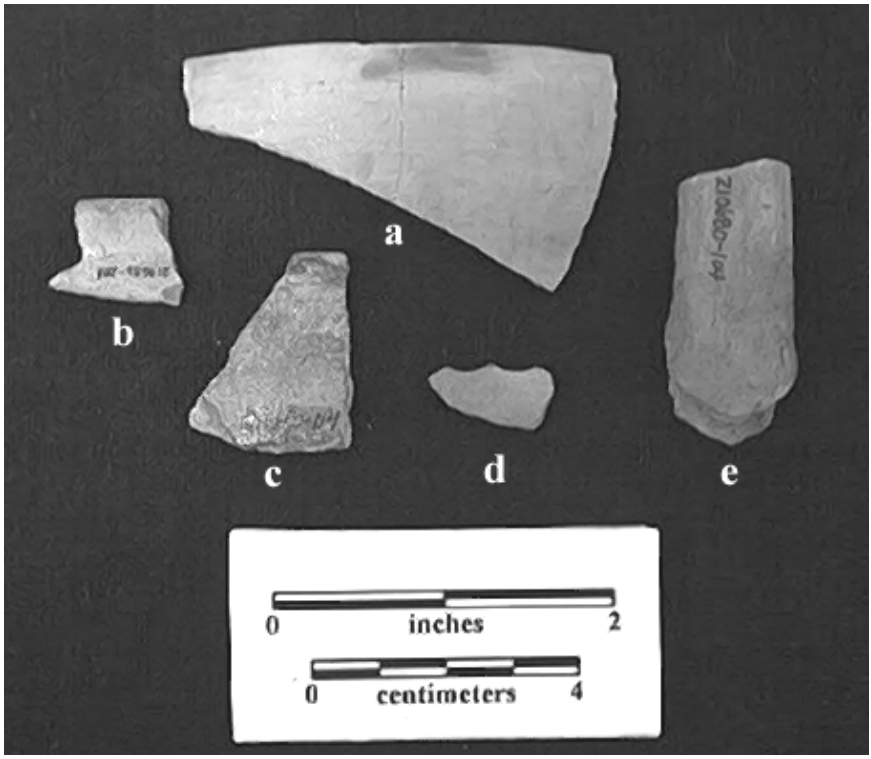


Figure 4. Selection of colonowares recovered from Hope Plantation: (a) squared-off rim from CCR TU#5 Zones 7 and 8; (b) rounded, slightly everted rim from CCR ST N922.5 E 695; (c) everted and flattened rim from CCR TU#3 Z 1; (d) impressed scalloped rim from the 1998 ECU excavations; and (e) handle from CCR ST N687.5 E630. Photo by Andrew D. Madsen.

This ceramic is thought to have been produced by African-Americans and Native Americans on or near plantation sites. Colonowares are of great interest because they display a striking mixture of Native American, African, and Euro-American stylistic, technological, and morphological characteristics (Anthony 1986; Cooper and Steen 1998; Ferguson 1992; Wheaton et al. 1983). This blending of various, vastly diverse cultural traits in the formation of a unique material expression is one of the few forms of syncretism easily studied on plantation sites in the mid-Atlantic and southeastern United States.

In 1962, former Colonial Williamsburg archaeologist Ivor Noël Hume published the first scholarly article on these earthen vessels, calling them “Colono-Indian Ware,” meaning that they were Native

American ceramics produced during the colonial period (Noël Hume 1962). With that article more than 40 years ago, Noël Hume unwittingly began one of the hottest and most spirited debates—the question of who *really* made these ceramics—in the relatively new discipline of historical archaeology. Noël Hume noted the similarities between these ceramics and the ceramics made by the Virginia Native American population in the Tidewater region during the historic period. He concluded that these were wares produced to be sold by the Native Americans to the English colonists, who in turn often used them in plantation settings by providing them to their slaves. Stanley South and Noël Hume posited that the colonowares recovered from Brunswick Town may have been made by the Cape Fear or Waccamaw Indians, or imported via ship from the Pamunkey or another Virginia Native American group (South 1959:81).

Stanley South was instrumental in documenting the presence of what are now called colonowares in North and South Carolina with his work in Brunswick Town (South 1959) and Charles Towne (South 1971). He identified two varieties, Brunswick Plain and Brunswick Burnished, but grouped them both in the category of "Colono-Indian Ware" (South 1959). South identified vessels of colonoware in English vessel shapes (South 1959:80) and, like Noël Hume, concluded that these ceramics were the products of Native American craftsmen. Because few archaeological excavations of plantations in the Lower Cape Fear region of North Carolina have been conducted, it has not yet been possible to evaluate plantation assemblages containing colonowares from the rural settings neighboring Brunswick Town.

More recently, archaeologist Leland Ferguson has observed that colonowares were recovered in significant numbers on South Carolina plantations, particularly in the vicinity of slave quarters (Ferguson 1992:8). Based on his analysis of vessel form, construction, and the presence of the possible African cosmogram which consisted of an incised "X" on the underside of bowls (Ferguson 1992:110–114, 1999:121–122), Ferguson concluded that much of the colonoware found in that state was produced by enslaved Africans, often in a plantation setting. As a result of his work on plantation archaeology in South Carolina, Ferguson proposed that these ceramics be called the more ethnically neutral "colonoware" instead of "Colono-Indian ware." Richard Polhemus (1977) observed that the presence of colonoware at sites in Virginia, North Carolina, South Carolina, and parts of Tennessee correlated with the occupation of these sites by African-Americans. The work of James Deetz in Virginia further served to substantiate Ferguson's assertion. Deetz noted that the increase in the presence of

colonowares on Virginia sites occurred with the increase in slaves imported to the colony and a decrease in the number of Native Americans in Tidewater Virginia (Deetz 1993:83).

In recent years historical archaeologists have rightly asserted that the argument for the African-American manufacture of colonoware cannot be made just with comparisons between historic colonowares and modern West African pottery forms (Emerson 1988; Polhemus 1977:258), decoration techniques, and stylistic attributes. Historical archaeologists now recognize that understanding the diversity of West African cultures and the investigation of comparative archaeological examples of West African ceramics made during the period of the slave trade must be the frame of reference for the comparison with historic colonowares found on colonial North American sites (DeCorse 1999; Posnansky 1999).

Much of the archaeological scholarship on colonoware has focused on the debate over just which cultural group—Native Americans or enslaved Africans—produced this curious ware (Crane 1993; Deetz 1993; Ferguson 1992; Heath 1996; Mouer 1993; Mouer et al 1999; Noël Hume 1962). It is likely that both Native American and African Americans were engaged in the production of colonowares (Anthony 2002:46). Scholars now recognize that many colonoware vessels reflect an interesting mixture of Native American, African, and Euro-American stylistic, technological, and morphological characteristics (Anthony 1986; Cooper and Steen 1998; Ferguson 1992; Wheaton et al. 1983). It should be remembered that although the slaves at Hope Plantation used and likely made many of the colonowares found at the plantation (a suitable clay source is located near the possible area of the quarters), the Tuscarora Indians maintained a presence in Bertie County as late as 1803 (Watson 1982:9). Zedekiah Stone, father of Governor David Stone who built the extant Hope mansion, had contact with the Tuscarora and in 1777 took control of some Indian lands along the Roanoke River through a 99-year lease (Iobst n.d.:2,3). Thus, although very few Native American artifacts were recovered from the area thought to be the location of the early slave quarters, the possibility of the Native American production of the colonowares found at Hope cannot be discounted.

Reflecting the multicultural nature of this artifact, colonoware has now properly been recognized as an *intercultural* artifact (Singleton and Bograd 1999:8). Realizing that colonoware is representative of an artifact type produced and used in the context of divergent cultural groups with radically differing worldviews, the *intercultural* and

syncretic quality of colonoware allows for the archaeological evaluation of the multicultural plantation system including slave lifeways utilizing an artifact that embodies traditional West African, Native American and European characteristics and qualities.

While issues concerning which cultural group, or groups, that produced colonowares are important, substantive questions center on understanding how the ceramic functioned in the context of plantation and slave life at Hope Plantation. Archaeologists recognize that this ceramic type, which has been commonly recovered from historic sites occupied by enslaved Africans and African-Americans, was widely utilized by the slave community in plantation contexts in the South. And, they know that colonowares were not only used to prepare and consume foods by enslaved African-Americans in the slave quarters, but also influenced the diet of southern whites (Singleton 1996:147) and were used by the enslaved to produce foods for the Anglo-American plantation owners (Singleton and Bograd 1999:18). At Hope Plantation, the 1998 archaeological investigations near the eighteenth-century Hobson-Stone house and in the area around the original plantation kitchen produced fragments of colonoware indicating that the Hope Plantation domestic slaves likely used these ceramics in the production of foods for the Stone family. The low-density scatter of colonoware found to the west and immediate southwest of the Hobson-Stone house is suggestive of social interaction between the Stone family and the enslaved Africans. The multicultural use of colonowares, as suggested by their distribution among the various structures at Hope, illustrates that on a plantation there were few ethnically exclusive areas of activity. Thus, the plantation should be viewed as a dynamic *intercultural* system.

Archaeologists recognize that it is important to extend the study of the African-American past beyond the identification of artifacts associated with enslaved African-Americans (Fesler and Franklin 1999:4). "Africanisms" such as colonoware and beads can no longer be considered alone as confirmation of an African-American slave presence (King 2002:xvi). The value in archaeological interpretation is the ability to place these items into an interpretive (cultural) context so that a richer, more substantive understanding of African-American lifeways, ingenuity, and craftsmanship can be attained. Leland Ferguson has argued that the production of colonowares in plantation settings, combined with the building of slave quarters in traditional African style, in part created a colonial African American "subculture" that became a strategy to cope with the oppressive system of enslaved servitude (Ferguson 1992:xxxiv).

The analysis of the use of space by ethnic groups can be assessed through the contextual evaluation of the material record of plantation sites. It is likely that enslaved Africans were largely utilizing material goods that were predominately Euro-American. It is the use of the Euro-American goods, the use of living space and the retention of traditional African cultural practices which offer the archaeologist the potential to develop a richer picture of North Carolina's vibrant African-American heritage. A greater understanding and appreciation of historic African-American lifeways is important so that all may appreciate this enriching aspect of our unique American heritage.

Bucket auger probes excavated in the vicinity of the possible slave quarters area resulted in the recovery, at approximately 2.5 feet below surface, of an extremely fine and smooth light gray clay with mica and quartz sand inclusions which could act as a natural temper. This clay appeared to be very similar to the clay used to make the colonowares recovered from the site. X-ray diffraction and thin section analysis of a sample of this clay at the University of Kentucky documented that the clay contained primarily kaolin minerals mixed with expandable clays (likely montmorillonite). This natural clay composition is significant in that kaolin-based clays require little or no added temper in order to withstand rapid heating and shrinkage which result from the firing process. The analysis of the clays has also indicated that the clay bed found near the possible slave quarters contains small silt and quartz grains which would also negate adding additional temper in order to make ceramic vessels from the clay. In short, the analysis demonstrated that the natural clay extracted at the site appears to be the same as the clay used to manufacture the recovered colonowares. A small selection of reproduction slab-built and burnished colonowares was easily produced by the author from this clay, and minimal preparation of the clay was necessary in order to make thin, slab-built and burnished hemispheric bowls (Figure 5). The reproduction colonoware bowl at the bottom center in Figure 5 is on exhibit at the Hope Plantation visitor's center. The discovery of a clay bed well suited to the manufacture of slab-built vessels in a location very close to the possible slave quarters suggests that the enslaved likely made the colonowares on site. Future archaeological excavation, the possible identification of excavated clay pits and possible firing locations with ceramic wasters (i.e., pieces that broke during the firing process), and additional petrographic analyses (including thin sectioning, x-ray diffraction, and neutron activation analysis of the recovered colonowares, the clay from the Hope Plantation

Figure 5. Selection of fired and unfired, slab-built and burnished reproduction colonowares made from the natural clay at Hope Plantation. Vessels potted by Andrew D. Madsen.

clay bed, and off-site samples) is needed to confirm that this was indeed the clay used to manufacture the recovered colonowares.

In order to interpret the meaning of the colonowares recovered from the 2001–2002 excavations at Hope Plantation, it is necessary to understand the unique character of slavery and plantation life during the eighteenth century in the coastal plain of North Carolina. This was the context of plantation slavery that the colonowares recovered from Hope were manufactured, used, and eventually discarded. In order to understand the interpretive value and importance of the Hope colonowares, a little background information concerning colonoware in North Carolina is needed.

Archaeological Studies of Colonoware in North Carolina

Although colonoware is distributed widely throughout the mid-Atlantic and coastal southeastern United States, the majority of archaeological studies have focused on Virginia and South Carolina examples. Unfortunately, the majority of scholarly assessments of archaeologically recovered colonowares make little mention of North Carolina (Ferguson 1992, Heath 1996, Mouer et al. 1999). The paucity of archaeological scholarship of colonowares in North Carolina is due to three main factors. First, far fewer archaeological investigations have been conducted on plantation sites in North Carolina than in Virginia and South Carolina. Second, the particular character of the institution of slavery in North Carolina differed vastly from the institution as manifested in Virginia and South Carolina. This subject will be explored in a later section of this article. Many of the colonowares recovered from North Carolina sites have been interpreted as Native American ceramics; and production of these wares by Africans has received less attention in North Carolina. Additionally, some colonowares recovered from North Carolina sites likely have been analyzed as Native American, or possibly Native American, ceramics rather than as colonowares. Although many of the colonowares recovered from North Carolina sites may indeed be Native American prehistoric ceramics, a significant number of them may be properly classified as colonowares.

Numerous archaeological sites in North Carolina have yielded colonowares. The majority of these are located in the coastal plain region. Several sites in Brunswick Town, including the Edward Scott House, Leach-Jobson House, Judge Moore House, Russelborough, Nath Moore's Front, and the Hepburn-Reonalds House, have yielded colonowares. Examples of these locally produced, low-fired earthenwares have also been recovered from Somerset Plantation in Washington County, Tryon Palace and the United Carolina Bank site in New Bern, "The Homestead" site in Edenton, the Second Jail at Historic Halifax, the Palmer-Marsh House in Bath, and at the original site of the King-Bazemore house and Hope Plantation in Bertie County.

Despite the wide geographic distribution of colonowares found in North Carolina, they constitute but a very small percentage of historic ceramic assemblages found in the state. This has been the case with numerous late eighteenth and early nineteenth-century sites, including Russelborough at Brunswick Town (Samford, personal communication 2002), the Samuel Cornell House site in Craven County (Brady et al.

2001), the Eden House site in Bertie County (Lautzenheiser et al 1998), the original King-Bazemore site in Bertie County (Phelps 1980), and site 31CV183, the location of the proposed United Carolina Bank in New Bern (Lautzenheiser et al. 1994). Additionally, at Somerset Plantation in Washington County, just 16 of 941 ceramic artifacts recovered during excavations in 1983 were colonoware (Hughes 1983:15). Subsequent excavations at Somerset in 1994 recovered an additional 13 possible colonoware fragments among 3,824 ceramics from the two slave quarters (Steen 1995:74). At six sites in Brunswick Town, colonowares represented little more than 8% of the ceramic assemblage at two of those sites (S25 and S13)(South 1959:85). Colonowares recovered from excavations at Bath sites 1 and 2, which predate 1769, constituted just 15% of the ceramic assemblage.

Several possible factors have been suggested for the low frequency of colonowares at North Carolina sites. It has been posited that self-sufficiency of farmsteads and plantations in North Carolina resulted in the low numbers of colonowares (Anthony 1997:22–50). The low frequency of colonowares also may be a result of relatively little archaeological research having been conducted on eighteenth-century North Carolina plantations located in the coastal plain, as compared with the many archaeological studies of Virginia and South Carolina plantations. Another observation has been that colonowares have been recovered in quantity from areas such as South Carolina where large concentrations of Africans were clustered in quarters that were a distance from the master's eyes. It has been posited that this distance from the slaveholder and the concentration of enslaved Africans encouraged the retention of African cultural practices, including the production of colonowares (Loftfield and Stoner 1997:11). It has also been demonstrated that few colonowares are recovered from slave sites which are not located in close proximity to a natural clay source (Adams 2002:74–75).

Some Observations Concerning the Colonowares Recovered During the 2001–2002 Investigations at Hope Plantation

A striking feature of the 2001–2002 excavations at Hope Plantation is the relatively large number of colonoware fragments, relative to other ceramic types, that were recovered. This is important, as North Carolina colonoware has been poorly understood in comparison to Virginia and South Carolina forms. The 2001–2002 excavations have aided the understanding of regional variations of colonoware found in North

Carolina, and have helped archaeologists understand how the colonoware found at Hope Plantation compares with the examples known from Virginia and South Carolina.

Systematic shovel testing conducted by East Carolina University in 1998 resulted in the identification of a moderate concentration of locally produced, low-fired, burnished earthenware termed colonoware in the area southwest of the c.1803 Hope mansion (Buck 1999). This area was subjected to more intensive archaeological investigation in 2001–2002 (see Figure 3). As previously mentioned, this ceramic embodies characteristics of both African and European ceramic traditions and has often been associated with the presence of slaves in a plantation setting. An evaluation of the colonowares recovered from the 2001–2002 archaeological investigations at Hope Plantation offers an incredibly rich window on the process of slave foodways, life, and creolization in Bertie County during the late eighteenth and early nineteenth centuries.

Typical of the ceramics termed "Brunswick Plain" and "Brunswick Burnished" by Stanley South over 40 years ago, the Hope Plantation colonowares are very similar to those recovered from sites in historic Bath, Brunswick Town, and the site of the original King-Bazemore house in Bertie County. They appear to be produced with "slab" built techniques that included the forming of the vessel with sections of clay. Although Brunswick colonowares are typically coil built, where coils of soft clay are coiled up to form the walls of the vessel, no coil-built fragments were easily identified among the Hope assemblage. Of the colonoware fragments that could be measured for thickness, over 70.1% (n=83) were 4–6 mm in thickness. Overall, the Hope colonowares range from 3 mm to 11 mm in thickness.

A total of 218 fragments of colonoware were recovered from the 2001–2002 archaeological investigations at Hope Plantation. Of these, 184 were recovered from the general area thought to represent the possible location of the late eighteenth-century slave quarters contemporary with the Zedekiah Stone house. The colonowares recovered from the possible slave quarters location represent a significant percentage of the entire ceramics assemblage recovered from this portion of the site. Allowing for the fact that a significant number of these fragments were recovered from plowzone contexts and are thus very small, the quantity of colonowares recovered from the investigations thus far is nonetheless intriguing.

The relatively large number of colonoware fragments suggest that enslaved Africans had been able to successfully retain some traditional African cultural practices, including the production and use of African-

inspired pottery in a location on the plantation relatively close to their owner. A clay source well suited to making pottery is located approximately 50 ft southwest of the possible slave quarters location and likely facilitated the production of the colonowares at Hope.

All of the colonoware fragments (n=26) recovered from the possible slave quarters area that could be identified as to form were identified as having been part of hollowware vessels (i.e., bowls and jars). The majority of these fragments were likely part of the traditional African-inspired, unrestricted, hemispheric bowls commonly found on plantation sites from Virginia through South Carolina. When all of the varieties of ceramics recovered from the possible slave quarters area were analyzed, it was determined that of the fragments that could be assigned to either the hollowware or flatware category over 80% (n=79) were determined to have been part of hollowware vessels. The presence of the African-inspired colonoware vessels and the high percentage of hollowware vessels recorded among the ceramics reveals interesting insight into the foodways of the enslaved Africans at Hope Plantation.

Foodways are among the most conservative of cultural traits and often are strongly adhered to when other cultural practices are lost. Bowls formed an integral part of traditional African food preparation, serving, and consumption. Traditional African foodways include the consumption of a starchy main dish (Beck 1998:119), which would often be prepared in an earthen pot (Ferguson 1992:97). The dish was often served from a central serving dish laid on the floor, and relishes (spicy vegetables) were prepared in smaller pots to complement the main dish. The starchy dish was eaten not with utensils but with the hands as a small portion of the starch was pulled away and subsequently dipped into the relish. Drinks were consumed with a gourd or small bowl (Ferguson 1992:97). Enslaved Africans also consumed meat, vegetable, and broth stews and other liquid soupy dishes that contained chopped cuts of meat, and which required the use of bowls. The ceramic archaeological assemblage for sites occupied by Africans who adhered to the traditional African foodways would therefore include a high percentage of bowls relative to other vessel forms (Beck 1998:119). Archaeologist John Solomon Otto's (1975) study of slave assemblages at Cannon's Point Plantation in Georgia found a significantly greater number of hollowware (bowl) ceramic forms than flatware (plate) forms. Otto concluded from his findings that slave foodways included stewed and simmered foods. The high percentage of hollowware vessel forms found at Hope suggest that traditional African starch-rich and soupy, stewed

foods were consumed in the context of slavery during the late eighteenth century in Bertie County.

Of the 218 fragments of colonoware recovered at Hope Plantation, just 10 rim fragments of hollowware vessels were found. These fragments appear to represent three rim styles. The most commonly encountered rim style is a flattened rim with a squared-off edge (see Figure 4a). This rim style was observed on four examples (ST N787.5 E 785.5; TU#2 Z 1; TU#4 feature #5; and TU#5 Zones 7 and 8). The rim fragment from TU#4 feature 5 is similar to rims found at Bath, North Carolina (South 1959:84). Two rim styles were rounded as opposed to squared off (ST N 902.5 E715 Z 2; ST N922.5 E695 Z 1). The rounded rim from ST N922.5 E 695 appears to be a slightly everted hollowware form (see Figure 4b). Another rim fragment appears to be part of an everted and flattened hollowware, although the outside finish of the rim is missing (TU#3 Z 1) (see Figure 4c). One fragment recovered from the 1998 archaeological investigations exhibited an impressed scalloping often found on eighteenth-century ceramics produced in the North Midlands of England (see Figure 4d). No rim fragments with the scalloped style were recovered during the 2001–2002 excavations. This scalloped rim also has been observed on colonowares from Brunswick Town (South 1959:80). One colonoware handle fragment was recovered from a shovel test during the 2001–2002 investigations (see Figure 4e).

Similarities Between the Possible Slave Quarters Assemblage at Hope Plantation and South Carolina Slave Quarter Sites

The colonowares from the 2001–2002 excavations were recovered in substantially greater numbers than at other North Carolina sites that have yielded colonowares. This is likely due in large part to the location of excellent clay sources in the vicinity of Hope Plantation. The small size of the majority of the individual fragments resulted in the recovery of a larger number of colonowares than are typically recovered on North Carolina colonial and Federal period sites. Nonetheless, the high percentage of colonowares relative to the other ceramic types is atypical for a northeastern North Carolina plantation. Colonoware constituted an unusually high 54.1% (n=184) of the Hope Plantation ceramic assemblage recovered in the general area thought to be the late eighteenth–early nineteenth century location of the slave quarters.

Stanley South's (1977) pattern recognition studies of several eighteenth-century sites at Brunswick Town led to the derivation of the "Carolina Artifact Pattern" which has been subsequently modified by

Table 2. Selected South Carolina and North Carolina Slave Quarters Artifacts (Functional Groups).

	South Carolina Slave Quarters							
	Yaughan, 38Bk76* (1740s to 1790s)		Curriboo, 38Bk245* (1740s to 1800)		Yaughan, 38Bk75* (1780s to 1820s)		Spiers Landing* (1720s to 1830s)	
Artifact Group	N	%	N	%	N	%	N	%
Kitchen	18,800	84.20	4,420	79.77	4,439	70.73	2,275	74.84
Architecture	2,640	11.82	757	13.66	1,569	25.00	631	20.76
Furniture	12	0.05	4	0.07	5	0.08	2	0.07
Arms	5	0.02	15	0.27	11	0.18	6	0.20
Clothing	66	0.30	20	0.36	32	0.51	24	0.79
Personal	6	0.03	2	0.04	4	0.06	2	0.07
Pipes	752	3.37	300	5.41	182	2.90	74	2.43
Activities	46	0.21	23	0.42	34	0.54	26	0.86
Total	22,327	100.00	5,541	100.00	6,276	100.00	3,040	100.02

	North Carolina Slave Quarters					
	Somerset (Large Quarter)** (1780s to 1870s)		Somerset (Small Quarter)** (late 18th c. to mid 19th c.)		Hope Plantation (31Br187) (1750s to 1800s)	
Artifact Group	N	%	N	%	N	%
Kitchen	5,921	26.82	2,041	23.95	426	62.92
Architecture	15,231	0.69	6,184	72.57	199	29.39
Furniture	7	0.03	2	0.02	1	0.15
Arms	28	0.13	11	0.13	3	0.44
Clothing	251	1.14	111	1.30	2	0.30
Personal	27	0.12	4	0.05	-	-
Pipes	82	0.37	39	0.46	46	6.79
Activities	526	2.38	130	1.53	-	-
Total	22,073	99.99	8,522	100.01	677	99.99

*Data from Wheaton and Garrow (1985:255).
**Data from Steen 1994:166, 182).

Table 3. Selected Euro-American Artifact Percentages Compared with the Possible Hope Plantation Slave Quarters Area.

	Brunswick S25* (1732 to 1776)		Brunswick S10* (1728 to 1830)		Cambridge 96* (1783 to 1820)		Hope Plantation (1750 to 1800s)	
Artifact Group	N	%	N	%	N	%	N	%
Kitchen	22,710	61.77	6,795	51.80	12,916	64.97	426	62.93
Architecture	9,920	26.17	4,116	31.38	5,006	25.18	199	29.39
Furniture	83	0.23	82	0.63	35	0.17	1	0.14
Arms	34	0.09	45	0.34	27	0.14	3	0.44
Clothing	1,070	2.91	72	0.55	1,069	5.38	2	0.29
Personal	71	0.19	20	0.15	108	0.54	-	0.00
Pipes	2,830	7.70	1,829	13.94	349	1.76	46	6.79
Activities	347	0.94	159	1.21	370	1.86	-	0.00
Total	36,765	100.0	13,118	100.0	19,880	100.0	677	100.0

* Data from (Wheaton and Garrow 1985:255).

Table 4. Selected South Carolina Slave Quarters and Hope Plantation Quarters Colonoware as a Percentage of the Total Kitchen Functional Group.

Site	Dates	N	%
Early Yaughan*	1740s to 1790s	15,043	67.38
Curriboo*	1740s to ca. 1800	3,316	56.92
Late Yaughan*	1780s to 1820s	2,545	40.55
Hope Plantation	1750 to 1800s	184	43.19

*Data from Wheaton and Garrow (1985:252).

other archaeologists (Wheaton and Garrow 1985:239–260). Although South's pattern recognition studies have recently been seen as "fail[ing] to reflect categories of culture of interest to archaeologists and historians" (King 2002:xiv), South's Carolina Artifact Pattern still affords historical archaeologists an effective strategy for comparing widely divergent historic archaeological assemblages. Utilizing South's pattern recognition technique, the analysis of the artifact assemblage recovered from the 2001–2002 Hope investigations reveals similarities to elements of the artifact assemblages from three late eighteenth to early nineteenth-century Euro-American North Carolina sites and two African-American plantation sites in South Carolina. Although the limited scale of the 2001–2002 investigations yielded a much smaller quantity of artifacts, and hence is less reliable than a larger sample size (South 1977:75), the percentages of artifacts distributed between the seven South functional group classifications demonstrate more similarity between the percentage of architectural and kitchen-related artifacts from Hope Plantation and the South Carolina slave quarters than between Hope Plantation and the North Carolina slave quarters (Table 2). The percentages of kitchen, architecture, furniture, arms, clothing, and pipe-related artifacts from Hope Plantation are notably similar to the percentages of these artifact groups from Brunswick S10, S25 and Cambridge 96 sites as analyzed by South (1977:83–139)(Table 3). Interestingly, aspects of the Hope Plantation possible slave quarters assemblage are consistent with the South Carolina slave quarters assemblages from Curriboo and Yaughan Plantations. There is also some similarity between the artifact pattern documented at Hope Plantation and the artifact pattern at the Spier's Landing site in South Carolina. When taken together, the artifacts from the kitchen and

architecture groups account for 99.08% of the Hope Plantation assemblage. This is relatively consistent with the 98.03% for the Spier's Landing site and somewhat greater than the percentages noted at the Yaughan and Curriboo slave quarters. The total percentage of artifacts from the non-kitchen and architecture groups from the South Carolina slave quarters and the Hope Plantation 2001–2002 investigations is significantly less than the typical 5.06% characteristic of the South Revised Carolina Artifact Pattern Model for Euro-American-occupied sites (Wheaton and Garrow 1985). When viewed as a percentage of the total kitchen functional group, the percentage of colonoware recovered from Hope Plantation is more typical of the percentages of colonoware recovered at South Carolina slave quarters sites (Wheaton and Garrow 1985) which were largely contemporaneous with the Hope slave quarters (Table 4).

What emerged from the analysis is a startlingly fresh window on enslaved African-American culture in the North Carolina coastal plain during the colonial and early Federal periods. The large percentage of colonowares recovered from the Hope Plantation investigations, combined with the small percentages of non-kitchen and architectural group artifacts, is dramatically consistent with the material culture pattern documented from slave quarters sites in the South Carolina lowland. The Hope Plantation slave quarters assemblage also shares many artifact characteristics with Euro-American sites at Brunswick Town.

The similarities between the artifact patterns at Hope Plantation and some slave quarters sites in South Carolina suggest that there may have been a cultural connection between portions of northeastern North Carolina and lowland South Carolina. The location of Hope Plantation close to a viable clay source, while a necessary factor, may not be the sole reason for the similarities between the Hope assemblage and the similarities with slave assemblages from South Carolina sites.

Demographic, mercantile, and cultural ties between Bertie County and South Carolina must be considered as possibly contributing to the surprisingly large percentage of colonowares found at Hope. One common link between northeastern North Carolina and lowland South Carolina is the regular trade with sailing vessels from the West Indies, particularly Barbados. Historians recognize that large numbers of both planters and slaves who settled the lowland region of South Carolina came to that colony by way of Barbados (Berlin 1998:65–66). South's excavation of the circa 1670 site of Charles Towne, South Carolina, revealed colonowares that were likely made by slaves newly imported

from Barbados or other British West Indies islands (Ferguson 1992:82). It is also known that many plantation owners from Barbados moved into northeastern North Carolina, bringing their slaves with them (Umfleet, personal communication 2002). Many wealthy planters of Bertie County had ties to Edenton across the Chowan River from Bertie County, a major North Carolina port through which slaves entered during the eighteenth century (Umfleet, personal communication 2002). Edenton also saw the arrival of maritime trading vessels from the West Indies during the eighteenth century (Merrens 1964:91–92). During the colonial period maritime business between Bertie County merchants and the West Indies may have included the importation of slaves from the West Indies. This practice may have been utilized to circumvent 1787 legislation passed in North Carolina that assessed heavy taxes for the direct importation of slaves from Africa (Umfleet 1998:51). The festive African Christmas season celebration known as John Canoe (Morgan 1998:594) or Jonkonnu (Crow et al. 1992:19–20; Morgan 1998:594) was said to have possibly been passed to South Carolina and then to North Carolina by way of Barbados (Morgan 1998:595).

Knowing that some of the slaves brought to both northeastern North Carolina and the lowlands of South Carolina came by way of Barbados, it is possible that the slave trade supplied Africans of similar cultural origins to both Bertie County and parts of South Carolina, and resulted in similar material cultural expressions at Hope Plantation and slave sites in South Carolina. The possible connection between similar African cultural groups having been imported to both Bertie County through Edenton and parts of lowland South Carolina is tentative. Substantiation of these possible historical and cultural ties awaits further research to confirm specific links between the cultural origins of the slaves at Hope Plantation and slaves at South Carolina plantations.

What is arguably as interesting as the noted similarities between the Hope Plantation artifact assemblage and some South Carolina slave quarters sites is the dissimilarity between the Hope Plantation assemblage and artifact assemblages recovered from other North Carolina slave quarters sites such as Somerset Plantation. Why is the Hope Plantation assemblage more like a South Carolina slave quarters assemblage? The resilient African cultural tradition of pottery making retained by the slaves at Hope, combined with the proximity of the slave quarters to a suitable clay source, may be one reason for the prevalence of colonowares at Hope. Archaeologists have noted the correlation between available clay sources and the presence of colonowares in high quantities at plantation sites (Adams 2002:76–77). Additionally, the

archaeological data tentatively suggest several possibilities related to the functioning of Hope Plantation during the late eighteenth and early nineteenth centuries. Hope Plantation may have functioned with the "task labor" system characteristic of many of the South Carolina plantations. In this system, each slave would be given a particular amount of work to accomplish; work was allotted based on age and capability. A full task was to take 8–10 hours of work, thus leaving the slave to be engaged in other pursuits when the task was completed. This system would have allowed the slaves at Hope Plantation some time to be involved with activities outside of plantation work; one of these activities may have been the production of colonowares. It is possible that Hope Plantation was populated with enslaved Africans who were imported from Africa to South Carolina via Barbados and ultimately north to Bertie County.

It has been posited that many of the African cultural expressions documented at South Carolina archaeological sites were due to the enslaved Africans' isolation from the white planters (Samford 1992:15). Archaeologists have sought to understand to what degree the retention of traditional African cultural practices was indeed linked to the isolation of the enslaved Africans in plantation contexts. As documented by the archaeological investigations conducted at Hope Plantation during 2001–2002, colonoware constituted a significant majority of the ceramics recovered from the area thought to be the location of the late eighteenth–early nineteenth century slave quarters. The quarters location is less than 150 feet from the Hobson-Stone house location and would suggest that the slaves at Hope Plantation retained a significant degree of African cultural practices, including foodways, even though they were living in close proximity to the planter. It may be that the Stones, unlike may Southern planters during the eighteenth century, did not feel that retention of traditional African cultural practices and traditions were a threat. Consequently, the Stone slaves may have had tacit permission to pursue traditional cultural practices including foodways preparation and the production and utilization of colonowares. David Stone was considered to be an atypical planter in that he was forward thinking and an innovative, enlightened southern planter, not unlike Thomas Jefferson (Umfleet, personal communication 2002). As an enlightened planter, Stone may have allowed his slaves to follow traditional African cultural practices at Hope. Subsequent archaeological investigations of the slave quarters area at Hope may reveal evidence of other traditional African cultural practices such as the traditional African mud-walled slave quarters construction of the type documented on some South Carolina

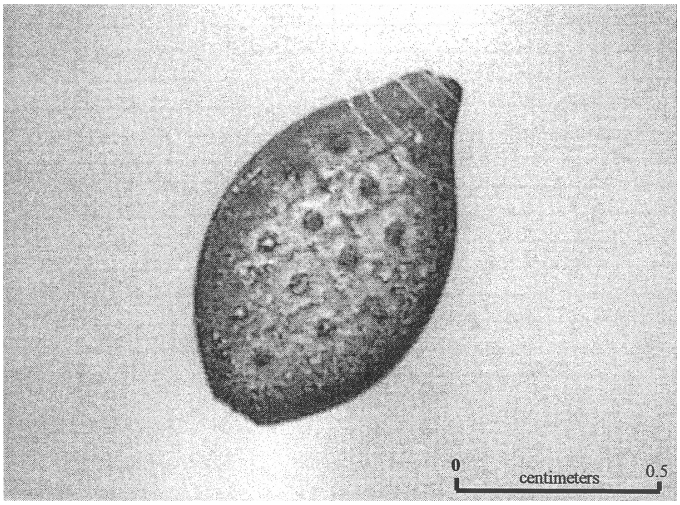


Figure 6. Midnight blue bead recovered from CCR Test Unit #1, Zone 1, level a. Photo by Andrew D. Madsen. Image courtesy of Coastal Carolina Research for Historic Hope Foundation, Inc.

plantations (Wheaton 2002; Shlasko 2002; Steen 2002). Although rare on southern plantation sites north of South Carolina, the traditional mud-walled slave dwellings are known to have existed on plantations as far north as Surry and Fluvanna County, Virginia (Morgan 1998:119). It was not uncommon for slaves to have constructed their own housing on southern plantations and, as many other slaves on southern plantations had done, the slaves at Hope likely introduced African stylistic traits into the construction of the quarters at the plantation (Morgan 1998:104). The presence of a midnight blue bead (Figure 6) within the general area of the colonoware concentration further supports the idea that traditional African practices and beliefs were important and expressed by the slaves at Hope. The color blue has been documented to be very significant for some African cultures. Slaves considered the color blue to offer protective powers (Samford 1996:102; Stine et al. 1996:63). Commenting on traditional African clothing, an eighteenth-century slave wrote "This [the clothing] is usually dyed blue, which is our favorite color" (Equiano 1998:200).

North Carolina and the Social Context for the Production and Use of Colonoware at Hope Plantation

To understand the cultural dynamic in which the colonowares found at Hope Plantation were manufactured, used, and discarded, an understanding of the practice of slavery in North Carolina in general and Bertie County in particular during the colonial period is necessary.

The institution of slavery developed more slowly in North Carolina than in Virginia and South Carolina (Joyce 1998:49). This was due to several factors, the majority of which relate to the geography and quality of land in the coastal plain region of North Carolina. North Carolina's coastline has few deep harbors and was very treacherous for ships (Crow 1977:1; Crow n.d.:5). Consequently, few slave ships from African came directly to unload their human cargo on North Carolina's shores (Crow et al. 1992:3; Gipson 1936:110), although some slaves were directly imported in the early 1700s (Watson 1982:5). As a result of the geographic limitations of the coastline, small ships such as sloops, schooners, and brigantines were involved with the majority of the coastal commerce in North Carolina (Gipson 1936:110).

Compounding the problem of the dangerous coastline was the relatively poor quality of the soils found in the coastal plain region when compared with the soils found in Virginia and South Carolina (Gipson 1936:110). Additionally, it was to a planter's advantage to be located in close proximity to a navigable river so that his crop could be easily exported. Many of North Carolina's major rivers flow through South Carolina and into the Atlantic Ocean. It made economic sense for planters to locate themselves in close proximity to the shipping ports in South Carolina. North Carolina offered land at very low prices to attract colonists to the colony. The promise of affordable land drew many planters to the coastal plain of North Carolina, including David Stone's father, Zedekiah, who moved to the Hope tract from New England in about 1767.

Although many slaves were imported via North Carolina ports such as Edenton, it is thought that as result of the dangerous coastline, the majority of North Carolina slaves were imported via overland routes from Virginia and South Carolina. Planters in North Carolina occasionally lamented the lack of direct importation of slaves into the colony. In 1733, Governor George Burrington quipped "Great is the loss this Country has sustained in not being supply'd by vessels from Guinea with Negroes; in any part of the Province the people are under a necessity to buy, the refuse refractory and distemper'd Negroes, brought

from other Governments" (Watson 1982:5). Despite the difficulty of acquiring slaves directly, by 1740 slaves constituted 25% of the residents of Bertie County (Watson 1982:5). By the eve of the American revolution in 1774, fully 43% of Bertie County households owned slaves, with more than one third of the slave-holding families owning at least five slaves (Watson 1982:6). In 1774, when future Governor David Stone was just four years old, Zedekiah Stone possessed 15 slaves at Hope (Iobst n.d.:2).

It has been asserted that slaves from Virginia ports generally supplied the plantations of northeastern North Carolina via overland transport, while South Carolina supplied the majority of slaves in the Lower Cape Fear region (Merrins 1964:80–81); however, the southern extent of the geographic distribution of slaves from Virginia and northern extent of the slaves from South Carolina is not known (Samford, personal communication 2002). During the colonial period, South Carolina supplied a large quantity of North Carolina's slave population. Between 1735 and 1775 the majority of the 70,000–75,000 slaves imported directly to South Carolina from Africa were re-exported to Georgia and North Carolina (Crow et al. 1992:3). It is in this historic context of importation of slaves from Virginia and South Carolina that Zedekiah and David Stone acquired slaves for Hope Plantation during the late eighteenth century. It is known that the Stones purchased many of their slaves from other Bertie County slaveholders (Iobst n.d.), which suggests that many of their slaves were not purchased directly from primary slave traders. Zedekiah Stone did acquire one female slave in 1786 from a slaveholder in Somerset County, Maryland. Zedekiah owned 27 slaves in the 1784–1787 period, and his son David increased this number to 89 by 1810 (Umfleet 1998:102).

An assessment of the names of the slaves listed in Zedekiah Stone's 1796 probate inventory (Iobst n.d.:89–110) and the mixed-race nature of some of the Stone's slaves is suggestive of the degree of creolization at Hope Plantation. The names of Zedekiah's slaves had been largely Anglicized, although at least one slave name may have been Anglicized from a traditional African name. At least six of Zedekiah's slaves' names were Anglicized, those slaves being Aaron, March, Will, London, Phyllis, and Bristol (Iobst n.d.:107). Two of Zedekiah Stone's slaves as listed in his 1796 probate inventory; London and Bristol, may have been named for recently docked ships (Umfleet 1998:47). Zedekiah Stone's slave Hannah may have been an Anglicization of the African names Hana, Hanu, or Nana (Umfleet 1998:46–47). In 1778 the Bertie County Court ordered that two mulatto children be bound to Zedekiah Stone

(Iobst n.d.:3); in 1796 David Stone purchased "one certain Malatto slave named Patty"(Iobst n.d.:137). This is interesting because it further substantiates the idea that the slaves at Hope Plantation had been in North Carolina for some time and were not brought directly from Africa. Evidence for the purchase of slaves from other slaveholders and not from direct slave traders, the presence of at least three slaves of mixed race, and the Anglicization of many of the slaves' names combine to suggest that the slaves at Hope Plantation had been subject to the acculturation or creolization process for some time. The presence of slaves that may not have been directly brought from Africa to Hope has important implications for the archaeological record at the plantation.

In the context of creolization and Anglicization at Hope, the enslaved were nonetheless able to retain some traditional African cultural practices as evidenced by the archaeological record. We know historically that the Hope Plantation slaves of the late eighteenth and early nineteenth centuries had been exposed to colonial Anglo-American lifeways for a period of time and had thus been developing a complex creolized culture. Foodways are known to be one of the most conservative cultural practices, and the data from Hope support this observation. Many of the slaves at Hope had been in North America for some time or had been born in the colonies, yet they managed to retain their traditional African foodways practices during a period of American history when slaves could not keep their African names. It is particularly interesting to know that the slaves were given Euro-American names, but in their place on the plantation they were evidently allowed to retain African dietary practices. Possibly as a passive means of resistance, but certainly as their ancestors had done before them, the slaves at Hope continued the long tradition of West African pottery manufacture by producing colonowares and using them for their own food consumption as well as for the preparation and serving of meals for the Stone family.

Conclusion

Although the archaeological contexts at Hope Plantation, including the identification of a source of fine, high-quality clay suitable for making colonowares very close to the slave quarters and the identification of many colonoware bowls of hemispheric form, suggest that the enslaved likely manufactured the recovered colonowares onsite, given the limited degree of archaeological research conducted, it is possible that the colonowares were made, or their production influenced by, the neighboring Tuscarora. Future archaeological research both at

Hope Plantation and, more broadly, at sites occupied by the Tusacarora in Bertie County during the c. 1750–1803 period has the potential to clarify if the recovered colonowares were the products of, or strongly influenced by, the neighboring Native Americans or affirm that the colonowares were manufactured onsite by the Stone family slaves. More important than identifying the particular cultural group which produced the colonowares, future research will serve to further understand the cultural contexts, function, and possibly meaning of the colonowares at Hope to both the enslaved and the Stone family at Hope Plantation.

The interaction of various peoples from differing cultural heritages, some free, many enslaved, signaled the development of a unique, creolized North Carolinian culture. The process by which Native American, African-American, and Euro-American culture came together to produce this unique North Carolinian cultural expression can best be called *ethnogenesis*, which is a special form of *creolization* which focuses on the changing and adaptive process of group self-identification (Orser 2004). Although there is no clearly agreed upon definition of this term, South Carolina archaeologist Leland Ferguson (1992:xlii) defines creolization as "a process involving multicultural interaction and exchange that produces new cultural forms." This definition of cultural interaction frees the historian or archaeologist to interpret the material record as a documentation of the lifeways of Africans in North Carolina and, more importantly, provides a perspective that views the enslaved as creators, proactive in their quest to retain and incorporate their unique African heritage into the plantation system. An example of this empowerment at Hope Plantation can be seen in the use of colonowares not only in the slave quarters area, but also in the kitchen of the Stone family. This is important because it suggests that, although they were considered economic property, Stone's slaves were able to incorporate African tradition in a subtle manner into the production and consumption of foodstuffs not just in the slave quarter but also in their master's house. The material record of enslaved Africans at Hope Plantation documents their active participation in the maintenance and practice of traditional African lifeways and speaks eloquently to the rich heritage of African-Americans in Bertie County during the colonial and early Federal periods.

Notes

Acknowledgements. The author would like to thank the staff and the Board of the Historic Hope Foundation, Inc. for their continued and very generous support of the archaeological research at Hope Plantation. LuAnn Joyner, Glenn Perkins, Benjamin

Speller, John Tyler, Tom Newbern, Clara and Mack Bell, and Lisa Briley of the Historic Hope Foundation deserve special thanks. A debt of gratitude is owed the staff of the Enhancement Program at NCDOT who funded the original 2001–2002 field investigations through an enhancement grant. Well deserved thanks also go to the staff of Coastal Carolina Research, including Denise Haynes, Kate Stratford, Will Moore, Tate Paulette, Bill Hall, Dr. Mary Ann Holm, Wanda Stiles, Dr. Susan E. Bamann, Alan Poyner, and Daphne O'Brien. Thanks also go to Micah Rimer who volunteered during the excavations. A special thanks is due Loretta Lautzenheiser, President of Coastal Carolina Research, for graciously allowing me to use some of the images from the report in this article. Thanks are also due to Wesley Stoner of the University of Kentucky for conducting a preliminary petrological analysis of the recovered natural clay and colonowares. Dr. Patricia Samford, Manager of Historic Bath and NC Historic Sites, and Dr. Charles Orser, Distinguished Professor of Anthropology, Illinois State University, are due many thanks for the generous amount of time they spent corresponding with me about ideas concerning the archaeological research at Hope Plantation. Finally, I wish to thank my wife, Rebecca Madsen, a co-author of the Hope Plantation archaeology report, for her unwavering support of my interest in North Carolina archaeology.

References Cited

Adams, Natalie P.

2002 A Pattern of Living: A View of the African American Slave Experience in the Pine Forests of the Lower Cape Fear. In *Another's Country: Archaeological and Historical Perspectives on Cultural Interactions in the Southern Colonies,* edited by J.W. Joseph and Martha Zierden pp. 65–78. University of Alabama Press, Tuscaloosa.

Anthony, Ronald W.

1986 Colono Ware. In *Home Upriver: Rural life on Daniel's Island*, by Martha Zierden, Lesley Drucker, and Jeanne Calhoun, pp. 22–50. Ms. on file. South Carolina Department of Highways and Public Transportation, Columbia, South Carolina.

1997 *Carolina's Historical Landscapes.* University of Tennessee Press, Knoxville.

2002 Tangible Interaction: Evidence from Stobo Plantation. In *Another's Country: Archaeological and Historical Perspectives on Cultural Interactions in the Southern Colonies,* edited by J.W. Joseph and Martha Zierden pp. 45–64. University of Alabama Press, Tuscaloosa.

Beck, Monica L.

1998 "A Fer Ways Off from the Big House": The Changing Nature of Slavery in the South Carolina. In *The Southern Colonial Backcountry Interdisciplinary Perspectives on Frontier Communities,* edited by David Colin Crass, Steven D. Smith, Martha A. Zierden and Richard Brooks pp. 108–136. University of Tennessee Press, Knoxville.

Berlin, Ira
1998 *Many Thousands Gone: The First Two Centuries of Slavery In North America*. The Belnap Press of Harvard University Press, Cambridge, Massachusetts.

Brady, Ellen M., Patricia Samford, Susan E. Bamann, and Loretta Lautzenheiser
2001 *Archaeological Data Recovery Site 31CV310, The Samuel Cornell House Site, Craven County, North Carolina*. Prepared for Craven County by Coastal Carolina Research, Inc., Tarboro, North Carolina. On file at Coastal Carolina Research, Inc.

Bridenbaugh, Carl
1950 *The Colonial Craftsman*. University of Chicago Press, Chicago (reprinted 1974).

Buck, Sabrina C.
1999 *Reinterpreting Hope: An Archaeological Perspective on the Spatial Layout of an Eastern North Carolina Plantation*. Unpublished Master's thesis, East Carolina University, Greenville.

Cooper, Margaret and Carl Steen
1998 Potters of the South Carolina Lowcountry: A Material Culture Study of Creolization. Ms. on file. The Charleston Museum, Charleston.

Crane, Brian
1993 Colono Wares and Criollo Ware Pottery from Charleston, South Carolina and San Juan, Puerto Rico in Comparative Perspective. Ph.D. dissertation, University of Pennsylvania, University Microfilms, Ann Arbor, Michigan.

Crow, Jeffery J.
1977 T*he Black Experience in Revolutionary North Carolina.* Division of Archives and History, North Carolina Department of Cultural Resources, Raleigh.

n.d. A Brief History of African Americans in North Carolina. In *The Rich Heritage of African Americans in North Carolina.* Published by the North Carolina Department of Commerce and Department of Cultural Resources.

Crow, Jeffery J., Paul D. Escott, and Flora J. Hatley
1992 *A History of African Americans in North Carolina*. Division of Archives and History, North Carolina Department of Cultural Resources, Raleigh.

DeCorse, Christopher R.
1999 Oceans Apart: Africanist Perspectives on Diaspora Archaeology. In *"I, Too, Am America": Archaeological Studies of African-American Life*, edited by Theresa A. Singleton, pp. 132–155. University Press of Virginia, Charlottesville.

Deetz, James
1977 *In Small Things Forgotten*. Doubleday, Garden City, New York.

1993 *Flowerdew Hundred: The Archaeology of a Virginia Plantation, 1619–1864.* University Press of Virginia, Charlottesville.

Emerson, Matthew Charles
1988 *Decorated Clay Tobacco Pipes from the Chesapeake.* Ph.D. dissertation, University of California, Berkeley.

Equiano, Olaudah
1998 The Interesting Narrative of the Life of Olaudah Equiano or Gustavus Vassa, the African, Written by Himself (1794). In *Pioneers of the Black Atlantic: Five Slave Narratives from the Enlightenment, 1772–1815*, edited by Henry Louis Gates, Jr. and William L. Andrews, pp. 182–365. Counterpoint, Washington, DC.

Ferguson, Leland
1992 *Uncommon Ground: Archaeology and Early African America, 1650–1800.* Smithsonian Institution Press, Washington, DC.

1999 "The Cross is a Magic Sign": Marks on Eighteenth-Century Bowls from South Carolina. In *"I, Too, Am America": Archaeological Studies of African-American Life*, edited by Theresa A. Singleton, pp. 116–131. University Press of Virginia, Charlottesville.

Fesler, Garrett and Maria Franklin
1999 The Exploration of Ethnicity and the Historical Archaeological Record. In *Historical Archaeology, Identity, Formation, and the Interpretation of Ethnicity*, edited by Maria Franklin and Garrett Fesler, pp. 1–10. Dietz Press, Richmond, Virginia.

Gipson, Lawrence Henry
1936 *The British Empire Before the American Revolution, Volume II. The British Isles and the American Colonies: The Southern Plantations, 1748–1754.* Alfred A. Knopf, New York.

Heath, Barbara
1996 Temper, Temper: Recent Scholarship on Colonoware in 18th-Century Virginia. In *The Archaeology of 18th-Century Virginia*, edited Theodore R. Reinhart, pp. 149–175. Special Publication No. 35. Archeological Society of Virginia, Richmond.

Hughes, Christopher
1983 *Independent Study on Slave Archaeology: Somerset Place.* Unpublished manuscript on file. Coastal Carolina Research, Inc., Tarboro, North Carolina.

Iobst, Richard W.
n.d. *Domestic Life of David Stone.* Ms. on file. Hope Plantation, Bertie County, North Carolina.

Joyce, Amy C.
1998 *An Archaeological Research Design for Early Nineteenth Century Slave Life at Hope Plantation*. Unpublished Master's thesis, East Carolina University, Greenville.

King, Julia
2002 Forward. In *Another's Country: Archaeological and Historical Perspectives on Cultural Interactions in the Southern Colonies,* edited by J.W. Joseph and Martha Zierden, pp. xiii–xvii. University of Alabama Press, Tuscaloosa.

Lautzenheiser, Loretta E., et al.
1994 *Archaeological Data Recovery, Site 31CV183, United Carolina Bank, New Bern, North Carolina*. Ms. on file. Coastal Carolina Research, Inc., Tarboro, North Carolina.

Lautzenheiser, Loretta E., Patricia Samford, Jaquelin Drane Nash, Mary Ann Holm, Thomas Hargrove, and Billy Wayne Hall
1998 *"I Was Moved of the Lord to Go to Carolina…" Data Recovery at Eden House Site 31BR52, Bertie County, North Carolina*. Prepared for The North Carolina Department of Transportation by Coastal Carolina Research, Inc., Tarboro, North Carolina. On file at Coastal Carolina Research, Inc.

Loftfield, Thomas C., and Michael Stoner
1997 Brunswick Town Colonowares Re-examined. *North Carolina Archaeology* 46:6–13.

Madsen, Andrew D.
2001 (2001, December 19). In Excavation begins at Hope, by Fran Arrington. *Bertie Ledger Advance* [Newspaper], volume 71 number 52, p. 1, 4.

Madsen, Andrew D., Rebecca Anne Madsen, and Loretta Lautzenheiser
2002 *The Halifax Road and Hope Plantation: An Archaeological Investigation to Determine the Influence of Transportation on the Slave Community of the Antebellum South*. Ms. on file. Coastal Carolina Research, Inc., Tarboro, North Carolina.

Merrens, Harry Roy
1964 *Colonial North Carolina in the Eighteenth Century*. The University of North Carolina Press, Chapel Hill.

Misago, Kanimba
1996 Ceramics from the Upemba Depression: A Diachronic Study. In *African Material Culture*, edited by Mary Jo Arnolda, Christraud M. Geary, and Kris L. Hardin, pp. 103–129. Indiana University Press, Bloomington.

Mouer, L. Daniel
1993 Chesapeake Creoles: The Creation of Folk Culture in Colonial Virginia. In *The Archaeology of Seventeenth-Century Virginia*, edited by T. Reinhart and D.J. Pogue, pp. 105–166. Special publication No. 30. Archeological Society of Virginia, Richmond.

Mouer, L. Daniel, Mary Ellen Hodges, Stephen R. Potter, Susan L. Henry Renaud, Ivor Noël Hume, Dennis J. Pogue, Martha W. McCartney, and Thomas E. Davidson
1999 Colonoware Pottery, Chesapeake Pipes, and "Uncritical Assumptions". In *"I, Too, Am America": Archaeological Studies of African-American Life*, edited by Theresa A. Singleton, pp. 83–115. University Press of Virginia, Charlottesville.

Morgan, Philip D.
1998 *Slave Counterpoint: Black Culture in the Eighteenth-Century Chesapeake and Lowcountry*. University of North Carolina Press, Chapel Hill and London.

Noël Hume, Ivor
1962 An Indian Ware of the Colonial Period. *Quarterly Bulletin, Archeological Society of Virginia* 17:1.

Orser, Charles
2004 *Race and Archaeological Interpretation*. University of Pennsylvania Press, Philadelphia.

Otto, John Solomon
1975 *Status Differences and the Archaeological Record: A Comparison of Planter, Overseer and Slave Sites from Cannon's Point Plantation (1794–1861), St. Simons Island, Georgia*. Unpublished Ph.D. dissertation, Department of Anthropology, University of Florida, Gainesville.

Phelps, David Sutton
1980 *An Archaeological Study of the King-Bazemore House, Bertie County, North Carolina*. Archaeological Research Report No. 2, Archaeology Laboratory, Department of Sociology and Anthropology, East Carolina University, Greenville, North Carolina.

Polhemus, Richard R.
1977 Archaeological Investigations of the Tellico Blockhouse Site (40MR50); A Federal Military and Trade Complex. *Tennessee Valley Authority Reports in Anthropology* 16.

Posnansky, Merrick
1999 West Africanist Reflections on African-American Archaeology. In *"I, Too, Am America": Archaeological Studies of African-American Life*, edited by Theresa A. Singleton, pp. 21–38. University Press of Virginia, Charlottesville.

Samford, Patricia
1992 The Visibility of African-American Ethnicity in the Archaeological Record. Unpublished manuscript.

1996 The Archaeology of African-American Slavery and Material Culture. *The William and Mary Quarterly* (third series) 50(1):87–114.

Shlasko, Ellen
2002 Frenchmen and Africans in South Carolina: Cultural Interaction on the Eighteenth-Century Frontier. In *Another's Country: Archaeological and*

Historical Perspectives on Cultural Interactions in the Southern Colonies, edited by J.W. Joseph and Martha Zierden pp. 133–144. University of Alabama Press, Tuscaloosa.

Singleton, Theresa
1996 The Archaeology of Slave Life. In *Images of the Recent Past: Readings In Historical Archaeology*, edited by Charles E. Orser, Jr., pp. 141–165. AltaMira Press, Walnut Creek, California.

Singleton, Theresa A., and Mark Bograd
1999 Breaking Typological Barriers: Looking for the Colono in Colonoware. In *Lines That Divide: Historical Archaeologies of Race, Class, and Gender*, edited by James A. Delle, Stephen A. Mrozowski, and Robert Paynter, pp. 3–21. University of Tennessee Press, Knoxville.

South, Stanley
1959 *Description Of The Ceramic Types From Brunswick Town At Brunswick Town State Park*. State Department of Archives and History Brunswick Town State Historic Site. Ms. on file. North Carolina Department of Archives and History, Raleigh.

1971 *Archaeology at the Charles Towne Site on Albemarle Point, South Carolina*. Research Manuscript 10. South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

1977 Evolution and Horizon as Revealed in Ceramic Analysis in Historical Archaeology. In *Historical Archaeology: A Guide to Substantive and Theoretical Contributions*, edited by Robert Schuyler, pp. 68–82. Baywood Publishing Company, Inc., Farmingdale, New York.

Steen, Carl
1995 *The Somerset Place Restoration Excavations, 1994*. Report prepared for The North Carolina Department of Cultural Resources, Division of Archives and History, Historic Sites Section by Diachronic Research Foundation, Columbia, South Carolina.

2002 John de la Howe and the Second Wave of French Refugees in the South Carolina Colony: Defining, Maintaining, and Losing Ethnicity on the Passing Frontier. In *Another's Country: Archaeological and Historical Perspectives on Cultural Interactions in the Southern Colonies,* edited by J.W. Joseph and Martha Zierden pp. 145–160. University of Alabama Press, Tuscaloosa.

Stine, Linda France, Melanie A. Cabak, and Mark D. Groover
1996 Blue Beads as African-American Cultural Symbols. *Historical Archaeology* 30(3): 49–75.

Umfleet, LeRae
1998 *Slavery in Microcosm: Bertie County, North Carolina, 1790–1810*. Unpublished Master's thesis, Department of History, East Carolina University, Greenville.

Watson, Alan D.
1982 *Brief His*tory. Division of Archives and History, North Carolina Department of Cultural Resources, Raleigh.

Wheaton, Thomas R.
2002 Colonial African American Plantation Villages. In *Another's Country: Archaeological and Historical Perspectives on Cultural Interactions in the Southern Colonies,* edited by J.W. Joseph and Martha Zierden pp. 145–160. University of Alabama Press, Tuscaloosa.

Wheaton, Thomas R., Amy Friedlander, and Patrick H. Garrow
1983 *Yaughan and Curriboo Plantations: Studies in Afro-American Archaeology*. Ms. on file. Soil Systems, Inc., Marietta, Georgia.

Wheaton, Thomas R., and Patrick H. Garrow
1985 Acculturation and the Archaeological Record in the Carolina Lowcountry. In *The Archaeology of Slavery and Plantation Life*, edited by Theresa A. Singleton, pp. 67–94. Academic Press, San Diego.

BOOK REVIEW

The Man Who Found Thoreau:Roland W. Robbins and the Rise of Historical Archaeology in America, Donald W. Linebaugh. University of New Hampshire Press, Durham, New Hampshire. Manufactured by the University Press of New England, Lebanon, New Hampshire, 2005. xii + 294 pp., illus., endnotes, biblio., index. $30.00 (cloth).

Reviewed by Thomas E. Beaman, Jr.

Early archaeological investigations of historic sites as conducted by architects and preservationists have, and continue to be, frequently underrated by the current generation of archaeologists. Rather than to consider early excavation within a historical context, modern anthropologically-trained excavators have a tendency to judge their predecessors' work by contemporary standards and, by doing so, ultimately negate the legacy of these early pioneers. Adapted from his 1996 dissertation, Donald Linebaugh's scholarly biography of Roland Wells Robbins, a New England handyman with a "self-educated Yankee demeanor" (p. 5) who became a "pick and shovel historian" and "the People's Archaeologist" (p. 7), offers a fresh and balanced perspective on a controversial figure whose career both parallels and contrasts the rise of modern historical archaeology in America.

Roland Robbins is likely not well known to those outside of New England, who have not done much industrial archaeology, or who are primarily interested in prehistoric research. I first became aware of Robbins in the mid-1990s as a staff archaeologist with the Thomas Jefferson Memorial Foundation. He was one of the early investigators of Peter Jefferson's house at Shadwell (Thomas Jefferson's Virginia birthplace). While his investigations were adequately documented in his book *Hidden America* (with Evan Jones, Alfred A. Knopf, New York, 1959), at the time we knew little about Robbins. Linebaugh's biography does not duplicate or expound on material covered in *Hidden America*, but rather provides sound and thorough historical, biographical, and technical context on this pioneer and his investigations. Each chapter contains a cornucopia of information and warrants discussion.

Following an overall introduction by Linebaugh, the first chapter well details the rise of preservation movements and early historical archaeology in New England. Early efforts, led "almost entirely by WASP and middle to upper class," worked to preserve many historic structures and sites they saw as indicative of simpler and purer times

"within an increasingly heterogeneous and complicated modern world" (p. 10). By the early twentieth century, local historical societies were the most active in the preservation and care of historic buildings, and they turned to archaeology for "restoration, reconstruction, and interpretation" (p. 12). Early amateur archaeologists William Calver's and Reginald Bolton's New York City investigations provided not only inspiration but also practical methods for the use of archaeology on historic sites. Federal support through legislation (such as the Antiquities Act of 1906 and the Historic Sites Act of 1935) and funding (through WPA and preservation projects), as well as the success of the Williamsburg restoration and an increased sense of Americana, led to more archaeology on historic sites in the first three decades of the twentieth century, though its focus was still primarily on architectural detail for restoration. It was during World War II, when archaeology and preservation had temporarily ceased, that Roland Robbins first found an interest in a Minute Man statue in Concord and discovered an ability and the love for the process of historic research that would change his life. Linebaugh's skillful and convincing composition of the history and development of preservation movements, early archaeological projects conducted by volunteer researchers, prehistoric archaeologists and architects, and historical interest make it easy to imagine that Robbins was predestined to undertake archaeology as part of historic research after World War II.

The beginning of the next chapter treks backward in time to provide a brief biographic sketch of Robbins and what prompted his first major investigation—the discovery and excavation of Henry David Thoreau's cabin at Walden Pond. It was Robbins' admiration of Thoreau and the controversy over the exact location of his cabin that led this handyman, who had primarily earned his living as a window washer and house painter, to further pursue his interest in historical research. In 1945, he employed archaeological techniques extremely similar to those of Calver and Bolton, and was able to locate the site of Thoreau's cabin. Though his focus was upon the location of the foundations, Robbins also carefully collected and recorded the artifacts he found, a practice not common in historical investigations at the time. Following the excavation of the cabin site, the publication of a project manuscript on the discovery and a tour on the lecture circuit led to other projects, and allowed Robbins to establish for himself a meaningful, professional career in historical and archaeological research. The search for Thoreau's cabin also established several themes that recurred through Robbins' life and work. First, his practical knowledge of tools and

crafts, keen intuition, meticulous documentation, and a mind for solving problems led him through his first excavations and "succeeded through hard work where others had failed" (p. 55). Second, negative experiences with literary scholars and academics that resulted from Robbins not allowing his excavations to be viewed until they were completed furthered his distrust of university professors (including university archaeologists). Third, the published manuscript was written in the style of a detective story, a formula Linebaugh observes that was successfully adopted by Ivor Noël Hume and James Deetz in their works.

The third chapter, "Forging a New Career," covers Robbins' restoration-oriented archaeology at the Saugus Iron Works site and Shadwell. It is perhaps his work at Saugus and other industrial sites from the mid-1940s to the early 1960s, which previous American archaeologists had largely ignored, for which he is most remembered. Linebaugh attributes Robbins' interest in industrial sites to a preoccupation "with his roots as a laborer and from his innate Yankee curiosity in how things worked, particularly mechanical devices and processes" (p. 64). The excavations at Saugus kept Robbins employed in his new career from 1948 to 1953. His separation from the project resulted from continued disagreements with the restoration architects and project historians, as he felt they failed to consider the important details that archaeology provided. At Shadwell in 1955, Linebaugh notes advancement in Robbins' field techniques, as he documented soil changes and used a grid system to locate the foundation remains of Peter Jefferson's residence. Though his work at Shadwell was brief, Robbins hoped to secure work at the neighboring site of Monticello, yet his offer was politely declined due to his lack of a professional degree. Linebaugh continues to document growth in the fields of historical and industrial archaeology and Robbins' continued conflicts with academia by the growth of university-trained archaeologists and an increased anthropological focus on historic artifacts. The author also charges that Robbins' credibility was hurt among professionals by referring to himself primarily as a "treasure hunter" and a "subterranean detective" (pp. 96–97), shunning the moniker of archaeologist as to not misrepresent his lack of university training.

The investigations of the Philipsburg Manor Upper Mills project and the publication of *Hidden America* are covered in Chapter Four. Robbins signed on to the project in 1956, and for the next five years conducted restoration-oriented archaeology on numerous foundations, often encountering complex stratigraphy. Linebaugh equates the detail of his field methodology to the level of professionally trained

archaeologists of the period, and claims Robbins established a new standard for the investigation of industrial sites. In 1957, Robbins increased public interest in the project through a "Dig-It-Yourself" program in which the public could sift through soils removed by heavy equipment, a memorable picture of which is shown on page 123. Working with many of the same restoration architects as he did at Saugus, Robbins departed the Philipsburg Manor project again feeling details provided through archaeology were being ignored in the restoration plans. *Hidden America* came about in 1959 through the popularity he achieved through newspaper and magazine articles. Investigations at Walden Pond, Saugus, Shadwell, and the Philipsburg Manor project formed the basis of the book, but also provided were a summary overview of Native American and Viking archaeology in America as well as encouragement and instructions for the public on how to become "pick and shovel historians." While reviews of *Hidden America* were generally positive, academic archaeologists panned his controversial field techniques (especially his use of heavy equipment to remove more modern stratigraphic layers at certain sites) and berated his encouragement for the untrained public to pursue archaeology themselves. One particularly scathing review from archaeologist John Cotter compared this practice to someone with an interest but no formal training as an engineer being encouraged to build a skyscraper. This ire from the academic community ultimately damaged his career, yet by "embracing Thoreau's model of the practical intellectual" (p. 130) Robbins reinforced his determination to practice archaeology and restoration his way.

Chapters Five and Six focus more on Robbins' conflicts with university archaeologists and the development of modern historical archaeology than his projects. His work at the John Alden House, Strawberry Banks, and Oliver Mill are briefly detailed in Chapter 5 to illustrate Robbins' adaptation of field methods to suit the needs of individual projects. Linebaugh glosses over many of his later works as small-scale restoration investigations with limited goals. As James Deetz and his graduate students from Brown University expanded historical archaeology in New England beyond restoration work during the late 1960s and 1970s, Deetz became one of Robbins most outspoken critics and challenged his work at every opportunity. On one occasion Deetz even offered to document an early mill site for free just to keep Robbins away from it (pp. 176–177). Linebaugh attributes this contention to a number of factors, mostly as a result of the push for university credentials, research designs, standardization of field techniques, and

improved reporting that followed the establishment of the Society for Historical Archaeology in 1967. Equally detrimental to Robbins' reputation among academics was his continued push for the public to become "pick and shovel historians" and commercial ventures that his critics claimed exploited archaeology, such as his development and sale of an authentic-styled "Thoreau-Walden Cabin" kit for $2,495.00 per unit (pp. 164–167). Several reviews of his later reports in the journal Historical Archaeology are less than complimentary, citing the development of a "new" scientific paradigm and recent analytical methods that Robbins ignored. A notable hurdle that infuriated Robbins in this period was the refusal of State Historic Preservation Offices (SHPOs) to accept his work because he didn't meet the newly established criteria set forth by the National Park Service's standards for professional archaeologists (primarily because he lacked the academic credentials). Though he encountered a brief surge of small projects with the Bicentennial celebrations of 1976, "masked in his Thoreauvian attitude of individualism, stubbornness and irascibility" (p. 164), Robbins spent the remainder of his life promoting his work in an attempt to secure a legacy for it.

While he may not have achieved the recognition he felt he deserved during his lifetime, Roland W. Robbins and his investigations on many notable sites will certainly not be forgotten, and hopefully will be remembered and accepted a little better thanks to a new perspective on this early pioneer by Donald Linebaugh. *The Man Who Found Thoreau* stands as an excellent portrait of the development of American historical archaeology through one of its early practitioners, as well as an excellent companion piece to the antiquated *Hidden America*. It contains a wealth of information on Robbins, his methodology as compared to other archaeologists and projects of the period, and the rapid theoretical and organizational evolution of historical archaeology in America from the 1950s to the 1970s. The text is well organized and very readable for a general audience, and contains copious endnotes and a bibliography largely drawn from Robbins' published reports, private diaries, correspondence, newspaper accounts, and interviews with individuals who knew Robbins. The volume also contains a well-ordered appendix that briefly details all of Robbins' investigations. Finally, with a low retail price of $30.00 (a refreshing change in a discipline generally mired with expensive specialized publications), this book is quite a value!

The Man Who Found Thoreau is recommended overall for its balanced treatment of the controversial Roland Wells Robbins and his work (warts and all), as well as for the discussion of many professional

and ethical issues that he encountered and which with modern archaeologists still struggle. Linebaugh is to be especially lauded for the excellent example of how a thoroughly developed historic context provides a better understanding in which to evaluate earlier pioneering practitioners and their archaeological investigations. This volume sets a new standard for its thorough regional research on the history and development of modern historical archaeology in America and, as such, is recommended as required reading for all current and future professional historical archaeologists.

ABOUT THE AUTHORS

Thomas E. Beaman, Jr., RPA, Tar River Archaeological Research, 5210 Carr Road, Wilson, NC 27893

Thomas C. Loftfield, Department of History and Philosophy, University of the West Indies, Cave Hill Campus, Barbados, W.I.

Andrew Madsen, Assistant Director of Historical Archaeology, Program for Archaeological Research, Department of Anthropology, University of Kentucky, 1020A Export Street, Lexington, KY 40506-9854

Theresa E. McReynolds, Research Laboratories of Archaeology, University of North Carolina, Chapel Hill, NC 27599-3120