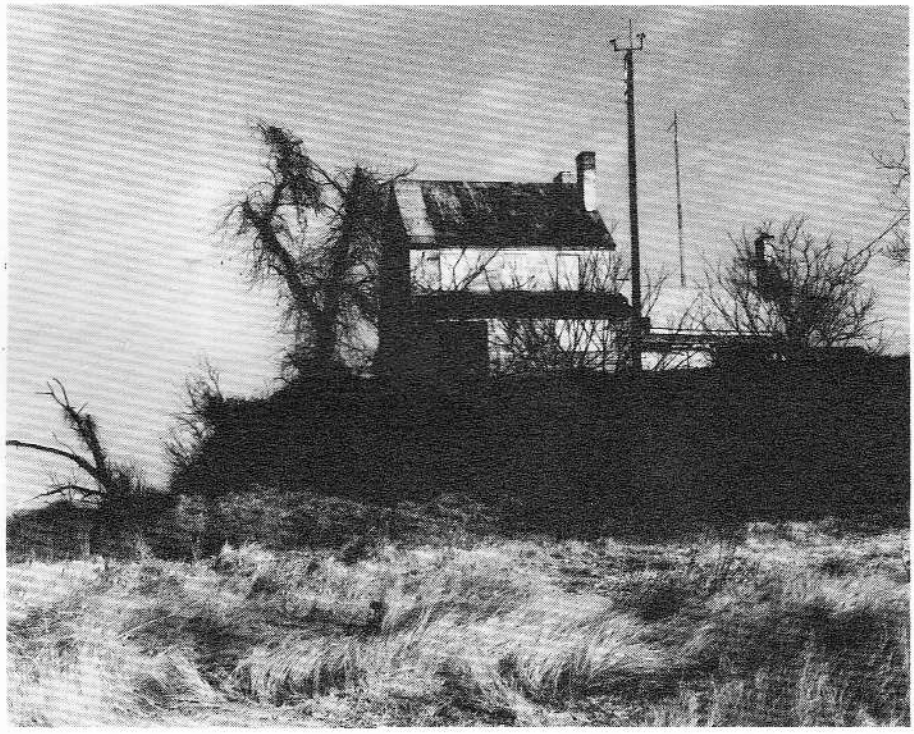
MARYLAND ARCHEOLOGY

Journal of the Archeological Society of Maryland, Inc.



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Cover: The Blossom Point Farmhouse prior to demolition. *See article by Custer, this issue.*

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ARCHEOLOGICAL INVESTIGATIONS AT THE BLOSSOM POINT FARMHOUSE (18CH216), CHARLES COUNTY, MARYLAND

Jay F. Custer

Abstract

Archeological excavations at the Blossom Point Farmhouse focused on sub-floor deposits in the three main rooms of the house, which was built during the first half of the 19th century. Diagnostic artifacts indicate that the archeological deposits date to the middle to late 19th century with a mix of 20th century artifacts added later. During this time period, the house was occupied by the overseers of the Blossom Point Farm whose socioeconomic status was not all that high. Food remains from the Blossom Point farmhouse reveal a diet that included the use of both wild game and domesticated animals. Home butchering of domesticated animals, including pigs, chickens, and turkeys, for immediate consumption took place. Inexpensive meat cuts of beef were purchased. Wild animals, fish, and shellfish of the Potomac estuary were also part of the diets of the site's inhabitants. The picture of rural life in the 19th century at Blossom Point Farm that emerges from the archeological data is consistent with the archival data. The inhabitants of the farm were not of the lowest socioeconomic status, but they certainly were not part of higher status groups either.

Introduction

This article describes archeological excavations undertaken at the Blossom Point Farmhouse, which is located at the end of Cedar Point Neck in Charles County, Maryland, at the confluence of Nanjemoy Creek and the Potomac River. The site is currently owned by the United States Government for use as a testing facility under control of the Army Materiel Command. The entire Blossom Point property is a subinstallation of the Adelphi Laboratory Center and originally was leased from the Society of Jesus (the Jesuits) from 1942 to 1980. In 1980, the property was purchased from the Society of Jesus and at that time the brick farmhouse was the only surviving structure of the original farm operation which had included a number of barns and outbuildings.

Prior archeological and architectural investigations at the site (Kise, Franks, and Straw 1990) revealed that the house itself was built ca. 1805 and that the only intact archeological remains associated with it were a series of refuse deposits located beneath the floorboards of the house itself. All of the surrounding yard areas had been extensively disturbed. The archeological investigations described in this article sought to recover archeological data relevant to the lifeways and diets of the site's historic inhabitants. After the completion of the excavations, the house was demolished due to structural instabilities caused by natural erosion of the nearby shoreline of Nanjemoy Creek.

Historical Background

The following historical background of the Blossom Point Farmhouse is based on earlier archival research provided by Kise, Franks, and Straw (1990) and Wilke et al. (1980).

The historic occupation of Cedar Point Neck began with the arrival of members of the Society of Jesus (the Jesuits) in Maryland during the middle of the 17th century. Although religious societies were not allowed to own property in Maryland until 1792, when the Maryland legislature chartered the Corporation of Roman Catholic Clergymen, the Jesuits were granted large tracts of land by the proprietors of the Maryland colony to hold in trust. Usually, Catholic laymen were granted patents to the land on behalf of the Jesuits and in 1649 such a patent was granted to Thomas Matthews by Father Copley of the Society of Jesus. This land patent included 4000 acres, 3500 of which were located on Cedar Point Neck and encompassed the Blossom Point Farm. The entire estate was known as St. Thomas Manor.

In 1684, Richard Boughton, onetime Secretary of the Colony of Maryland, obtained a long-term lease for a 400-acre tract of land that included Blossom Point Farm. The terms of the lease required Boughton to "uphold, repair, sustain, maintain and amend the said two tenements with their appurtenances and all new buildings whatsoever upon the premises to be built during the said term and all fences and enclosures and so on" (Zwinge 1910, Vol. 42:1-4) and to pay a yearly rent of 1000 pounds of tobacco.

It is difficult to reconstruct much of the 18th and 19th century history of Blossom Point because many of the Jesuit records were destroyed by a fire in 1866; however, some facts can be noted. Prior to the American Revolution, the Jesuits leased farms for long-term periods of up to 21 years. The rent system was

usually based on crop shares of up to one-third of the corn, wheat, and tobacco raised on the farms. Tobacco from the yearly rents yielded between 10,000 and 28,000 pounds of tobacco from St. Thomas Manor alone, and the Jesuits used these crops to support a lucrative trade with London and Scottish tobacco merchants. During this time period, Blossom Point was one of the most prosperous of the farms. However, this trade and prosperity were ended by the American Revolution and the farms of St. Thomas Manor, particularly those of Blossom Point, went into a decline that extended into the 19th century.

As revenues from the farms declined and the market for tobacco evaporated, the Jesuits shifted to a cash rent system and a series of short-term leases. Most of the lease terms specified a 4 or 5 field crop rotation system and use of appropriate fertilizer, prohibited cutting of timber, and forbade sub-tenants (Zwinge 1910, Vol. 41:196-197). However, the absence of long-term leases led to a high turnover rate for tenants and many of these tenants did not contribute to the maintenance of the properties. Furthermore, St. Thomas Manor operated at a deficit of up to $1400 per year between 1780 and 1820 and funds were not available to improve the Blossom Point Farm properties. In 1824, Blossom Point Farm was described as being in "wretched" condition (Hughes 1907:362). The deterioration of the farm's condition is manifest in the fact that the actual number of tenant farms on Blossom Point declined from 20 in 1755 to 9 in 1857 (Zwinge 1910, Vol. 42:10).

There are some indications of improvements in farm conditions at Blossom Point during the first half of the 19th century (Kise, Franks, and Straw 1990:18-19). These improvements may have been due to income from the sale of slaves which occurred throughout the first quarter of the 19th century. By 1838 all of the slaves belonging to St. Thomas Manor had been sold. Some of these funds may have been used to build the current Blossom Point Farmhouse which was the focus of the archeological investigations reported here.

Between 1788 and 1832 the tenant of Blossom Point Farm was Bennett Semmes, who acted as overseer and agent (collector of rents) for all of the Jesuit farms on Cedar Point. In 1805 the Jesuits built a house for Semmes and the architectural investigations of the remaining extant house (Kise, Franks, and Straw 1990:43-61) indicate that the "new" house referred to in the archival records was the extant brick house on Blossom Point. Semmes's residence began a tradition of this house being the home of the Blossom Point overseer and this tradition lasted until well into the 20th century.

Semmes is the only overseer for whom there are any real historic records in the Jesuit archives and even these are quite vague and do not provide any good indications of his socioeconomic status. Although he was an overseer and did collect a fee for his services, Semmes experienced difficulties in paying his own rents in 1825 and 1826. However, he was in fully paid standing by the time of his death in 1832. Semmes's will is also quite vague and is not a good indicator of his socioeconomic status. However, the vague nature of the will is itself a sign that he did not have significant amounts of goods to distribute. Although the records are not always clear, it does seem safe to say that Semmes was not a rich man.

The 1860 Agricultural Census shows that Blossom Point was the most valuable of the Jesuit farms in St. Thomas Manor (Table 1). This census shows that tobacco was the major cash crop grown, along with corn and wheat. Other products from the farm included oats, wool, peas, beans, potatoes, orchard crops, butter, beeswax, and honey. A detailed analysis of the agricultural census data (Custer 1993:48-50) shows that although the Blossom Point Farm was one of the most valuable of the Jesuit farms, it was not one of the most efficient. Most of its value came from its relatively highly valued improvements and its large amounts of livestock.

During the 1860s, commercial fisherman constructed a wharf for shad fishing at Blossom Point and this activity contributed to the farm's income. However, the growing prosperity of the farm was cut short by the Civil War. Blossom Point was used as a Federal Army Camp during the war, and the resources and property of the farm were badly depleted. The Jesuits claimed $31,000 in damages from the Federal government after the Civil War, but only received $4,000.

After the Civil War the Jesuits tried to sell the Blossom Point Farm on several occasions, but there were no buyers. Real estate agents noted the poor condition of the farm as a detriment to its sale. During the late 19th and early 20th centuries a series of short-term tenants grew tobacco on the farm. However, crops were often insufficient to allow payment of rents. By the 1920s the last tenants left the farm and were not replaced. Most of the farm then lay fallow until it was leased to the United States Army as a test facility in 1942.

The general picture of the Blossom Point Farm that emerges from the historic background data is one of general deterioration from the American Revolution onward to the mid-20th century. The system of short-term leases greatly contributed to deterioration of the

	Improved acres	Unimproved acres	Cash value of farm	Value of farming improve. & mach.	horses	asses & mules	milch cows	working oxen	other cattle	sheep	swine	value livestock	wheat (bushels)	indian corn (bu.)	oats (bu.)	tobacco (lbs.)	wool (lbs.)	peas & beans (bu.)	Irish potatoes (bu.)	sweet potatoes (bu.)	value of orchard products	butter (lbs.)	hay (tons)	beeswax (lbs.)	honey (lbs.)	value of homemade manufactures	value of animals slaughtered
16. C.T. Bateman	125	25	5,000	25	4	-	3	2	-	-	9	300	-	375	30	3,500	-	-	20	-	-	100	-	-	-	-	100
17. C. Long	150	25	5,500	75	6	4	6	2	10	15	25	1,000	200	500	110	2,000	25	-	10	-	-	150	-	5	25	10	100
18. E. Stonestreet	400	50	10,000	150	9	2	6	8	6	34	80	1,000	580	1,500	250	5,000	75	-	100	-	-	200	-	-	-	25	500
19. James Howard	300	100	2,000	50	-	-	1	2	14	-	16	100	60	150	15	3,000	-	2	5	-	10	-	-	-	-	15	70
20. A.L. Welsh	250	50	3,000	30	4	-	2	6	12	14	35	300	100	400	80	3,000	42	2	-	-	10	75	-	-	-	10	100
21. J.O. Oliver	200	-	3,500	150	6	-	5	4	6	-	15	500	230	275	-	2,000	-	1	-	3	-	50	-	-	-	-	100
22. James Higdon	200	200	10,000	200	2	2	4	4	9	16	20	720	500	350	15	-	40	-	2	-	-	25	-	-	-	-	100
23. J.C. St.Clair	160	70	6,000	100	7	2	3	4	15	16	14	1,000	400	500	70	5,000	30	-	3	-	-	50	-	-	-	-	150
24. C.A. Pye (Blossom Pt.Farm)	160	165	10,000	200	4	5	7	6	15	20	20	600	400	750	200	10,000	60	-	50	-	-	100	-	-	-	-	250

TABLE 1. 1860 Agricultural Census.

farm as did an absence of capital to improve its condition. Blossom Point was in some ways caught in a vicious circle. The more that the farm deteriorated, the less money was available for improvement of the farm's condition, allowing for continued deterioration. Clearly, the farm did not produce large profits for the Jesuits and the management provided by the farm's overseers did not do much to enhance its profitability. Difficulties in attracting tenants also reveals much about the problems faced by the managers of Blossom Point Farm. In sum, life on Blossom Point Farm seems to be one of rural poverty for much of its history, and this rural poverty seems to have characterized both tenants and managers to some degree.

Previous Research

During earlier test excavations at the site (Kise, Franks, and Straw 1990), two test units were excavated within the house (Figure 1). Unit D was excavated in the main brick section of the house and a loose silty refuse fill deposit was encountered immediately beneath the floorboards. This deposit was approximately 0.5' thick and included a few artifacts, primarily nails, oyster shells, and bone remains (Kise, Franks, and Straw 1990:Appendix A). The earliest historic artifacts from these soils were cut nails with a latest date of use in the late-nineteenth century. Faunal remains included cow, pig, sheep, muskrat, cat, rat, opossum, duck, unidentified species of bird, crab, catfish, and other identified fish. The cat, rat, and opossum are all probably natural inhabitants of the area beneath the floorboards; however, the other animal species represent food remains. The presence of potential animal habitation of the area beneath the floorboards and the thin nature of the silty refuse deposits precluded the identification of any stratification of these deposits.

Test Unit E was excavated within the frame section of the house and recovered materials similar to those encountered in Unit D (Kise, Franks, and Straw 1990:Appendix A). Bottle glass indicative of the late 19th century and ceramics dating to the mid-19th to early 20th century were present in a silty deposit similar to that seen in Unit D. Faunal remains recovered from Unit E include cow, pig, sheep, turkey, chicken, unidentified birds, opossum, rabbit, squirrel, rat, fish (perch and catfish), crab, and turtle. As was the case with Unit D, some of these faunal remains may represent natural denizens of the area beneath the floorboards, but others are clearly food remains.

To summarize, the test excavations showed that faunal remains, some of which represent food remains, were present beneath the Blossom Point Farmhouse. These faunal remains probably date to the late 19th to early 20th century. Based on the presence of these archeological deposits, additional excavations were recommended.

Research Design and Methods

The faunal remains found beneath the Blossom Point Farmhouse represent a set of data that can be used to study food and diet patterns of the house's inhabitants during the late 19th and early 20th century, and such a study was the main research goal of the additional excavations. The study of foodways and diets at historic archeological sites has been an important research question in eastern North America (e.g., Otto 1977, 1984; Miller 1984; Custer, Catts, and Coleman 1986; Deagan 1982) and special emphasis has been placed upon the consideration of links among diets, foodways, ethnicity, and socioeconomic status. Although sometimes there are clear-cut links between socioeconomic status and diet (e.g., Otto 1977, 1984), in some cases such links are not as clear-cut as one might believe (e.g., Custer, Catts, and Coleman 1986:152-155; Beidleman, Catts, and Custer 1986). Therefore, an important research activity is the documentation of variability in diets, as revealed by archeological faunal assemblages, at a variety of sites where the socioeconomic status of the occupants is relatively well known. The Blossom Point Farmhouse is one such site.

During the time period represented by the archeological deposits at Blossom Point (late 19th to early 20th century), the house was inhabited by a series of overseers, a special class of tenants (Kise, Franks, and Straw 1990:26-28). In some cases, overseers represent a higher socioeconomic status compared to typical tenant farmers and their food remains reflect this status (Otto 1977, 1984). On the other hand, archival data for the Blossom Point Farm suggest that the socioeconomic status of the overseers was not that high. Although Otto (1977, 1984) has studied one set of faunal remains from an overseers house in coastal Georgia, no similar set of data on overseers has been collected for the Middle Atlantic region. Therefore, the basic goal of the research at Blossom Point Farm was to collect a sample of faunal remains that relate to the known overseer occupation of the house. This assemblage was then compared to collections from other sites in the region, as well as other areas.

In studying the faunal remains from the Blossom Point Farmhouse, it is important to consider the context of the archeological deposits. The test excavations indicated that animals such a cats, rats, and opos-

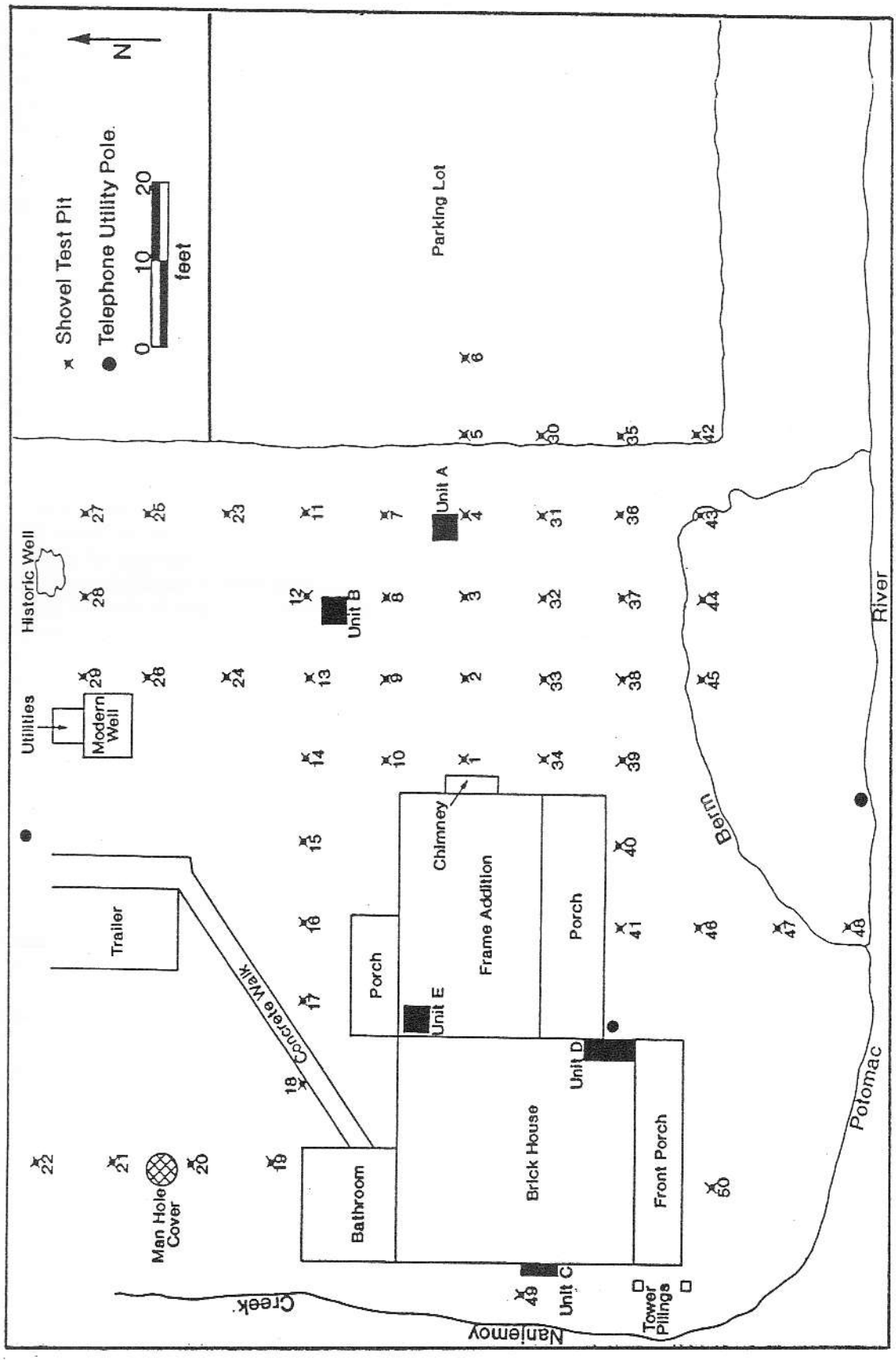

FIGURE 1. Test excavations at the Blossom Point Farmhouse (18CH216).

sum probably lived under the house and their burrowing and other activities most likely disturbed the context of the archeological materials to some extent. Furthermore, the sediments were thin, no more than 0.5' thick. Deposits of food remains and other debris have been collected from similarly dated contexts at a number of sites including the Baker House and the Cuff House in Chestertown, Maryland (Catts and McCall 1991), an urban tenant house at 115 Market Street in Wilmington, Delaware (Catts n.d.), the Dickson Store site in Christiana, Delaware (Catts, Hodny, and Custer 1989), and the Hodges Bar Farm in rural Kent County, Maryland (Coleman n.d.). In all of these cases, the refuse deposits were thin and disturbed to some degree by animal burrowing. Analysis of the artifacts and ecofacts from these sites showed that the archeological materials were probably household refuse and food remains that were deposited through loose floorboards or purposefully-made trap doors. In fact, the Hodges Bar Farm House still had a trap door in the dining room floor near the hearth. The deposition of food remains under the floor of a house may seem especially unsanitary; however, similar patterns of in-house refuse deposition are not uncommon at historic sites of various time periods including root cellars and potato pits from 17th century sites (e.g., Miller 1986; Kelso 1984) and sheet middens immediately adjacent to and within 18th century dwellings (e.g., Shaffer et al. 1988).

In some ways, the kinds of sub-floor refuse deposits described above are similar to a plowzone deposit from a tightly controlled horizontal context, namely the house rooms. Like a plowzone deposit, their vertical stratigraphic context is disturbed. However, their horizontal context has not been too badly disturbed (see Odell and Cowan 1987), especially since the horizontal disturbance is limited by the walls of the house and the room foundations.

Given the context of the archeological deposits described above, the field methods used for the excavation of the sub-floor deposits at the Blossom Point Farmhouse were to dig a series of measured excavation units from the main rooms of the house (Figure 2). The size and number of the excavation units was determined by the placement of floor joists and other architectural elements, but were not larger than 5' x 5' squares. Placement of the units within the rooms was determined by the presence of intact deposits, location of architectural features, and safety considerations. Nonetheless, an attempt was made to sample different sections of each room. It was originally planned to remove a large section of flooring at the start of the project so that an informed decision about where to place excavation units could be made. However, safety considerations related to removal of floor elements and structural stability of the house precluded that kind of sampling approach. All soils were excavated in 0.5' levels, given the disturbed nature of the archeological deposits, and screened through 1/4" mesh to recover artifacts and ecofacts. Additionally, two soil samples of approximately 20 liters each were taken from each level of each excavation unit. One of the samples was subjected to flotation analysis to recover floral remains and very small faunal remains. The second sample was water-screened through 1/8" mesh to recover small faunal remains that would be lost in the 1/4" screen. This multi-level sampling approach provided a representative sample of the ecofacts from the site and is based on similar sampling approaches used by Miller (1984).

Results and Analysis

A total of 10 3' x 3' units were excavated in various rooms of the Blossom Point Farmhouse and Figure 2 shows the placement of these units. Five units were excavated in the kitchen wing of the house, three units were excavated in the east room of the main section of the house, and two units were excavated in the west room of the main section of the house. Lists of all of the artifacts recovered from 1/4" mesh screening, 1/8" mesh water-screening, and flotation are included in the original report (Custer 1993:51-63). In general, the majority of the artifacts were obtained from the 1/4" mesh screening. Few artifacts and ecofacts were recovered from the 1/8" mesh water-screening and flotation.

Stratigraphic Context

The units excavated in the kitchen wing (Figure 2) produced the largest artifact assemblages. In all units, the artifacts were recovered from a tan, silty, almost fluffy, soil horizon that ranged between 0.2' and 0.5' in thickness. When sections of the flooring above the excavation units were removed and larger portions of the sub-floor deposits could be observed, it was noted that these sediments were not continuously distributed across the room. In some areas, mainly the northern end of the kitchen wing, the tan silty soil was not present at all. An orange clayey sand was located directly beneath the artifact-bearing deposits. Earlier test excavations had shown that this was the natural undisturbed B-horizon. No artifacts were found in this soil during earlier testing and its age was estimated to be at least 10,000 to 12,000 years.

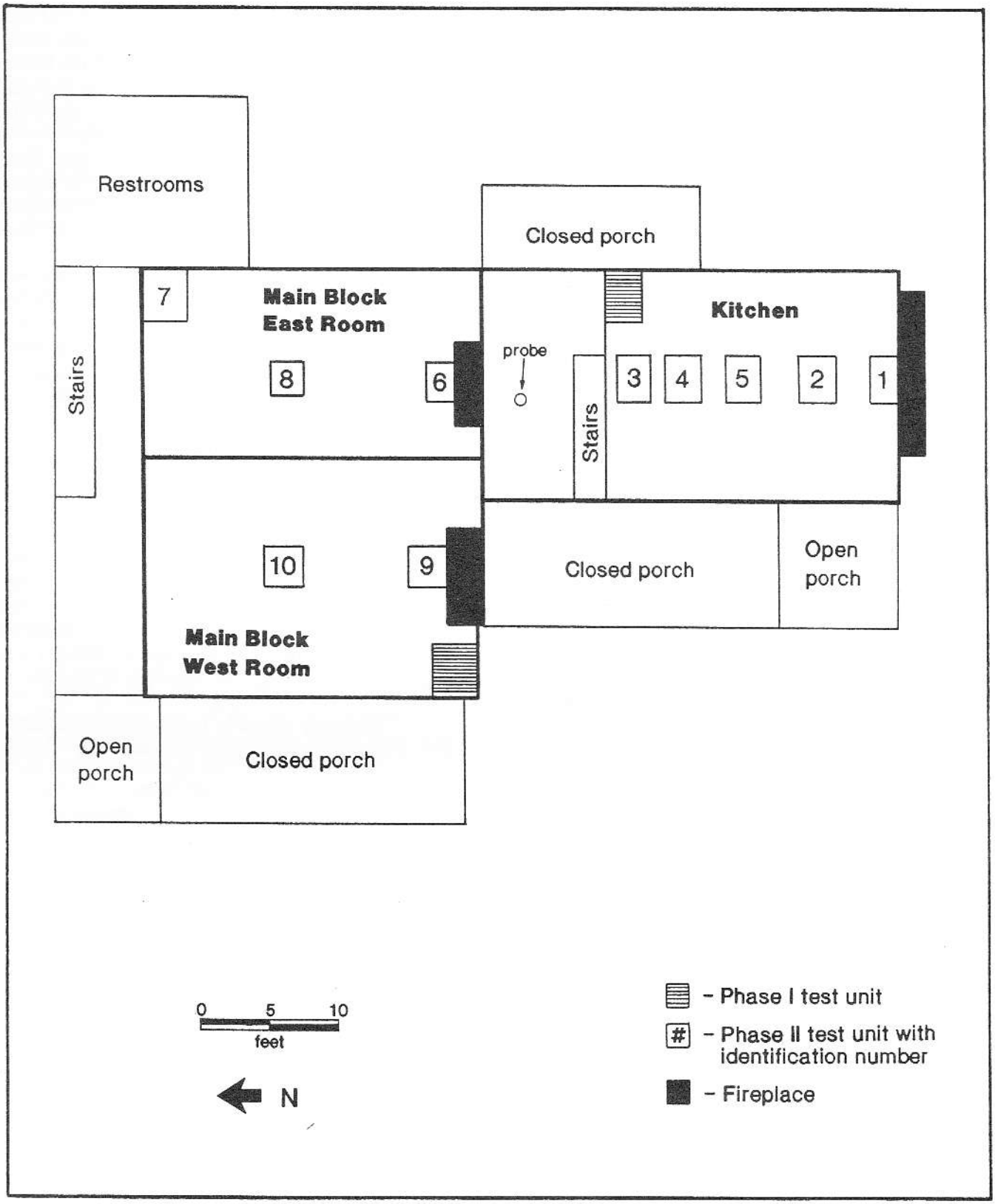

FIGURE 2. Intensive excavations inside house.

In the process of removing the flooring of the kitchen wing to excavate the units it was noted that all of the flooring consisted of relatively modern 1" thick tongue-and-groove pine boards. Three layers of this flooring were present and all were secured by relatively modern wire nails. Shims were present in some areas to level the floor. Many of the floor joists had been replaced with pairs of 1" x 4" planks, and some joists were propped up by bricks, rocks, and broken pieces of concrete. All of these features of the flooring indicate that it had recently been replaced, probably during the time period of use of the house for the testing facility office, and these repairs undoubtedly disturbed the sub-floor archeological deposits. Many artifacts of mid-20th century origin were mixed with artifacts of mid-19th century origin further confirming the mixed nature of these soil deposits.

The three units excavated in the East Room of the main block of the house (Figure 2) yielded fewer artifacts than did the units in the kitchen wing. However, Unit 6, located near the fireplace hearth did yield a large amount of oyster shells. The stratigraphy and artifact-bearing soils in this room were identical to those encountered in the kitchen wing and the floor showed the same signs of recent (post-1940) repair.

The two units excavated in the West Room of the main house block (Figure 2) yielded the smallest numbers of artifacts of any excavations units in the house. In fact, Unit 10 did not recover any artifacts because the artifact-bearing soils were not present in this unit. When the flooring over Unit 10 had been removed there was enough room beneath the floor boards to look around the sub-floor section of the room and the tan silty soil was not present in any sections of the room except for a small section near the fireplace.

An additional section of flooring was removed from the small room that links the kitchen wing with the main brick house (Figure 2) and the artifact-bearing soil was completely absent from this room. Therefore no excavations were undertaken here. No excavations were undertaken in the porch areas or in the north stair room of the house due to potential structural instability of the house.

The artifact frequencies varied from room to room, with the kitchen wing having the highest numbers of artifacts, the East Room of the main house showing the next highest frequency, and the West Room showing the lowest frequencies. Because much of the artifact assemblage is dominated by food remains and artifacts associated with food preparation and serving in all rooms, the artifact distribution fits with the inferred functions of the rooms based on the floor plan of the house (Kise, Franks, and Straw 1990). The fireplace configuration in the kitchen is clearly related to food preparation and the large numbers of subsistence-related artifacts in this room is hardly surprising. The East Room of the main house was thought to represent a dining room and the presence of limited subsistence remains fits with this interpretation. The West Room of the main house is probably a formal parlor and the absence of subsistence artifacts in this room is also not surprising.

Figure 3 shows a north-south cross-section of the artifact-bearing soils beneath the floorboards

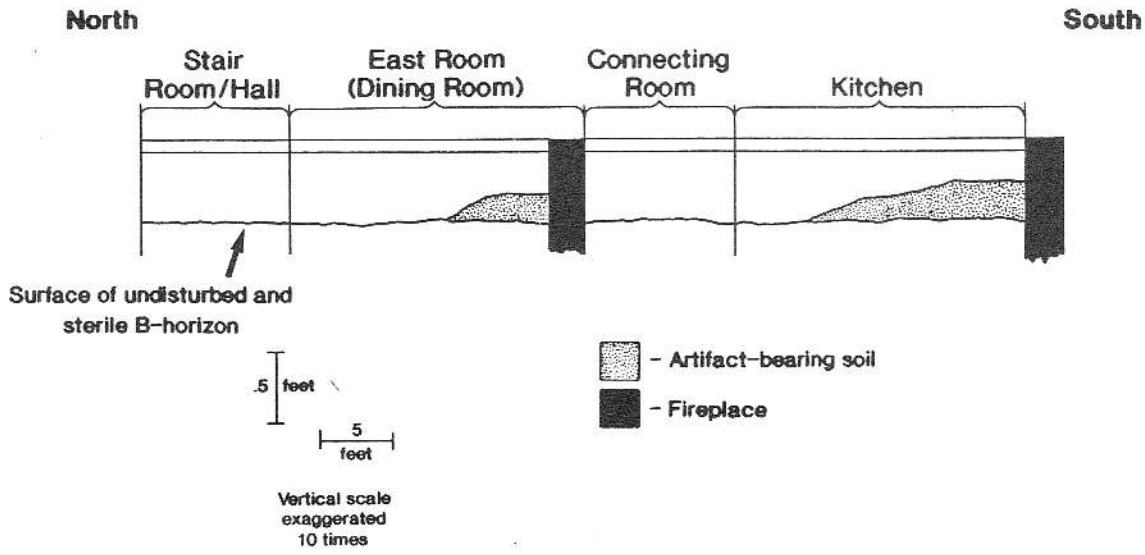

FIGURE 3. Profile of sub-floor deposits.

through the kitchen wing and East Room. These soils are definitely thickest closest to the fireplace hearths and were probably deposited through trap doors close to the hearths. An example of one such trap door was recorded at the similarly dated Hodges Bar Farm House in Kent County, Maryland (Coleman n.d.). No trash pit features extending into the subsoil were identified under the house and the artifacts represent a sub-floor sheet midden. As was noted in the research design, these types of trash and garbage deposits are not uncommon at 19th century sites from a variety of cultural contexts, even though they seem to violate current sensibilities concerning sanitation and health.

Chronology

A variety of artifact types can be used to date the sub-floor deposits at the Blossom Point Farmhouse and each type is discussed below.

Nails are the most plentiful metal artifacts recovered at the site and cover a wide range of time periods. Hand wrought, cut, and wire nails are present and cover a time span of the 18th through the 20th century. The co-occurrence of these nails types underscores the disturbed nature of the archeological deposits. Wire staples and spikes, dating no earlier than the late-19th century are also present.

A variety of fragments of fuses from artillery shells and metal shell casing fragments are also present in the deposits and these artifacts clearly date to the post-1940 military use of the house. Likewise, the presence of a movie film case dated March 1954 within the sub-floor deposits in Unit 3 points to a late date for deposition of some of these soils and artifacts. Film fragments are also present and relate to the same late depositional event.

Coins from the sub-floor deposits include several Wheat Cents with undecipherable dates, a 1960 Lincoln Head Cent, and a Liberty Dime. These coins indicate that some of the deposits date to various times during the 20th century.

Most of the glass artifacts discovered from the Blossom Point Farmhouse sub-floor deposits are not temporally diagnostic; however, a few do have some utility as chronological markers. Mason jar fragments are present and most have screw-top lids indicative of an early to mid-20th century date. Noxema jar fragments are also present indicating a mid-20th century age for some of the deposits. "Carnival Glass" sherds from the 1930s are also present in the assemblage. Numerous fragments of molded patent medicine bottles, including two complete bottles, were discovered and these bottles date to the second half of the 19th century. Finally, one piece of olive bottle glass was present and this fragment looks as if it could be from a wine bottle dating to the late 18th or early 19th century. However, the sherd is too small for positive identification.

Table 2 lists the temporally diagnostic ceramic types found in the excavation units. The major ceramic types identified are transfer-print porcelain, whiteware, transfer-printed pearlware, and American blue and gray stoneware. Mean ceramic dates were calculated for the kitchen (1852), the East Room (1862), and the entire sub-floor artifact assemblage (1854). These dates all cluster around the middle of the 19th century and match well with the mean ceramic date of the ceramics in the yard scatter outside the house (1857 — Kise, Franks, and Straw 1990:36).

The artifact assemblages from the sub-floor deposits at the Blossom Point Farmhouse show a mix of artifacts dating to the 19th and 20th centuries. Some of the artifacts clearly date to the use of the house as an office for the military testing activities on the farm and, therefore, post-date 1942. The consistent mid-19th century mean ceramic dates indicate that the bulk of the artifact assemblage probably dates to the middle and later portions of the 19th century. However, subsequent repairs to the floors during the military use of the house introduced numerous later artifacts into the assemblage. The later artifacts introduced to the

TABLE 2. Diagnostic ceramics.

TEST UNIT	PORCELAIN	WHITEWARE	PEARLWARE	AMERICAN BLUE & GRAY STONEWARE
1	0	24	0	0
2	1	5	7	1
3	1	9	3	1
4	0	4	1	0
5	0	3	2	2
6	1	15	0	0
7	0	4	0	0
8	0	1	0	0
9	0	0	0	0
D	0	0	0	0
E	1	8	1	1
TOTALS				
Kitchen	3	53	13	5
West Room	0	0	0	0
East Room	1	20	0	0
Total House	4	73	13	5

assemblage generally include some glass, plastic items, wire nails, spikes, and staples, and military items.

Artifact Assemblage Composition

The artifacts from the site were grouped into classes following the system described by South (1977) to allow an analysis of the composition of the assemblage. Table 3 shows the listings of the artifact types by groups and notes the percentage calculations. Figure 4 depicts the same data.

The frequencies of artifact classes can be compared among the kitchen, East Room, and West Room in order to see if artifact distributions reflect room function. One major reflection of room function can be seen in gross numbers of artifacts. Table 4 shows the mean numbers of artifacts from Table 3 per room for the three rooms. The total numbers of artifacts were used along with an adjusted artifact count that removed window glass. Window glass was removed from the count because Unit 7 in the East Room contained very high window glass counts due to its location immediately under a window (see Table 3). Table 4 shows that the artifact counts for the East Room and the kitchen are very similar. The East Room was inferred from its location in the building plan as a dining room and its similarity to the kitchen is not too surprising. However, the high artifact counts in the dining room suggest that trash was frequently discarded in this room. The discard of trash in the dining room with a frequency almost equal to that of the kitchen indicates that the trash deposition was not a component of functional differentiation of these two rooms for the mid- to late 19th century inhabitants of the house.

The West Room has a much lower frequency of artifacts than either the dining room or the kitchen, probably due to its inferred function as a formal living room or parlor. In this case, trash disposal by the site's inhabitants does differentiate room function. The artifact frequencies seem to show that trash was discarded within the room where it was produced, including the dining room, which in many cases was a rather formalized social setting (Forman 1934; Herman 1987).

The relative frequencies of three major artifact classes (Kitchen, Faunal, and Architecture) were compared among the three rooms to see if there were significant differences related to room function. A category of combined kitchen and faunal classes was also compared. Figure 4 illustrates the different percentages of the artifact classes. A difference-of-proportion test (Parsons 1974) was used to see if the differences in percentages were truly statistically significant. Application of this statistical test is important in this case because the sample sizes of the assemblages are quite varied. Variation in sample size can often produce

TABLE 3. Artifact categories.

ARTIFACT GROUP	KITCHEN	EAST ROOM	WEST ROOM	TOTAL
Kitchen Group				
Ceramics	82	23	0	105
Botttles	47	57	1	105
Tumblers	1	0	0	1
Pharm. Bottles	2	6	2	10
Glassware	6	9	0	15
Tableware	1	0	0	1
TOTAL	139 (23%)	95 (25%)	3 (12%)	237 (23%)
Faunal Group				
Bone	171	21	8	200
Shell	54	54	1	109
TOTAL	225 (37%)	75 (20%)	9 (36%)	309 (31%)
Architecture Group				
Window Glass	50	127	2	179
Nails	159	36	5	200
Spikes	1	2	0	3
Constr. Hrdwre.	8	6	0	14
TOTAL	218 (36%)	171 (45%)	7 (28%)	396 (39%)
Arms Group	3 (<1%)	5 (13%)	1 (4%)	9 (1%)
Clothing Group				
Buckles	3	2	0	5
Pins	1	2	0	3
Buttons	11	13	3	27
TOTAL	15 (2%)	17 (4%)	3 (12%)	35 (3%)
Personal Group				
Coins	0	4	0	4
Keys	1	1	0	2
TOTAL	1 (<1%)	5 (1%)	0 (0%)	6 (<1%)
Tobacco Group				
Pipes	1 (<1%)	1 (<1%)	0 (0%)	2 (<1%)
Activities Group				
Toys	5 (1%)	8 (2%)	2 (8%)	15 (1%)

TABLE 4. Artifacts per excavation unit.

ROOM	TOTAL ARTIFACTS/UNIT	TOTAL ARTIFACTS/UNIT (NOT INCL. WINDOW GLASS)
Kitchen	101	92
East	125	83
West	8	8

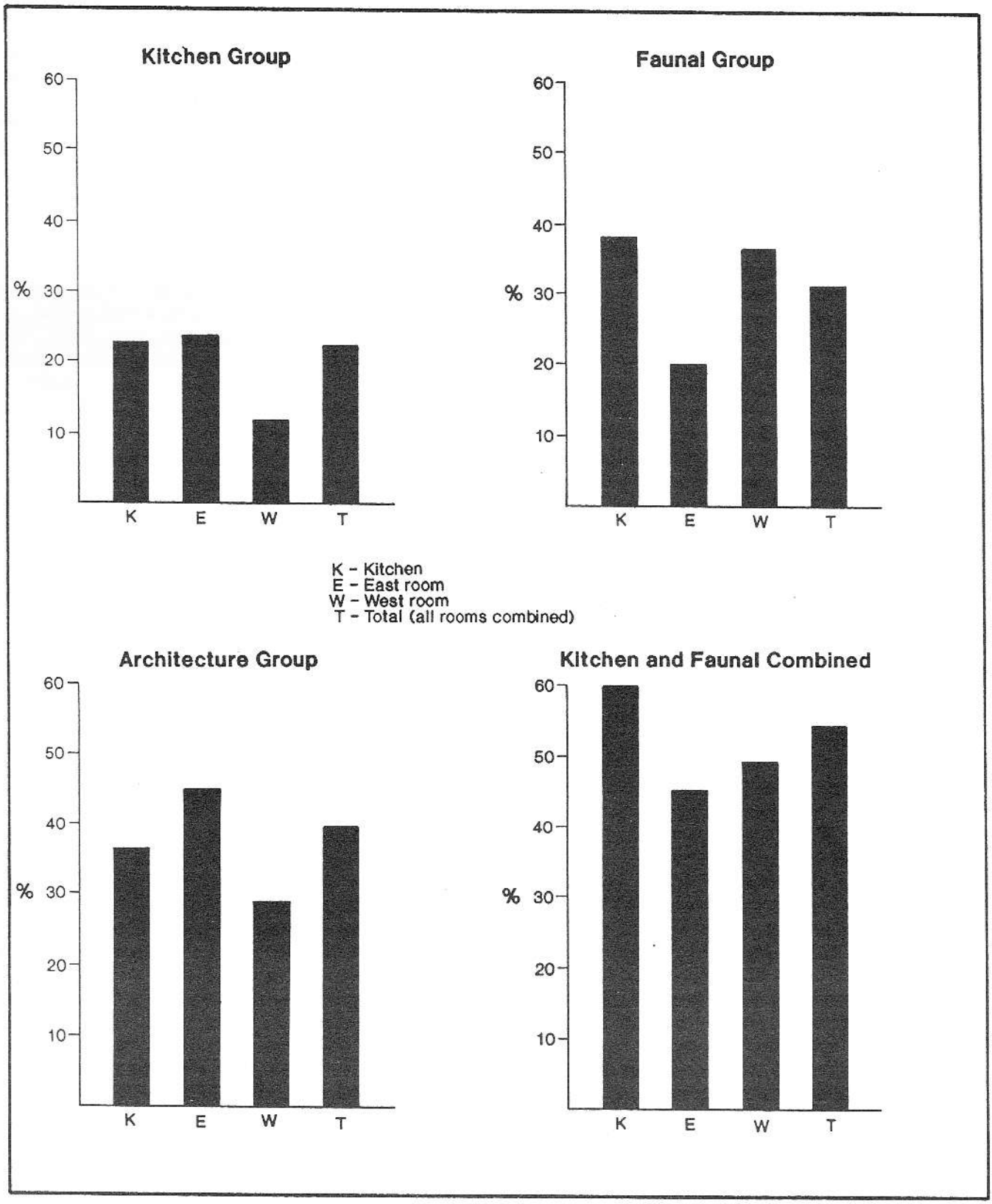

FIGURE 4. Artifact group comparisons.

percentage differences that are more apparent than real. The difference of proportion test accounts for these differences and provides an assessment of whether or not the perceived differences in percentage values could have arisen by chance given the small sample sizes. In the Blossom Point case, the very small sample from the West Room is the major complicating factor. The complete test statistics are provided in Custer (1993:Table 7).

No significant differences were noted among the rooms with respect to the kitchen group; however, the absence of a significant difference in the West Room is a direct result of sample size. Analysis of the faunal group data showed that there was a significantly higher proportion of faunal remains in the kitchen compared to the East Room. The West Room again provides anomalous results due to small sample size. The East Room percentages of architectural remains were significantly higher than the kitchen; however, this pattern is probably due to large amounts of window glass in Unit 7. Analysis of distributions of architectural remains was not especially revealing in any parts of the house because nails comprise the majority of these assemblages, except for Unit 7, and their presence is almost certainly related to the post-1942 refurbishing of the floors throughout the house. Analysis of percentages of the kitchen and faunal classes combined also showed that the kitchen had significantly higher percentages of these categories than the East Room. Again, results from the West Room had to be discounted due to small sample size.

Analysis of artifact class distributions shows that even though refuse was discarded in both the dining room and kitchen, the percentages of artifacts and faunal remains were highest in the kitchen, as would be expected. The presence of some other artifact classes in the dining room (East Room) indicates that general refuse was discarded here as well. Small sample sizes make it difficult to discuss percentage distribution patterns in the West Room; however, it can be noted that the highest proportions of clothing remains, notably buttons, was present in this room suggesting that sewing took place in this living room, or parlor.

Faunal Remains

The report on the test excavations (Kise, Franks, and Straw 1990) noted that the faunal assemblage from the Blossom Point Farmhouse included a number of remains that were clearly food remains. However, it also included a number of bone remains of animals who were probably living in the small space beneath the floorboards of the house. Before discussing the foodways of the site's inhabitants based on the faunal remains, it is important to factor out these non-food species. Almost certainly the cat, rat, and mouse remains are natural denizens of the sub-floor area and are not considered to be food remains. Rabbit and opossum remains may be food refuse. However, opossums could be living under the house, and given the low frequency of opossum remains, its food use is problematic. Also, given the low frequency of rabbit remains, it is possible that they could be living under the house. It is also possible that the few rabbit bones could be under the house as a result of predators like cats, whose bones were also present in the assemblage. Therefore, the use of rabbit as a food source is problematic. Equally problematic are turtle remains. Muskrat remains were also recovered from beneath the house. Their presence may be due to discard of carcasses of animals that were trapped for their skins, and for food use. Clear-cut food remains from beneath the house included cow, pig, sheep, duck, turkey, chicken, shore birds, crab, fish, and oyster.

The sample of faunal remains from the site is too small to apply analytical techniques such as minimum numbers of individuals, biomass calculations, allometric analysis, or even percentage comparisons. However, some general trends can be noted and their implications for the historic foodways of the site's inhabitants assessed.

Cow, pig, and sheep are present in the faunal assemblage and all were raised on the farm according to the 1860 Agricultural Census (Table 1). For domesticated animals, analysis of body parts present and cutting and sawing patterns provides an indication of food procurement and preparation activities. If home butchering takes place, head and body parts not associated with steaks, roasts, or soup bone cuts are present. A common pattern is for steaks, roasts, and soup bone cuts to be sold to markets with other, less marketable, body parts consumed at home. If steak, roast, and soup bone cuts are present along with heads and less marketable body parts, it indicates that home butchering took place strictly for home consumption. If only steak, roast, or soup bone cuts are present, it indicates that the site's inhabitants were probably buying meat cuts within some kind of market economy.

At Blossom Point, cow bones are mainly limited to sawn bones from the proximal femur joint, a common soup bone cut. There are no indications of other body parts except for a few rib fragments. The absence of head and non-marketable body parts suggests that on-site butchering of cattle did not take place and that soup bone cuts were procured from a market system. Bones associated with steaks and roasts are

ants. However, they were also different from plantation owners and other higher socioeconomic categories. Overseers occupied a "middle ground" where they could afford to consume better meat cuts from swine, but not from cattle. It was necessary to supplement their diet with wild food sources; however, they were unable to use the higher status wild food sources such as venison.

With regard to material culture items, overseers were clearly not wealthy individuals. The archival data from Blossom Point show that the overseers were subject to the vagaries of rural economies and were part of the rural poverty that characterized all of the Blossom Point tenants. However, they were able to differentiate themselves from other tenants in terms of food and diet and occupy a "middle ground" between poorer tenants and slaves, and property owners. In some ways, this "middle ground" is symbolic of the functional relationship occupied by overseers. These individuals operated as collectors of rents for the owners and mediated the relationships between tenants and owners. In a similar way, overseers at plantations with slaves mediated the slave/owner relationship by conveying the orders and demands of owners to slaves and enforcing compliance with those orders. Future studies of overseer sites could attempt to investigate further the mediating role of overseers and the expression of this role in faunal and artifact assemblages. On a local note it would be useful to investigate the artifact and faunal remains from one of the tenant sites from Blossom Point in particular or St. Thomas Manor in general, or even the sites of the Jesuit owners of the property, in order to see if local data confirm the view of overseers as "mediators."

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References Cited

Basalik, K.J., A.R. Brown, and A. Tabachnick
1987 *Data Recovery Excavations, South Christina Relief, New Castle County, Delaware.* Report submitted to the New Castle County Sewer Authority, Newark, DE.

Beidleman, D.K., W.P. Catts, and J.F. Custer
1986 *Final Archaeological Excavations at Block 1191, Wilmington, New Castle County, Delaware.* Delaware Department of Transportation Archaeological Series 39. Dover.

Brigens, S., and B. Salwen
1980 Weeksville: The Archaeology of a Black Urban Community. In *Archaeological Perspectives on Ethnicity in America*, edited by R.L. Schuyler, pp. 38-47. Baywood Publishing Company, Farmingdale, NY.

Catts, W.P.
n.d. Archaeological Excavations at 115 Market Street, Wilmington. Ms. on file, University of Delaware Center for Archaeological Research, Newark.

Catts, W.P., and J.F. Custer
1990 *Tenant Farmers, Stone Masons, and Black Laborers: Final Archaeological Investigations of the Thomas Williams Site, Glasgow, New Castle County, Delaware.* Delaware Department of Transportation Archaeology Series No. 82.

Catts, W.P., J. Hodny, and J.F. Custer
1989 *"The Place at Christeen:" Final Archaeological Investigations of the Patterson Lane Site Complex, Christiana, New Castle County, Delaware.* Delaware Department of Transportation Archaeological Series No. 74. Dover, DE.

Catts, W.P., and D. McCall
1991 A Report on the Archaeological Investigations at the House of Thomas Cuff, A Free Black Laborer, 108 Cannon Street, Chestertown, Kent County, Maryland. *North American Archaeologist* 12 (2):155-181.

Coleman, E.
n.d. Excavations at the Hodges Bar Farm. Ms. on file, University of Delaware Center for Archaeological Research, Newark.

Custer, J.F.
1993 *Phase II Archaeological Investigations, Blossom Point Farmhouse, Blossom Point, Charles County, Maryland.* Report submitted to the Baltimore District, United States Army Corps of Engineers.

Custer, J.F., W.P. Catts, and E. Coleman
1986 Overview and Future Research Directions. *Bulletin of the Archaeological Society of Delaware* 21:149-156.

Deagan, K.
1982 Avenues of Inquiry in Historical Archaeology. *Advances in Archaeological Method and Theory* 5:151-178.

Deetz, J.
1977 *In Small Things Forgotten.* Natural History Press, NY.

TABLE 5. Oyster shell data.

ATTRIBUTE	KITCHEN No. (%)	EAST ROOM No. (%)
Size		
Small	14 (32)	2 (4)
Medium	26 (60)	41 (76)
Large	3 (8)	11 (20)
Attachment Scars		
Yes	36 (82)	53 (96)
No	8 (18)	2 (4)
Bore Holes		
No Holes	34 (77)	41 (76)
Large Holes	4 (9)	8 (15)
Large and Small Holes	2 (4)	1 (2)
Small	3 (7)	3 (5)
Clam	1 (3)	1 (2)
Ribbing		
Yes	41 (95)	52 (95)
No	2 (5)	3 (5)
Shell Type		
Bed	42 (95)	52 (94)
Channel	2 (5)	2 (4)
Reef	0 (0)	1 (2)
Season-of-Death		
Early Spring	18 (44)	15 (27)
Summer	4 (10)	10 (18)
Fall	19 (46)	30 (55)

such dense beds are present near the site at the mouth of the Port Tobacco River.

Because they cannot move, oysters attract a large number of parasites and predators, some of which bore holes through the oyster shells via varied biological mechanisms to attack the oysters and consume their meat. Most of these parasites and predators have limited tolerances for water salinity and leave distinctive marks and bore holes on the shells that they have attacked. Therefore, by identifying the parasites from the bore holes it is possible to ascertain the salinity within which the oysters were growing. Figure 5 shows that most of the oyster shells in both assemblages show no signs of parasites. Kent (1984:41) notes that the absence of parasites on the majority of shells indicates that the local water salinity was less than 10 parts per thousand for most of the year with the salinity rarely rising above 20 parts per thousand. Small proportions of the shells do show some signs of parasites including various species of the sponge *Cliona*; however, these are not frequent enough in the sample to change the assessment of the water salinity. Lippson (1973) notes that most of the lower Potomac estuary north of the Port Tobacco River falls within the salinity range noted above. Therefore, most of the oysters were probably derived from local sources.

Figure 6 notes that most of the shells in both assemblages show signs of ribbing on their external surfaces. Ribbing develops on shells that are exposed to ultraviolet light in shallow water; therefore, the shells in both Blossom Point assemblages are derived from shallow water. Oyster shells take on different shapes based on the environments that they grow in and Figure 6 shows that almost all of the oysters in both assemblages are "bed" oysters that grew on clay or sandy bottoms. Growth lines on the hinges of oyster shells provide information on the season-of-death of the oysters and Figure 6 shows that both assemblages contain roughly equal amounts of oysters collected in the early spring and fall.

In sum, both oyster assemblages from the Blossom Point Farmhouse are very similar. Both were collected during the cold weather months from healthy, shallow water beds in the local area that had not previously been heavily harvested.

Faunal data from the Blossom Point Farmhouse indicate that the site's inhabitants consumed a diet that included both wild and domesticated food sources. Among the domesticated species, most seem to be home-raised and butchered, including pigs and chickens. However, lower-priced cuts of beef were purchased for the cooking of soups or stews. For wild game, a variety of fish and shellfish, and possibly birds and mammals, from the local surrounding wetlands and waters of the Potomac estuary were procured and consumed. Deer are absent from the wild animal faunal assemblage, and this absence is curious given the fact that venison was a major wild food source in southern Maryland during historic times (Miller 1984, 1986).

Floral Remains

A small amount of plant food remains were recovered from the excavations at the Blossom Point Farmhouse. In spite of the use of 1/8" mesh water-screening and flotation, very few plant food remains were recovered. In fact, all of the plant food remains recovered were found during the use of 1/4" mesh screens. No plant food remains were recovered from the smaller screen meshes. The absence of plant food remains in the samples processed through smaller mesh screens indicates that the preservation of small organic items was not good in the sub-floor deposits, an observation that is understandable given the degree of disturbance of these deposits noted earlier. Given the

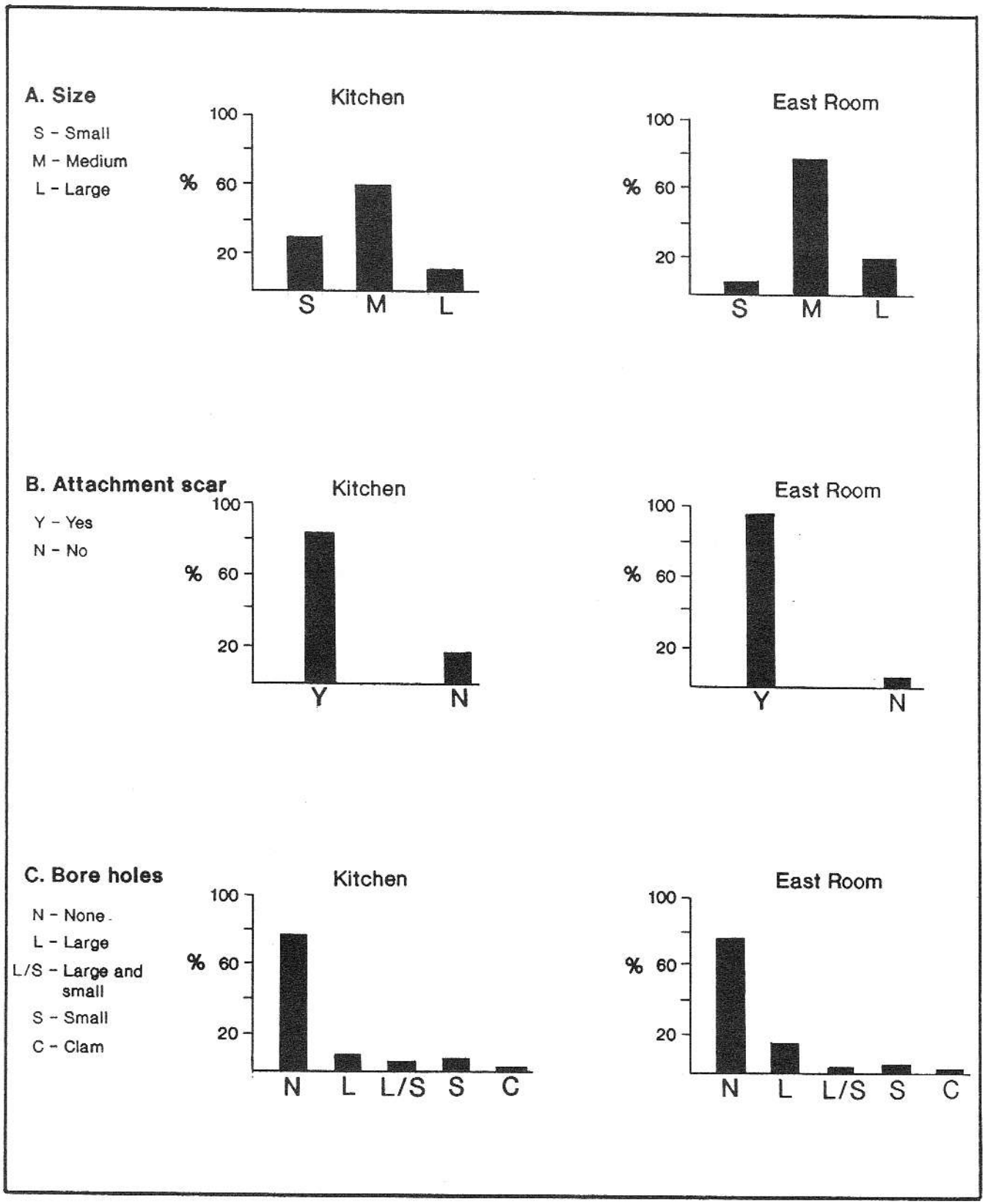

FIGURE 5. Oyster shell data: size, attachment scars, bore holes.

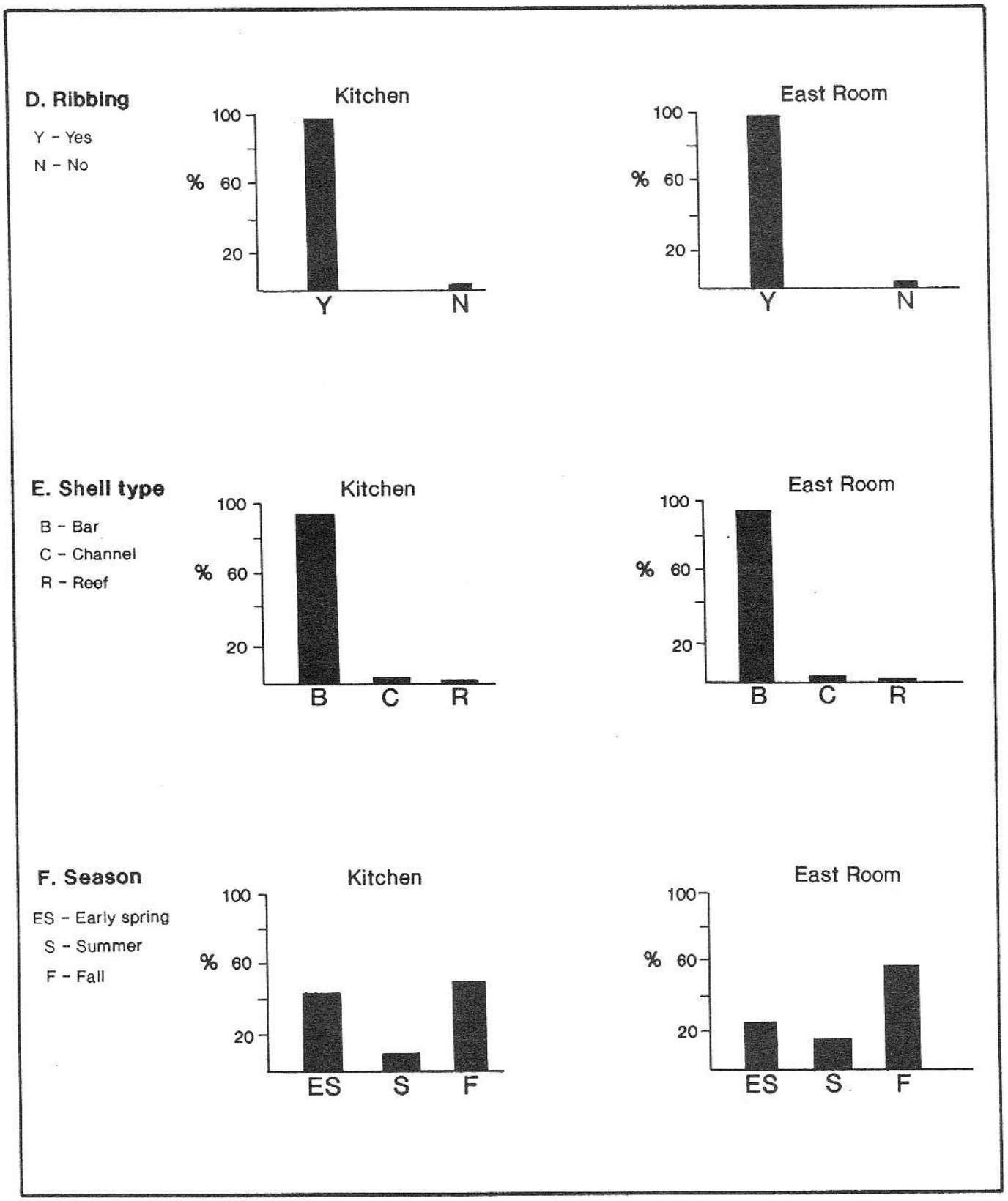

FIGURE 6. Oyster shell data: ribbing, shell type, season-of-death.

poor preservation, the sample of floral remains is almost certainly biased. Furthermore, some of the animal inhabitants of the space beneath the floorboards of the house may have brought seeds and nuts into their nests. Therefore, the most that can be done to analyze the floral remains is to note the varieties present and be aware that they all may not necessarily be food remains of the site's human inhabitants.

The floral remains recovered from the excavations included peanut shell, persimmon seeds, hickory nut shells, chestnut shells, walnut shells, and peach pits. The persimmon seeds are the most problematic human food remain among the floral remains because they are a common food of various rodents. The hickory nuts, chestnuts, and walnuts could have been found in the local woods. Peach trees could also easily have been present on the farm because the 1860 Agricultural Census (Table 1) notes the presence of orchards on most of the farms of St. Thomas Manor, including Blossom Point.

Comparisons with Other Sites

The ceramic artifact assemblage and the faunal assemblage can be compared to other sites to assess the relative socioeconomic status of the inhabitants of the Blossom Point farmhouse. Although it would be useful to compare the Blossom Point Farmhouse with other farms on Cedar Neck, or in other parts of the local area, no local archeological data are available for comparison. Therefore, it is necessary to consider data from a number of sites from a wider area.

The system of site comparisons used here follows the format developed at the University of Delaware Center for Archaeological Research (see discussion in Catts and Custer 1990). This format is based on numerous other historic archeological studies and seeks to identify patterning in the similarities and differences of artifact and faunal distributions among sites where the socioeconomic statuses of the sites' inhabitants can be surmised from archival research. The sites used in the comparative analyses were chosen because they had archival data to indicate relative socioeconomic statuses, and because they had artifact and faunal distribution data reported in a format consistent with the University of Delaware Center for Archaeological Research system.

Comparison of artifact assemblages focused on ceramics. Otto (1977, 1984), Deetz (1977), and others (Spencer-Wood 1987) have noted that certain types of ceramics, mainly types based on functional varieties, can be correlated with certain aspects of socioeconomic status. Table 6 lists the historic archeological sites used in this comparison and Table 7 lists the ceramic data used in the analysis.

TABLE 6. Sites used in comparative analysis.

SITE	ETHNIC GROUP AND DATE	REFERENCE
Weeksville A	black urban, 1835-1875	Brigens & Salwen 1980
Weeksville B	black urban, 1875-1900	Brigens & Salwen 1980
Heisler	black tenant, 1830-1870	Catts, et al. 1989
Dickson II	black tenant, 1850-1900	Catts, et al. 1989
Evans-Black	white tenant, 1800-1840	Catts and Custer 1990
Williams-Stump	black tenant, 1830-1870	Catts and Custer 1990
Whitten Road	white tenant, 1750-1850	Shaffer et al. 1988
Charles Allen	white owner, 1800-1850	Basalik et al. 1987
Cannon's Point I	black slave, 1800-1830	Otto 1984
Cannon's Point II	white overseer, 1800-1830	Otto 1984
Cannon Point's III	white plantation owner, 1800-1830	Otto 1984

Comparison of flat wares versus hollow wares provides an indication of diets. Otto (1984) notes that a preponderance of hollow wares, such as bowls and cups, indicates that diets are more likely to have included soups, stews, and gruels rather than foods served on flat ware plates. The emphasis on stews, soups, and gruels in diets is associated with lower socioeconomic status (Otto 1984). Table 8 shows the ranking of the various sites based on percentage of hollow wares. Application of the difference-of-proportion test (Custer 1993:Table 13) showed that the sites can be placed into two groups. One group consists of the Blossom Point Farmhouse assemblage and assemblages from a white overseer's house and a white plantation owner's house. For all of these sites hollow wares account for less than 30% of the ceramic assemblage. All other sites comprise the second group with hollow wares comprising more than 50%, and sometimes up to 70%, of the assemblages. Three black tenant sites have the highest percentages of hollow wares within this group.

Proportions of hollow wares seem to be a fairly reliable indicator of dietary, and perhaps socioeconomic status. The overseer and plantation owner sites, which presumably occupy the highest socioeconomic statuses, fall together as a separate group with the lowest hollow ware frequencies. The Blossom

TABLE 7. Ceramic data used in comparative analysis.

SITE	FLATWARE	HOLLOW WARE	SERVING	STORAGE/ PREPARATION	CUPS	MUGS/ JUGS
Blossom Point	12 (71)	5 (29)	15 (88)	2 (12)	3 (60)	2 (40)
Weeksville A	—	—	404 (57)	306 (43)	—	—
Weeksville B	—	—	1000 (81)	235 (19)	—	—
Heisler	108 (38)	173 (62)	132 (83)	28 (18)	60 (97)	2 (3)
Dickson II	14 (29)	34 (71)	32 (71)	13 (29)	10 (100)	0 (0)
Evans-Black	70 (41)	99 (59)	118 (72)	45 (28)	13 (65)	7 (35)
Williams-Stump	97 (37)	153 (63)	156 (64)	88 (36)	13 (87)	2 (13)
Whitten Road	118 (41)	168 (59)	95 (48)	104 (52)	37 (71)	15 (29)
Charles Allen	188 (46)	223 (54)	323 (58)	235 (42)	45 (62)	28 (38)
Cannon's Pt. I	(47)	(53)	(94)	(6)	(84)	(16)
Cannon's Pt. II	(75)	(25)	(96)	(4)	(96)	(4)
Cannon's Pt. III	(91)	(9)	(82)	(18)	(96)	(4)

Values in () are percentages. Percentages only available from Cannon's Point Plantation.

Point overseer's assemblage and Cannon's Point assemblage show very similar values. In contrast, black tenant sites, which would be on the lower end of the socioeconomic status continuum, have the highest frequencies of hollow wares and are grouped together. It is interesting to note that the Cannon's Point slave assemblage does not show the lowest frequencies of hollow wares. In fact, among the sites within the group with high hollow ware frequencies, the slave assemblage shows the lowest value. The fact that the slave site hollow ware values are not the highest values could also be due to their placement within a plantation economic system.

TABLE 8. Hollow ware ranking.

SITE	%	ETHNIC/STATUS	DATE
Dickson II	71	Black tenant	1830-1870
Williams-Stump	63	Black tenant	1830-1870
Heisler	62	Black tenant	1830-1870
Evans-Black	59	White tenant	1800-1840
Whitten Road	59	White tenant	1750-1850
Charles Allen	54	White owner	1800-1850
Cannon's Pt. I	53	Black slave	1800-1830
Blossom Point	29	White overseer	1850-1900
Cannon's Pt. II	25	White overseer	1800-1830
Cannon's Pt. III	9	White plantation owner	1800-1830

Relative frequencies of storage and preparation vessels in relation to serving vessels are also seen as indicators of varied socioeconomic status. Higher frequencies of storage vessels have been linked to black-occupied sites and other sites occupied by groups of lower socioeconomic status (Deetz 1977). However, other studies which tested this association (Geismar 1982; Catts and Custer 1990) found that this association was not always present. Table 9 shows the ranking of the sites based on storage/preparation vessel frequencies. These rankings also reflect the reverse ranking of serving vessel frequencies because both cat-

TABLE 9. Storage/preparation vessel rankings.

SITE	%	ETHNIC/STATUS	DATE
Whitten Road	52	White tenant	1750-1850
Weeksville A	43	Black urban	1835-1875
Charles Allen	42	White owner	1800-1850
Williams-Stump	36	Black tenant	1830-1870
Dickson II	29	Black tenant	1850-1900
Evans-Black	28	White tenant	1800-1840
Weeksville B	19	Black urban	1875-1900
Heisler	18	Black tenant	1830-1870
Cannon's Pt. III	18	White plantation owner	1800-1830
Blossom Point	12	White overseer	1850-1900
Cannon's Point I	6	Black slave	1800-1830
Cannon's Point II	4	White overseer	1800-1830

egories are mutually exclusive and collectively exhaustive. No apparent clusterings of sites of similar socioeconomic status or ethnic affiliation are apparent and this finding supports the views of Geismar (1982) and Catts and Custer (1990) who suggest that the proportions of serving and storage/preparation vessels are not good measures of socioeconomic status or ethnic affiliation. However, it can be noted that the two overseer sites are very close in their ranks and have low frequencies of storage/preparation vessels and high frequencies of serving vessels.

Relative frequencies of cups in relation to mugs and jugs have also been suggested as a measure of socioeconomic status (Spencer-Wood 1987) with higher frequencies of cups associated with higher socioeconomic statuses. Table 10 shows the cup frequency rankings, and for all of the sites cups comprise more than 50% of the assemblages. There is no apparent grouping of sites of similar socioeconomic status and this measure is not seen as a useful analytical category given the high values seen for all sites.

In sum, the comparative site data show that two common measures of ceramic assemblage variability and its relation to socioeconomic status are not especially useful. Similar results, or lack thereof, have been noted in other studies (e.g., Geismar 1982; Catts and Custer 1990). The reason for this lack of utility is the simple fact that the initial proposed value of such measures was usually based on theoretical considerations derived from the analysis of archival data. However, when the hypothetical relationships are tested with real archeological data, they do not always hold true.

Hollow ware rankings do provide some useful information, however. The Blossom Point assemblage was separated from a number of "typical" tenant sites of varied ethnic affiliation based on hollow ware frequencies and was grouped with another overseer site and that of a plantation owner. These data suggest that the dietary patterns of the Blossom Point Farmhouse inhabitants were more similar to those of individuals of higher socioeconomic status than they were to lower ranking groups.

TABLE 10. Cup frequency ranking.

SITE	%	ETHNIC/STATUS	DATE
Dickson II	100	Black tenant	1830-1870
Heisler	97	Black tenant	1830-1870
Cannon's Point II	96	White overseer	1800-1830
Cannon's Point III	96	White plantation owner	1800-1830
Williams-Stump	87	Black tenant	1830-1870
Cannon's Point I	84	Black slave	1800-1830
Whitten Road	71	White tenant	1750-1850
Charles Allen	62	White overseer	1800-1850
Blossom Point	60	White overseer	1850-1900

The faunal assemblage from Blossom Point is too small to allow the explicit comparison of frequencies of the various taxa represented. However, some general comparisons to other sites can be made. An important comparison can be made with the Cannon Point Plantation sites described by Otto (1984). Otto explicitly compared faunal assemblages from slave, overseer, and plantation owner sites at a Georgia sea isle plantation and noted interesting patterns of dietary differences. All inhabitants of the plantation consumed basically the same types of animals as food. However, the meat cuts and proportions of varied foods consumed did vary. The overseer and plantation owners ate more beef than did slaves and tended to consume better cuts of meats. Meat cuts associated with soups, stews, and gruels were more commonly used by the slaves compared to the plantation owner and overseer. However, the overseer had fewer high quality meat cuts than the owner. Wild animal food sources were consumed by all three groups; however, the plantation owner's wild food assemblage was dominated by deer and oyster.

The Blossom Point assemblage fits well with the patterns noted by Otto. The Blossom Point overseers were supplementing their diet with a variety of wild food sources as were the Cannon's Point overseers and slaves. This supplement did not, however, include deer. Apparently venison was more of a higher status wild food source. The Blossom Point and Cannon's Point overseer assemblages also share a focus on marshes and wetlands as a prime source of wild food supplements. With regard to domesticated animals, the Blossom Point and Cannon's Point overseer assemblages show that swine were a major food source and that both high and low quality meat cuts were consumed. In contrast, the plantation owners consumed only high quality meat cuts and slaves consumed only low quality meat cuts. For beef, however, both slaves and overseers consumed low quality cuts while owners consumed mainly high quality meat cuts. Domesticated fowl were present in all assemblages.

Comparison of the Blossom Point ceramic and faunal assemblages shows that the overseers of Blossom Point were very similar to overseers from the Cannon Point plantation, especially in terms of foodways and diet. Overseers were clearly different in their foodways and diets from slaves and "regular" ten-

ants. However, they were also different from plantation owners and other higher socioeconomic categories. Overseers occupied a "middle ground" where they could afford to consume better meat cuts from swine, but not from cattle. It was necessary to supplement their diet with wild food sources; however, they were unable to use the higher status wild food sources such as venison.

With regard to material culture items, overseers were clearly not wealthy individuals. The archival data from Blossom Point show that the overseers were subject to the vagaries of rural economies and were part of the rural poverty that characterized all of the Blossom Point tenants. However, they were able to differentiate themselves from other tenants in terms of food and diet and occupy a "middle ground" between poorer tenants and slaves, and property owners. In some ways, this "middle ground" is symbolic of the functional relationship occupied by overseers. These individuals operated as collectors of rents for the owners and mediated the relationships between tenants and owners. In a similar way, overseers at plantations with slaves mediated the slave/owner relationship by conveying the orders and demands of owners to slaves and enforcing compliance with those orders. Future studies of overseer sites could attempt to investigate further the mediating role of overseers and the expression of this role in faunal and artifact assemblages. On a local note it would be useful to investigate the artifact and faunal remains from one of the tenant sites from Blossom Point in particular or St. Thomas Manor in general, or even the sites of the Jesuit owners of the property, in order to see if local data confirm the view of overseers as "mediators."

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References Cited

Basalik, K.J., A.R. Brown, and A. Tabachnick
1987 *Data Recovery Excavations, South Christina Relief, New Castle County, Delaware.* Report submitted to the New Castle County Sewer Authority, Newark, DE.

Beidleman, D.K., W.P. Catts, and J.F. Custer
1986 *Final Archaeological Excavations at Block 1191, Wilmington, New Castle County, Delaware.* Delaware Department of Transportation Archaeological Series 39. Dover.

Brigens, S., and B. Salwen
1980 Weeksville: The Archaeology of a Black Urban Community. In *Archaeological Perspectives on Ethnicity in America*, edited by R.L. Schuyler, pp. 38-47. Baywood Publishing Company, Farmingdale, NY.

Catts, W.P.
n.d. Archaeological Excavations at 115 Market Street, Wilmington. Ms. on file, University of Delaware Center for Archaeological Research, Newark.

Catts, W.P., and J.F. Custer
1990 *Tenant Farmers, Stone Masons, and Black Laborers: Final Archaeological Investigations of the Thomas Williams Site, Glasgow, New Castle County, Delaware.* Delaware Department of Transportation Archaeology Series No. 82.

Catts, W.P., J. Hodny, and J.F. Custer
1989 *"The Place at Christeen:" Final Archaeological Investigations of the Patterson Lane Site Complex, Christiana, New Castle County, Delaware.* Delaware Department of Transportation Archaeological Series No. 74. Dover, DE.

Catts, W.P., and D. McCall
1991 A Report on the Archaeological Investigations at the House of Thomas Cuff, A Free Black Laborer, 108 Cannon Street, Chestertown, Kent County, Maryland. *North American Archaeologist* 12 (2):155-181.

Coleman, E.
n.d. Excavations at the Hodges Bar Farm. Ms. on file, University of Delaware Center for Archaeological Research, Newark.

Custer, J.F.
1993 *Phase II Archaeological Investigations, Blossom Point Farmhouse, Blossom Point, Charles County, Maryland.* Report submitted to the Baltimore District, United States Army Corps of Engineers.

Custer, J.F., W.P. Catts, and E. Coleman
1986 Overview and Future Research Directions. *Bulletin of the Archaeological Society of Delaware* 21:149-156.

Deagan, K.
1982 Avenues of Inquiry in Historical Archaeology. *Advances in Archaeological Method and Theory* 5:151-178.

Deetz, J.
1977 *In Small Things Forgotten.* Natural History Press, NY.

Forman, H.C.
1934 *Early Manor and Plantation Houses of Maryland.* Maryland Historical Society, Baltimore.

Geismar, J.
1982 *The Archaeology of Social Disintegration in Skunk Hollow: A Nineteenth-Century Rural Black Community.* Academic Press, NY.

Herman, B.L.
1987 *Architecture and Rural Life in Central Delaware, 1700-1900.* University of Tennessee Press, Knoxville, TN.

Hughes, T.
1907 *History of the Society of Jesus in North America.* Longmans, Green, and Co., NY.

Kelso, W.M.
1984 *Kingsmill Plantations, 1619-1800: Archaeology of Country Life in Colonial Virginia.* Academic Press, New York.

Kent, B.
1984 *Making Dead Oysters Talk.* Maryland Historical Trust, Annapolis, MD.

Kise, Franks, and Straw, Inc.
1990 *Architectural, Historical, and Archaeological Investigations at Blossom Point Farm, Blossom Point Testing Facility, Charles County, Maryland.* Report submitted to the Baltimore District, United States Army Corps of Engineers.

Lippson, A.J.
1973 *The Chesapeake Bay in Maryland: An Atlas of Natural Resources.* Johns Hopkins University Press, Baltimore, MD.

Miller, H.
1984 *Colonization and Subsistence Change on the 17th Century Chesapeake Frontier.* Ph.D. dissertation, Michigan State University. University Microfilms, Ann Arbor.
1986 *Discovering Maryland's First City: A Summary Report on the 1981-1984 Archaeological Excavations in St. Mary's City, Maryland.* St. Mary's City Archaeological Series No. 2.

Odell, G.H., and F.L. Cowen
1987 Estimating Tillage Effects on Artifact Distributions. *American Antiquity* 52:456-484.

Otto, J.S.
1977 Artifacts, Ecofacts, and Status Differences. In *Research Strategies in Historic Archaeology*, edited by S. South, pp. 91-118. Academic Press, New York.
1984 *Cannon's Point Plantation 1794-1860: Living Conditions and Status Patterns in the Old South.* Academic Press, New York.

Parsons, R.
1974 *Statistical Analysis: A Decision-Making Approach.* Harper and Row, NY.

Shaffer, M., J.F. Custer, D. Grettler, S.C. Watson, and C. DeSantis
1988 *Final Phase III Investigations of the Whitten Road Site (7NC-D-100), Whitten or Walther Road, County Road 346, New Castle County, Delaware.* Delaware Department of Transportation Archaeological Series 68. Dover.

South, S.
1977 *Method and Theory in Historical Archaeology.* Academic Press, NY.

Spencer-Wood, S.
1987 *Consumer Choice in Historical Archaeology.* Plenum Press, NY.

Wilke, S., R. Dalan, L. Walsh
1980 *Cultural Resource Survey of Harry Diamond Laboratories Test Facility, Blossom Point, Maryland.* Report submitted to the Baltimore District, United States Army Corps of Engineers.

Zwinge, J.
1910 The Jesuit Farms in Maryland. *Woodstock Letters*, Vols. 39-43. Woodstock College, Woodstock, MD.

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AN OVERVIEW OF ECONOMIC ARCHEOLOGY IN THE MIDDLE ATLANTIC. PART I: SUBSISTENCE[1]

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Abstract

This is the first of a series of three articles on economic archeology in the Middle Atlantic region. A focus on the broadest definition of economy encourages archeologists to consider social organization, division of labor, and complexity as well as diet and the ecological setting. This overview summarizes issues and data concerning prehistoric and historic subsistence in the Middle Atlantic.

Introduction

Archeologists typically consider subsistence when attempting to reconstruct past lifeways. Subsistence could be broadly conceived as encompassing all the ways people interact with the environment in order to make a living; that is, it could be seen as economy. However, it is more usually seen simply as diet, a situation which causes concern for many archeologists.

Economy as a whole encompasses production, consumption, distribution, and exchange of goods that sustain or reproduce human livelihood. Therefore, as a topic *economy* covers much more than subsistence and, once identified, it is nearly impossible to narrow to a manageable breadth. Just as it is difficult to discuss diet alone without discussing ecology and settlement patterns, it is difficult to consider economy without social organization, division of labor, and complexity as well as diet and the ecological setting. Therein lies the advantage to an approach that targets economy rather than simply subsistence: it forces us to ask anthropological, cultural questions of the evidence of past societies.

For these reasons, I suggest economy as the rubric under which subsistence, uses of the landscape, and human interaction function. This article addresses the first of these, subsistence.

Michael Shott (1990) objects that if something approaching behavior and social organization is identified as a major focus for Paleoindian research, it is expressed and addressed as subsistence. He (Shott 1990:7) is unhappy with a diet-centered model: "Without a broad frame of reference, the discovery of subsistence remains does no more than add entrees to the Paleoindian menu." He urges archeologists to focus instead on structural properties that produce variability even in stable environmental and economic conditions. We should expect flexibility, resourcefulness and opportunism as systematic variability within hunter-gatherer societies.

In his objection that the social context of primitive economies is ignored in eastern Paleoindian studies, Shott touches upon a common problem in much of prehistory. Economic strategies depend not only on environmental factors but also on social properties such as information gathering, goals, and decision making rules. Shott (1990:10) argues that in focusing on diet "archaeology surrenders its unique anthropological potential of documenting cultural organizations not represented in the ethnographic record."

In a similar vein, William Keegan expresses his goal for examining the development of horticulture. He writes (Keegan 1987:xv),

> The purpose . . . is to go beyond the current emphasis on the origins and diffusion of plant domestication to address the socioeconomic conditions that promoted the intensification of horticultural production and the sociocultural consequences of such increased reliance on cultigens.

Subsistence

To understand human adaptation, the available environment must be understood. What is available depends upon (1) the physical surroundings, including climate, geology, and topography; (2) technologies for extraction, processing, and storage; and (3) the social organization of labor and strategies for interaction within and between groups. The nature of subsistence resources depends on age, sex, seasonal growth, population cycles, and behavior of floral and faunal species.

Emphasizing one of anthropologist Marshall Sahlins' points about social production, Kenneth Sassaman (1992:71) writes, "technology constitutes a labor process for appropriating nature that is inherently social." Social relations of production guide the way in which surpluses are created and appropriated through exchange or other means.

Many changes are expected to occur with subsistence innovations. Some of the following are certainly more pronounced with the establishment of food production, but any major reorganization in economy will have far-reaching effects. Changes will occur in (1) demography, (2) settlement organization and degree of mobility, (3) physical environment, (4) technological innovations, (5) social organization, including labor organization, (6) conflicts and competition, (7) markets, trade and exchange, (8) diet, (9) ecology, and (10) human biology including health and disease.

Hunter-Gatherer Subsistence

Alain Testart (1982) distinguishes two radically different hunter-gatherer economies. One, characterized by flexibility, emphasizes multiple alternative strategies and immediate use of resources. The other relies on large-scale seasonal food storage. He rightly points out that for hunter-gatherers to sustain a storage economy, they need both one or more seasonally abundant resources and the technical ability to gather, process and store those resources so that they are available year-round. He suggests that because of the seasonal variation in food-gathering there would be seasonal variation in leisure and ceremonial time as well and that some rigidity in planning would be essential. He also expects (1) a high degree of sedentism, since mobility would be neither possible nor necessary; (2) high population density; and (3) socioeconomic inequality. The latter is largely due to the fact that stored food is a very different commodity than food which must be used quickly before spoilage. Changes are expected in the nature of ownership, the morality of sharing and accumulation, the division of labor and the degree of interpersonal exploitation possible.

Testart thinks that storage rather than agriculture marks the turning point in human history. Some of the recent work on the variable complexity of hunter-gatherers (e.g., Price and Brown 1985) would support the idea that there are several different kinds of economies among societies which forage for their food rather than producing it.

An increasing amount of evidence in the Middle Atlantic supports the idea that Paleoindian people were generalized foragers. It now seems evident that in the eastern United States the earliest inhabitants did not rely on the hunting of megafauna to supply their needs.

Food remains found at the Shawnee-Minisink site in the Delaware Valley in a hearth date to 8,640±300 B.C. Excavators found fish bones along with hawthorne plum pits, hackberry, blackberry, grape, Chenopodium, Acalypha, Amaranth, Physalis, ragweed, and sedge (Dent and Kaufman 1985).

Carol Ebright (1992:410) reports hickory phytoliths on Clovis point fragments and turkey feather fibers from a feature in the Paleoindian component of the Higgins site in Anne Arundel County, Maryland. These findings "bolster the concept of a much broader Paleoindian resource base for the Middle Atlantic area than one focused solely on large game animals occupying a boreal forest environment" (Ebright 1992:410).

Based on a limited sample of skeletal remains, Gentry Steele and Joseph Powell (1994) suggest that Paleoindian diet was generalized and similar to later Archaic people. They base their conclusion on dental microwear analysis:

> Three types of microscopic enamel damage have been noted in the Paleoindian sample: pitting, striations, and polish. Pitting, or "compression fracturing," of enamel occurs when hard materials are processed in the mouth. Striations are associated with grit introduced either through a coarse diet, accidental food contamination, or the use of stone grinding implements, . . . Enamel polishing, and the smoothing of margins in striations and pits, is associated with the consumption of dietary fiber.
>
> (Steele and Powell 1994:189)

While a long-held interpretation states that the beginning of the Archaic is represented by a shift away from the very specialized big-game focus of the Clovis hunter, a re-examination of Clovis people demands that this characterization of subsequent periods be revised.

As seasonality became more of a factor in resource availability, the complications of scheduling movements and labor increased. Patchiness of the environment both spatially and temporally probably increased. There may have been a decline in quarry-based settlement (in areas where such a focus occurred) because other resources became more patchy and difficult to schedule.

There is very little direct evidence for subsistence in the Early Archaic, especially of floral material, but there is some. Models of subsistence are based on inferred environmental settings of sites. Current understandings emphasize the importance of faunal food, but there has been little research into the archeological remains of plant food from this period.

A general picture of plant and animal food used during the Early Archaic is drawn from several sites throughout the eastern United States, although not from the Middle Atlantic. David Meltzer and Bruce Smith

(1986:17) list the following species from archeological contexts: *plants*—oak acorn, hickory nut, black walnut, hackberry seeds, persimmon seed; *mollusk*—freshwater mollusk; *fish*—sucker, gar; *reptile*—box turtle; *bird*—turkey, trumpeter swan; and *mammal*—mole, voles, rodents, beaver, cottontail, squirrel, muskrat, raccoon, coyote/dog, elk, and deer.

The general picture of subsistence in the Early and Middle Archaic is of generalized foraging during warm seasons when food was more or less evenly distributed across landscape. This strategy shifted to one of collecting [as envisioned by Binford (1980)] in cooler months when elk and deer could be the focus of group hunts. Freshwater fish and mollusks along interior drainages of the eastern United States were exploited but marine or estuarine foods were not (Whyte 1990).

Most archeologists assume that, for most of the Middle Archaic period, people relied on deer, turkey, waterfowl, and anadromous fish for their sustenance. The greater variety of toolkits indicates a broader resource base than pre-bifurcate emphasis on hunting (Stewart and Cavallo 1991:23).

Discussing the Shell Mound Archaic in western Kentucky, William Marquardt and Patty Jo Watson (1983) generalize about broad based subsistence. Archaic people fished, hunted, grew gourd-like squashes, and collected mussels, hickory nuts, and other riverine foods. At some sites hickory nuts are recovered in vast quantities. Marquardt and Watson indicate that the nuts themselves could be pounded and thrown into hot water to make hickory nut butter and the nutshells could be used as fuel.

Although there is very little floral evidence collected or interpreted from prehistoric sites in the Potomac basin, ecological reconstructions make it clear that nut-bearing trees were available early. Hickory, oak, and chestnut were the primary sources. Thomas Jackson's (1991) discussion of acorn production in the southern Sierra Nevada offers an analogy that may be applicable to some time periods in Middle Atlantic prehistory, although it is admittedly far afield. Acorns were important because they were abundant and storable; in this they were similar to cultigens. All family members collected acorns but women were responsible for processing, storage, and distribution. Equipment included baskets, brushes, mortars, and pestles. Mortars created in bedrock are clearly immobile features. Milling stations were segregated in large winter villages and integrated in smaller summer camps. Fixed production facilities were created, particularly along deer migration routes.

Charles LeeDecker and his colleagues (1991) discuss some of the evidence for subsistence and material culture during the late Early Archaic (bifurcate base points) and the Late Archaic at the Indian Creek V site near the Fall Line in Prince Georges County, Maryland. Very good plant preservation and careful analysis revealed an important botanical assemblage. Excavators discovered fruits, tubers, starchy seeds, nuts, shoots, and leaves which would have been seasonally available in the spring, summer, and fall. Tubers represented over 80% of the taxa, while there were very few nuts. The authors believe that nuts are probably over-represented and over-interpreted in most archeological contexts. Nearly all of the 37 charred plant species have documented ethnographic uses. Such plants were used to medicate and intoxicate, and for cordage, mats, baskets, decorative objects, dyes, and shelter.

Describing coastal adaptations between the Late Archaic and the Middle Woodland (3000 B.C. - A.D. 1000), Jay Custer (1988:125) writes, "In general, this shift can be characterized as an emphasis on the rich and predictable resources of the major river valley floodplains and the estuarine marsh settings."

Shell middens appeared worldwide during the Holocene; in the Americas most formed after about 5000 years ago. Shell middens are unusual archeological features because they are much more visible than most short-term sites which would be formed for the periodic exploitation of any particular resource.

Because this shift is central to subsistence strategies and other related changes from the Late Archaic on, Gregory Waselkov's (1982) observations on shellfish collecting are noted at length as follows.

Waselkov's (1982) research goals concerning shellfish gathering may be applied to the study of any particular part of the subsistence system. These goals are to determine: (1) the role of shellfish gathering in relation to the total seasonal subsistence round; (2) the significance of shellfish gathering to overall settlement-subsistence; and (3) the relationships of shellfish gathering strategies to changes in other areas of subsistence and changes in social organization and the development of chiefdoms.

Gleaning information from ethnographic writings, Waselkov notes that shellfish procurement is usually done by hand from exposed rocks and shallow wading by both women and women with children. English observers noted Powhatan boys diving for freshwater mussels. Ethnohistoric sources also note preparation methods for the Maryland and North Carolina Algonquians, the Virginia Powhatans, the Delaware, and European colonists in Philadelphia. According to these sources, shellfish could be opened

by cracking or perforating the shell or by using a shucking knife. Cooking methods for shellfish included roasting, baking, steaming, and boiling. Shellfish meat was either dried or smoked prior to storage or trade. Archeological evidence for preparation is sought in cooking pits and other features (Waselkov 1982).

Seasonal use of shellfish depends not only on availability but also on peoples' assessment of all food resources, needs, costs, and other expectations and perceptions. Among the Maryland Algonquians fall and winter were shellfish gathering seasons; among the Virginia Powhatan it was winter, late spring, and early summer (Waselkov 1982:38).

Six main conclusions offered about shellfish use at the White Oak Point site and surrounding area are as follows (Waselkov 1982):

1. the White Oak Point site was occupied in spring by small groups in temporary oystering camps from the Late Archaic through the early Historic;
2. most meat was obtained from oysters but there was also clam digging, crabbing, fishing, deer hunting, and the gathering and processing of acorns and hickory nuts;
3. techniques of hunting and gathering changed little if at all;
4. in the Late Archaic shellfish other than oyster contributed a larger percentage of meat than at any later time;
5. the average number of oysters per volume of midden increased after the Late Archaic;
6. beginning in the early Late Woodland, there were a number of important changes: species diversity dropped; roasting basins were first used; mammals and fish contributed larger proportions of available meat; and the average number of oysters per volume sharply increased.

The latter conclusion in particular gives rise to the following scenario. There is a large scale drying of oyster meat for storage and trade and a larger number of mammals and fish compensates for the loss of immediately consumable oysters. The shift could be in response to agricultural demands and the need for spring planting. The increased specialization and production of storable commodities by some individuals or group segments would have freed others for different tasks (Waselkov 1982).

Waselkov discusses interrelationships between shellfish gathering, population growth, and the origins of agriculture. In several places around the world, the earliest evidence for plant domesticates is found either at shell middens or at non-shell sites occupied by seasonal shellfish gatherers who are doing other things. When domesticated plants began to play a significant role in the diet, the use of shellfish declined rapidly (Waselkov 1982:115). For example, in the riverine shell middens of eastern North America, squash remains date as early as 4,400 B.P. and sunflower and sumpweed appear to be domesticated by 2,900-2,400 B.P. Both the plants and the river mussels would have supplied high protein and presumably only one type of resource would have been necessary.

Cheryl Claassen (1991) explores questions of gender and labor scheduling for shellfish gathering during the Shell Mound Archaic. Some of her hypotheses fit neatly with Waselkov's observations. Joining critics of cultural ecology, Claassen cites Barbara Bender (1978), who characterizes much archeology as having "rejected both specific history and principles of social structure in favor of an assumed ecological common denominator." Women are almost universally recorded as shellfish collectors in the ethnographic record. It is not necessarily the case that women were shellfish collectors in the unrecorded past, but Claassen uses this as a hypothesis to help create more complete models of past social and labor organization by including considerations of gender division of labor.

Claassen explores ideas about the organization of women's labor and questions how women accommodated shellfishing in the eastern United States when it appeared about 8,000-9,000 B.P. and why the Shell Mound Archaic peoples stopped shellfishing about 5,500-3,000 B.P. This early shellfishing activity took place in Tennessee, Kentucky, and West Virginia. The Shell Mound Archaic is identified by the mounding of shells, the use of mounded shells for burials, and the lack of evidence of permanent housing.

Hypotheses for the cessation of mussel collecting have included the overexploitation of the mussel population, environmental change, and human migration outside the area. Claassen raises the possibility that a radical change in women's labor necessitated the abandonment of shellfishing. Such an abundant food source would not be abandoned unless there was something to replace it. Claassen argues that competition for time needed for harvesting crops changed the economic organization as cultivated food came to be substituted for much of the diet.

It would be useful to add Claassen's hypothesis to Waselkov's synthesis of this subsistence focus in the Potomac basin, where shellfish collecting is documented much later, after 3000 B.P., and continues from the Late Archaic into historic times.

Food Production

Barbara Bender (1978:206) emphasizes social structure and, in the context of developing food production, asks how developing social relations promote economic change. Addressing the development of food-producing economies out of hunting-gathering ones is "about increased production and about why increased demands are made on the economy."

She is unsatisfied with technoenvironmental explanations that ignore internal dynamics of a society. Within a hunter-gatherer economy, households, however they are constructed, are responsible for basic production within a larger system of social support and demands. Alliances embedded within kinship systems provide the social rules and terms that constrain actions. Alliance systems may be more or less complex and make greater or lesser demands on production. Even within impoverished hunter-gatherer social systems that survive ethnographically, there are marriage alliances and ceremonial exchange and trade. Further ethnographic detail offers four observations concerning the variable social structure of hunting-gathering societies: (1) individual bands are integrated into wider social networks; (2) different alliance networks are important in binding various groups together; (3) demands may be generated over and above subsistence requirements of individual bands; and (4) demand varies according to the type of alliance and exchange.

Sedentism escalates demand for increasing production as it encourages storage, accumulation, control of labor, and control of land. Archeologists need to attempt to delineate how demands were generated rather than simply how they were met. Trade and exchange, ceremonial undertakings, and status differentiation are some of the archeologically-visible particulars that shed light on changes in economic organization (Bender 1978).

Although it is premature to judge plant domestication during the Early Woodland in the Middle Atlantic, certainly there is intensive harvesting of wild seeds evidenced by the considerable numbers of grinding stones on Savannah River (Late Archaic) and Early Woodland sites in the James Valley (Mouer 1991). Discussions of early gardening focus on data in the midwest (Smith 1992); there are only a few contexts in the Middle Atlantic region with possibly domesticated seeds dating to Transitional/Early Woodland.

Parallels may be drawn between the conditions which gave rise to domestication in the Midwest and Transitional/Early Woodland conditions in the Middle Atlantic. The clearance of floodplain forests and disturbance and enrichment of soils around camps were some factors contributing to domestication (Smith 1992). In the Middle Atlantic the appearance of anadromous fishing camps during the Late Archaic initiated the process of floodplain clearing along interior streams (Mouer 1991). Comparisons between the region's relative reliance on domesticated and collected food would offer interesting insights into economic strategies.

J. Sanderson Stevens (1991:200) argues that the subsistence strategies of both Late Archaic and Early Woodland people were focused on a few resources. They gathered shellfish and anadromous fish and intensely harvested plant resources. Major faunal species used include deer, black bear, turkey, squirrel, rabbit and other small mammals, turtles, fish, water fowl, beaver, otter, and muskrat. The social relations of production developed with these new strategies may have been more complex than those of earlier groups.

At the time of European contact, Potomac area Algonquians were relying on a variety of foodstuff. Many of the species used were probably also used during the Woodland period. Algonquians planted corn, squash, gourds, beans, and pumpkin and harvested oysters and many kinds of fish. They gathered wild plant food such as tubers, walnuts, chestnuts, acorns, chinquapins, strawberries, blackberries, raspberries, huckleberries, and herbs (Potter 1993:40-43).

Subsistence during Late Woodland II among the Virginia Algonquians was based on the swidden farming of maize. Beans, squash, pumpkins, gourds, sunflower, and tobacco were also grown (Potter 1993:33). Corn contributed over half of the diet and was consumed by at least part of the population throughout the year (Potter 1993:40). Maize is found throughout the Middle Atlantic by A.D. 900/1000 and becomes intensively used by A.D. 1200/1300 (Stewart 1993).

At the Paw Paw site on the Allegheny Plateau carbonized corn kernels, seeds, nut shells, and remains of various indigenous plants were found. Knotweed (***Polygonum***) and goosefoot (***Chenopodium***) are disturbed-zone plants cultivated in the eastern Woodlands. Sumac (***Rhus***) is a multipurpose plant used ethnographically for food, beverage, and medicine and its leaves can be smoked. Dock (***Rumex***) and copperleaf (***Acalypha***) were also found (Kavanagh 1984:38ff).

Table 1 provides radiocarbon dates from sites containing plant domesticates from the Potomac and James River basins and adjacent areas. Stephen Potter discusses this information thoroughly in his analysis of Algonquian culture in the Potomac valley (Potter 1993).

TABLE 1. Radiocarbon dates from sites containing plant domesticates from the Potomac and James River basins and adjacent areas (*Source: Potter 1993:144-145*).

ARCHEOLOGICAL SITE	COMMENTS	UNCORRECTED DATES, YEARS A.D.	REFERENCES
Gnagey, Pa. (36SO55)	Corn, beans, and squash	Site dates are 920±80, 1030±80, and 1190±65	George 1983:5
Cresaptown, Md. (18AG119)	Corn and beans. Charred corn kernels from Feature 275 were radiocarbon-dated to A.D. 855±60	A series of additional dates from the site range from 965±105 to 1635±70	Curry and Kavanagh 1991:6-7
Moore, Md. (18AG43)	One corncob fragment, one corn kernel, and one possible bean seed	Site dates are 1400±70, 1420±50 and 1500±50	Pousson 1983:146-148
Paw Paw, Md. (18AG144)	Five carbonized corn kernels	1010±65	Curry and Kavanagh 1991:7
Rosenstock, Md. (18FR18)	One carbonized corn kernel	Site dates are 1015±60 and four dates between 1335±60 and 1475±60	Curry and Kavanagh 1991:14
Shepard, Md. (18MO3)	Several lumps of charred corn kernels fused together	Site dates range from 320±240 to 1630±280; however, two dates of 1220±60 and 1200±50 probably date main occupation	Curry and Kavanagh 1991:15; MacCord et al. 1957:22
Winslow, Md. (18MO9)	Several carbonized corncobs	Site dates are 825±150, 1285±100, and 1315±80	Curry and Kavanagh 1991:14
Hughes, Md. (18MO1)	Corncobs (1990 field season) and possible bean seeds (1991 field season)	Site dates are 1290±55, 1370±60, 1440±50, and 1530±60	Dent and Jirikowic 1990:51; Richard J. Dent, personal communication, 1991
Posey, Md. (18CH281)	Possible corn fragment	1575±90	Barse 1985:158; Boyce and Frye 1986:10
Stearns, Md. (18CV17S)	Corn	C13/C12 date, 1459±125	Wayne E. Clark, personal communication, 1989
Reedy Creek, Va. (44HA22)	Corn and beans	1150±65	Coleman 1982:188, 206, 208
Spessard, Va. (44FV134)	Squash seeds and corn cupules	1160±80	Jeffrey L. Hantman, personal communication, 1988
Point of Fork, Va. (44FV19)	Corn	1030±75	L. Daniel Mouer, personal communication, 1988
Reynolds-Alvis, Va. (44HE470)	Squash and bean seeds	920±75	Gleach 1987:221-223
White Oak Point, Va. (44WM119)	One corn kernel, one corn cupule, and one corn embryo	1310±50 and 1460±45	Waselkov 1982:240, 312
44HT37, Va.	Possible corn kernel fragment from Feature 1024	300±70	Edwards et al. 1989:51

Development of Agriculture in the Eastern United States

Only recently could archeologists say that Eastern North America possesses one of the most detailed records of the development of agriculture. This record is due, in part, to the use of new technologies: flotation to recover plant remains, scanning electron microscopy (SEM), radiocarbon dating of small samples with accelerator mass spectrometer (AMS), and stable carbon isotope analysis of human bone (Smith 1989). Classic archeological models to explain agriculture (e.g., Braidwood 1960) often assumed speedy and wholesale adoption after its "invention" and therefore archeologists often focused on tracking down the origins — the oldest corn cob, for example — so as to pinpoint the time and place in which evolution progressed. More research and careful thinking about the process have made it clear that the development of food production, as Bruce Smith (1989) points out in his synthesis of eastern North America, was a longer and far more complex process than once thought.

Smith's (1989, 1992) two syntheses of data for plant cultivation in the Eastern United States differ somewhat in detail and interpretation, indicating that research of the topic is extremely active. It is important to note that much of his discussion concerns the mid-latitude area stretching from the Appalachians west to the prairie margin. The eastern Coastal Plain and Piedmont, therefore, are outside the zone where there is evidence for indigenous agriculture. Much further work remains to be done in the Chesapeake region.

Indications of agricultural development include direct representation of crop seeds and pollen and remains in human coprolites; hoes; pollen and macrobotanical indications of field clearing; storage vessels and features for seeds; processing and cooking technology (Smith 1992).

Smith's (1992) six periods of agricultural development are summarized here to provided a baseline for questions outside the zone of agricultural development:

I. **Early and Middle Holocene foragers prior to 7,000 B.P. (5,050 B.C.).** People used the broad resources of the forest, including acorns and hickory nuts, and the forest edges, including seeds and berries. There is no human intervention in the life cycle of plants except for the fortuitous disturbance of soils in campsites.

II. **Middle Holocene collectors, 7,000 to 4,000 B.P. (5,050-2050 B.C.).** A change in stream flow changed the floodplains and resource distribution. Occupations changed to shell mound and midden mound settlements with continuous ground disturbance. Weedy invaders into disturbed zones included cucurbita, goosefoot, sumpweed, and sunflower, which would have provided supplementary food sources. A transition in human intervention "from simple toleration to inadvertent, and then active encouragement...was critical in the co-evolutionary trajectory leading to domestication" (Smith 1992:283). Then "planting, even on a very small scale,...marks both the beginning of cultivation and the onset of automatic selection" (Smith 1992:282). Smith (1992:283) also notes, however, that sunflower was not indigenous to the region. During this period there is also a dramatic increase in hickory nuts after 7,500 B.P. which may indicate new nut-processing technologies such as hide-lined and rock-heated boiling pits for separating hulls from meat and the active management of hickory trees to increase yields (Smith 1992:287).

III. **The initial domestication of eastern seed plants, 4,000 to 3,000 B.P. (2,050-1,050 B.C.).** By this time there was distinctive morphological change in the four weedy species of cucurbita, goosefoot, sumpweed, and sunflower. However, Smith (1992:288) writes,

> there is little evidence that this process of domestication occurred within a framework of deliberate human selection, or that these domesticated plant species contributed substantially to the diet of fourth millennium B.P. populations.

IV. **The development of farming economies, 3,000 to 1,700 B.P. (1050 B.C. to A.D. 250).** Storage contexts recorded for this period include grass-lined pits, woven bags, and gourd containers. Processing equipment includes wooden mortars, stone slabs, and mortar holes in stone slabs. There are also chert hoes, indications of land clearing, and changes in settlement patterns. The dietary importance of indigenous cultigens increased greatly during this period and there was a concomitant dramatic cultural change.

V. **The expansion of field agriculture, 1,700 to 800 B.P. (A.D. 250-1150).** This period could be divided into two subperiods based on the rapid adoption of maize and technical innovations associated with it around A.D. 800. The period A.D. 200-800 is marked by a growing

importance of plant husbandry and the addition of the tropical cultigens of maize and tobacco as well as population growth and dispersal. After A.D. 800 there are a number of innovations: exchange of large, well-made chert hoes; elaboration and improvement of ceramic vessels; and increase in storage pit size. Between A.D. 800-1150 Mississippian chiefdom societies emerged. It is also during this latter part of the period when areas outside the domestication zone shift to maize agriculture (Smith 1989).

VI. **Maize-centered field agriculture after 800 B.P. (A.D. 1150).** Stable carbon isotope analysis indicates that maize was not a staple food until after A.D. 1100. It is important to note that there is a great deal of variability in reliance on maize and in the varieties of maize grown. A low variability, 8-row maize was grown after A.D. 1100 in the Ohio Valley, Northeast, and upper Midwest but in other areas there was considerably more variety in the maize itself (Smith 1992:293), possibly because there were more frequent arrivals of new varieties into the southeast from the Southwest, Mexico, or the Caribbean (Smith 1992:294).

Smith calls on archeologists to pay more attention to the different varieties of maize grown in the east and to improve the level of analysis in order to address some of the developmental issues. Many indigenous plants continued to be cultivated after maize was adopted. Smith (1989:295) lists sumpweed, sunflower, knotweed, varieties of chenopod, maygrass and little barley, Jerusalem artichoke, maypops, amaranth, purslane, pokeweed, ragweed, chenopod, and carpetweed. He notes that there is no reason to expect that indigenous crops were grown only at a garden scale while maize was grown for larger yields. Especially prior to A.D. 1000 the pre-maize crops were probably grown for large harvests (Smith 1989:295-6).

Some researchers have suggested that the early introduction of 8-rowed Northern flint corn came through the Caribbean into eastern North America. A later infusion of another variety of maize, the 12- to 16-rowed Midwestern 12, came east from the American Southwest or the Gulf Coast. Maize was present for several centuries before it became a staple. It has been suggested that maize agriculture supported the use of green corn early, from the end of the Archaic. One indirect piece of evidence offered is the near universal term for maize in Central and Eastern Algonkian languages, indicating that the crop was known before the language branches split around 1000 B.C. (Riley et al. 1990). Such evidence has not been confirmed with archeological discoveries.

Patty Jo Watson and Mary Kennedy (1991) discuss the process of developing horticulture with a view that explicitly incorporates gender. They assume a male/female division of labor and formalize it for the eastern woodlands using archeological, ethnohistoric, and ethnographic information. They take exception to reconstructions that implicate women as passive and non-innovative, criticizing both Smith's (1987) coevolutionary framework for weedy plant domestication and Guy Prentice's (1986) proposition that male shamans were responsible for gourd domestication.

Their conclusions in questioning the automatic characterization of plant domestication and the coevolutionary formulation are as follows:

1) Sunflower and maygrass were grown outside their natural ranges by 3000-2500 B.P. Therefore, their cultivation must have been purposeful. Smith (1992) places non-indigenous cultivation of sunflower even earlier, during his period II, 7000-4000 B.P.
2) The best dietary evidence for the eastern woodlands from fecal matter dating 2800-2500 B.P. in Salts Cave and Mammoth Cave indicates that over 60% of the plant food consumed was of indigenous cultigens: sunflower, sumpweed, and chenopod. Clearly the addition of domesticated species had more than a slight dietary impact.
3) Women collectors and gardeners around 3500-2500 B.P. devised and used techniques of tilling, harvesting, and processing and applied them to maize production. The significant difference in maize-related tools and techniques in the East as opposed to that in the Southwest and Mexico suggests that eastern maize was adopted into a preexisting pattern.
4) Most generally, the great botanical knowledge of hunter-gatherer people and women's extensive knowledge of using plants makes the image of unintended and automatic plant domestication untenable.

Our understanding of the sequence of agricultural development in the eastern United States has improved dramatically due to both better collection and analytic methods and more innovative questions. Clearly, much analysis and interpretation remains to be done, especially in the context of an economic archeology which may begin to address division of labor and the social consequences and motivators for technical and dietary changes.

Plantations and Industry

The tobacco economy characterized 17th- and early 18th-century European settlement in the Potomac basin. There was also some early vital industrial development, such as iron furnaces. The place of the English colonies within the world economic system was that of an economic periphery servicing the British economic core. Throughout the 18th and 19th centuries, plantations and farms remained vital to regional and local economies. Market economies developed their own cores within the colonies and early Republic. Various crafts, manufacturing, and trade continued to expand. Since the late 19th century the service industry of the federal government has become one of the most powerful economic factors in the area.

It would be well beyond the scope of this overview to attempt to summarize historic period diet, agricultural strategies, crafts, manufacturing, and business. Some of this type of information is included in the discussion of uses of the landscape (Part II of this overall discussion, forthcoming) rather than here under subsistence. Some brief comments on subsistence will serve as examples of the sorts of information which archeology can contribute to understanding historic lifeways.

Discussing the colonization gradient in relation to the 17th-century Chesapeake, Henry Miller (1984) hypothesizes that subsistence practices in colonies will tend to be less complex and specialized than those in the homeland. That is, colonial settlers will use a wider range of resources than at home. As population increases there will be more emphasis on dependable resources which can be intensively exploited. Subsistence should become more stable and complex through time and, initially, be similar throughout socioeconomic levels. As opportunities decline and the social system becomes more rigid, there should be increasing differentiation in subsistence strategies and diet between classes. Fish make up 34% of the faunal remains on 17th-century sites in the Chesapeake region. Remains of oysters and blue crab are found at most sites and are abundant at many of them. Oysters do not show signs of overharvesting in rural areas but do in the urban setting of St. Mary's City, where overharvesting reduced oyster sizes as human population increased (Miller 1986:181).

By the end of the 17th century Chesapeake colonists were focusing on cattle and pigs for their meat. Miller (1984:382) writes,

> in addition to meat, dairy products, and cooking fats, cattle and swine also provided a secondary source of income, a buffer against economic difficulty, and a means of improving the lives of one's children through inheritance.

Faunal data from Harmony Hall, located on the late 17th-century western frontier of Maryland in Prince Georges County, supports Miller's thesis (Sonderman et al. 1993).

After 1700 domestic animals account for over 90% of the meat remains on rural sites. Fish were still used but were far less important. Nets were used more often than previously, but the hook and line were still the primary fishing equipment. Commercial fishing of herring and shad began in the 1760s (Miller 1986:182; Middleton 1953). Oysters began to be harvested by tongs in the early 18th century, permitting harvesting of beds in deeper waters (Miller 1986:182).

Food remains provide insight into site inhabitants' participation in the economic system. For example, the cuts of meat used may demonstrate self-sufficiency (the butchering and use of whole animals), production for the market (retention and discard of certain parts), or buying meats from the market (limited parts).

Several historical archeologists have suggested that status may be investigated through faunal analysis, with relative wealth indicated by species, cut of meat, and method of preparation. Some have suggested that during the 17th century, the presence of deer in European households may indicated wealth and leisure (e.g., Miller 1986; Reitz 1987; see Manning-Sterling and Atkins 1995). This suggestion is based on the English hunting tradition, access of the colonial landowning class to more land, and the documented hiring of Native Americans to hunt for wealthier households. Investigation of 17th-century Virginia faunal assemblages, however, concludes that there is no clear-cut distinction between wealthy and poor inhabitants based on the presence of deer (Manning-Sterling and Atkins 1995).

Faunal analysis of 18th-century urban contexts has been carried out at some sites in Annapolis, Maryland (e.g., Reitz 1989). Just under half of the early 18th-century meat of the wealthy Calvert family of Annapolis was made up of cattle, pig, and either sheep or goat. Much of the remainder was fish and fowl (Yentsch 1994:222).

Resources of the Chesapeake Bay were abundant until overharvesting and pollution affected them. John James Audubon wrote in 1840 (in Cronin 1986:196),

> The Chesapeake Bay with its tributary streams, has from its discovery, been known as the

> greatest resort of waterfowl in the United States. This has depended upon the profusion of their food, which is accessible on the immense flats or shoals that are found near the mouth of the Susquehanna, along the entire length of the North-East and Elk Rivers, and on the shores of the bay and connecting streams as far south as York and James Rivers.

Intensive harvesting so affected the bird population that commercial wildfowl hunting was outlawed nationwide in 1919 (Cronin 1986:196).

Cronin (1986:193-194) documents the 19th-century overharvesting of the oyster through the following series of events which greatly affected the oyster population:

1828	Baltimore and Ohio Railroad opened, improved transportation
1836	well established land transportation of fresh, pickled, and spiced oysters
1840	discovery of vast, deep oyster beds in Tangier Sound, available only by dredging
1845	method perfected for hermetically sealing metal cans, making feasible the canned and processed oyster, or "cove"
1857	1,600,000 bushels of oysters handled in Baltimore
1865	dredging legalized
1865	4,000,000 bushels of oysters handled in Baltimore
1868	10,000,000 bushels of oysters handled in Baltimore
1892/3	over 900 dredges under license in Maryland
1898	decline in the harvest begins and continues drastically for next 20 years

For most of the 19th century blue crabs were consumed only locally. The extension of the railroad to Crisfield, Maryland stimulated a new industry in this resource as well (Cronin 1986:195).

In an urban 19th-century context in the upper Potomac, two assemblages from the first half of the 19th century were analyzed from the Master Armorer's House in Harpers Ferry. About 1830 there occurred a decreased dependence on home-raised pigs and an increased dependence on beef bought in the marketplace. This change is tied to the arrival of the canal and railroad and to a more urban, market-oriented way of life (Shackel 1994).

Plantation diet has also been studied for the 19th century (McKee 1988) and earlier (Crader 1984, 1990). Some aspects of the diet of slaves at Monticello have been explored through the examination of faunal remains.

Diana Crader (1984) compared the faunal remains of two features at Monticello: the Storehouse, a suspected slave dwelling, and the Dry Well, which served the main house. The differences reflect the status of the occupants. Crader (1984:556) writes,

> Occupants of the Storehouse (presumably slaves) primarily ate less meaty cuts, which may have been prepared as stews. Mutton was rarely eaten by slaves, but an occasional rabbit, opossum, squirrel, game bird, or chicken was prepared. The bone refuse was discarded outside the dwelling where it was subjected to a fair amount of trampling. Individuals in the main house dined on hams, pork roasts, beef, mutton and lamb. A variety of other meats may have been eaten including squirrel, various birds, and fish. Bones were ultimately discarded relatively intact as part of the fill for the Dry Well. On interesting feature of both assemblages is the absence of large, wild game such as deer.

However, even among slaves on the same plantation there were major differences in diet. Faunal remains at another slave dwelling, Building "o," at Monticello suggest a higher quality meat from that of the Storehouse site. Questions are raised about relative slave status and provisions, alternative reasons for the preservation of discarded bone, and the formation of site deposits.

Conclusion

Much work remains to be done within economic archeology. Barry Isaac (1990:332) emphasizes that serious attention to the cultural component in general and the economic in particular is largely missing from the study of prehistoric subsistence. He adopts Rhoda Halperin's (1989) distinction between ecological and economic anthropology wherein the former is largely concerned with locational movements and rearrangements of settlements on the landscape while the latter is concerned with more socially encompassing arrangements for how people appropriate and distribute resources and labor. Both the ecological and the economic need to be interrelated in order to encompass the sociocultural dimension of human livelihood.

He warns against the tendency to equate subsistence with food with economy because doing so omits much of what is interesting about human behavior from archeological analysis and interpretation. One of the major issues identified by Tankersley and Isaac

is the limitation of the ecological paradigm that has dominated for the past fifty years and the accompanying need for an economic framework to balance out the study of prehistoric [and historic] livelihood (Tankersley and Isaac 1990:345-6).

Notes

1. This overview is drawn from the author's 1995 *National Capital Area Archeological Overview and Survey Plan*, written while employed by the National Park Service, National Capital Area. Two additional parts of this treatise on economic archeology are planned — uses of the landscape and human interaction function.

References Cited

Barse, William P.
1985 A Preliminary Archeological Reconnaissance Survey of the Naval Ordnance Station, Indian Head, Maryland. Manuscript on file, Maryland Historical Trust, Crownsville.

Bender, Barbara
1978 Gatherer-Hunter to Farmer: A Social Perspective. *World Archaeology* 10(2):204-221.

Binford, Lewis R.
1980 Willow Smoke and Dogs' Tails: Hunter-Gatherer Settlement Systems and Archaeological Site Formation. *American Antiquity* 45 (1):4-20.

Boyce, Hettie, and Lori Frye
1986 *Radiocarbon Dating of Archeological Samples from Maryland.* Maryland Geological Survey Archeological Studies No. 4. Baltimore.

Braidwood, R.J.
1960 The Agricultural Revolution. *Scientific American* 203:130-148.

Claassen, Cheryl P.
1991 Gender, Shellfishing, and the Shell Mound Archaic. In *Engendering Archaeology*, edited by J. Gero and M. Conkey, pp. 276-300. Blackwell, Oxford.

Coleman, Gary N.
1982 The Reedy Creek Site, 44Ha22, South Boston, Virginia. Archeological Society of Virginia *Quarterly Bulletin* 37(4):150-209.

Crader, Diana C.
1984 The Zooarchaeology of the Storehouse and the Dry Well at Monticello. *American Antiquity* 49(3):542-558.
1990 Slave Diet at Monticello. *American Antiquity* 55(4):690-717.

Cronin, L. Eugene
1986 Chesapeake Fisheries and Resource Stress in the 19th Century. *Journal of the Washington Academy of Sciences* 76(3):188-198.

Curry, Dennis C., and Maureen Kavanagh
1991 The Middle to Late Woodland Transition in Maryland. *North American Archaeologist* 12(1):3-28.

Custer, Jay F.
1988 Coastal Adaptations in the Middle Atlantic Region. *Archaeology of Eastern North America* 16:121-135.

Dent, Richard J., and Christine Jirikowic
1990 Preliminary Report of Archaeological Investigations at the Hughes Site (18MO1). Manuscript on file, Maryland Historical Trust, Crownsville.

Dent, R.J., and B.E. Kauffman
1985 Aboriginal Subsistence and Site Ecology as Interpreted from Microfloral and Microfaunal Remains. In *Shawnee Minisink*, edited by C.W. McNett, Jr., pp. 123-164. Academic Press, Orlando, Florida.

Ebright, Carol A.
1992 *Early Native American Prehistory on the Maryland Western Shore: Archeological Investigations at the Higgins Site.* Maryland State Highway Administration, Project Planning Division, Environmental Evaluation Section, Archeological Report Number 1. Baltimore.

Edwards, Andrew, William Pittman, Gregory Brown, Mary Ellen N. Hodges, Marley Brown III, and Eric Voigt
1989 Hampton University Archaeological Project, Vol. 1: A Report on the Findings. The Department of Archaeological Research, Colonial Williamsburg Foundation. Report submitted to Hampton University, Virginia.

George, Richard L.
1983 The Gnagey Site and the Monongahela Occupation of the Somerset Plateau. *Pennsylvania Archaeologist* 53(4):1-97.

Gleach, Frederic W.
1987 The Reynolds-Alvis Site (44He470): A Summary Report. Archeological Society of Virginia *Quarterly Bulletin* 42(4):205-232.

Halperin, Rhoda
1989 Ecological versus Economic Anthropology: Changing "Place" versus Changing "Hands." *Research in Economic Anthropology* 11:15-41.

Isaac, Barry L.
1990 Economy, Ecology, and Analogy: The !Kung San and the Generalized Foraging Model. In *Early Paleoindian Economies of Eastern North America*, edited by K.B. Tankersley and B.L. Isaac, pp. 323-335. Research in Economic Anthropology,

Supplement 5. JAI Press, Inc., Greenwich, CT.

Jackson, Thomas L.
1991 Pounding Acorn: Women's Production as Social and Economic Focus. In *Engendering Archaeology*, edited by J. Gero and M. Conkey, pp. 301-325. Blackwell, Oxford.

Kavanagh, Maureen
1984 Phase II Archeological Investigations at the Paw Paw Site (18AG144), Allegany County, Maryland. *Maryland Geological Survey, Division of Archeology File Report* 180, Baltimore.

Keegan, William F., editor
1987 *Emergent Horticultural Economies of the Eastern Woodlands*. Occasional Paper No. 7, Southern Illinois University at Carbondale, Center for Archaeological Investigations.

LeeDecker, Charles H., Cheryl A. Holt, Daniel P. Wagner, Grace S. Brush, and Margaret Newman
1991 *Excavation of the Indian Creek V Site (18PR94), Prince Georges County, Maryland*. Louis Berger & Associates, Prepared for Wallace Roberts & Todd, Philadelphia, and the Washington Metropolitan Area Transit Authority, Washington, D.C.

MacCord, Howard A., Sr., Karl Schmitt, and Richard G. Slattery
1957 *The Shepard Site Study*. Archeological Society of Maryland Bulletin No. 1, Baltimore.

Manning-Sterling, Elise H., and Stephen C. Atkins
1995 *The Role of Hunting in Food Procurement in Seventeenth-Century Virginia*. Paper presented at the Society for Historical Archaeology, Washington, D.C.

Marquardt, William H., and Patty Jo Watson
1983 The Shell Mound Archaic of Western Kentucky. In *Archaic Hunters and Gatherers in the American Midwest*, edited by J.L. Phillips and J.A. Brown, pp. 323-339. Academic Press, New York.

McKee, Larry
1988 *Plantation Food Supply in Nineteenth-Century Tidewater Virginia*. Ph.D. dissertation, Department of Anthropology, University of California, Berkeley. University Microfilms International, Ann Arbor, Michigan.

Meltzer, David J., and Bruce D. Smith
1986 Paleoindian and Early Archaic Subsistence Strategies in Eastern North America. In *Foraging, Collecting, and Harvesting: Archaic Period Subsistence and Settlement in the Eastern Woodlands*, edited by S.W. Neusius, pp. 3-31. Southern Illinois University at Carbondale, Center for Archaeological Investigations, Occasional Paper No. 6.

Middleton, Arthur Pierce
1953 *Tobacco Coast, A Maritime History of Chesapeake Bay in the Colonial Era*. Reprinted by Johns Hopkins University Press, Baltimore, Maryland, 1984.

Miller, Henry M.
1984 *Colonization and Subsistence Change on the 17th-Century Chesapeake Frontier*. Ph.D. Dissertation, Department of Anthropology, Michigan State University.
1986 Transforming a "Splendid and Delightsome Land": Colonists and Ecological Change in the 17th and 18th-Century Chesapeake. *Journal of the Washington Academy of Sciences* 76(3):173-187.

Mouer, L. Daniel
1991 Explaining the Formative Transition in Virginia: Concluding Remarks. In *Late Archaic and Early Woodland Research in Virginia: A Synthesis*, edited by T.R. Reinhart and M.E.N. Hodges, pp. 259-273. Special Publication No. 23 of the Archeological Society of Virginia. Deitz Press, Richmond.

Potter, Stephen R.
1993 *Commoners, Tribute, and Chiefs: The Development of Algonquian Culture in the Potomac Valley*. University Press of Virginia, Charlottesville.

Pousson, John F.
1983 Archeological Excavations at the Moore Village Site Chesapeake & Ohio Canal National Historical Park, Allegany County, Maryland. National Park Service, Denver Service Center.

Prentice, Guy
1986 Origins of Plant Domestication in the Eastern United States: Promoting the Individual in Archaeological Theory. *Southeastern Archaeology* 5:103-119.

Price, T. Douglas, and James Brown, editors
1985 *Prehistoric Hunter-Gatherers: The Emergence of Cultural Complexity*. Academic Press, Orlando, Florida.

Reitz, Elizabeth J.
1987 Vertebrate Fauna and Socioeconomic Status. In *Consumer Choice in Historical Archaeology*, edited by S.M. Spencer-Wood. Plenum Press, New York.
1989 Final Report on the Faunal Remains from the Calvert site. Calvert Interim Report No. 8. Historic Annapolis Foundation, Annapolis, Maryland.

Riley, Thomas J., Richard Edging, and Jack Rossen
1990 Cultigens in Prehistoric Eastern North America: Changing Paradigms. *Current Anthropology* 31(5):525-545.

Sassaman, Kenneth E.
1992 Gender and Technology at the Archaic-Woodland "Transition." In *Exploring Gender Through Archaeology, Selected Papers from the 1991 Boone*

Conference, edited by C. Claassen. Monographs in World Archaeology No. 11. Prehistory Press, Madison, WI.

Shackel, Paul A.
1994 Interdisciplinary Approaches to the Meanings and Uses of Material Goods in Lower Town Harpers Ferry. In *An Archaeology of Harpers Ferry Commercial and Residential District*, edited by P.A. Shackel and S.E. Winter. Thematic issue of *Historical Archaeology* 28(4):3-15.

Shott, Michael J.
1990 Stone Tools and Economics: Great Lakes Paleoindian Examples. In *Early Paleoindian Economies of Eastern North America*, edited by K.B. Tankersley and B.L. Isaac, pp. 3-43. Research in Economic Anthropology, Supplement 5. JAI Press, Greenwich, Connecticut.

Smith, Bruce D.
1987 The Independent Domestication of the Indigenous Seed-Bearing Plants in Eastern North America. In *Emergent Horticultural Economies of the Eastern Woodlands*, edited by W. Keegan, pp. 3-47. Center for Archaeological Investigations, Occasional Paper No. 7. Southern Illinois University, Carbondale.
1989 Origins of Agriculture in Eastern North America. *Science* 246:1566-1571.

Smith, Bruce D. (with contributions by C. Wesley Cowan and Michael P. Hoffman)
1992 *Rivers of Change: Essays on Early Agriculture in Eastern North America*. Smithsonian Institution Press, Washington, D.C.

Sonderman, Robert C., Matthew R. Virta, Marilyn W. Nickels, and Stephen R. Potter (with contributions by D.A. Hull-Walski, H.M. Miller, J.W. Ravenhorst, and M.H. Simon)
1993 Archeology at Harmony Hall: Exploring the Late Seventeenth-Century Frontier of Maryland. Occasional Report #9. National Park Service, National Capital Region.

Steele, D. Gentry, and Joseph F. Powell
1994 Paleobiological Evidence of the Peopling of the Americas: A Morphometric View. In *Method and Theory for Investigating the Peopling of the Americas*, edited by R. Bonnichsen and D.G. Steele, pp. 141-163. Center for the Study of the First Americans, Oregon State University, Corvallis.

Stevens, J. Sanderson
1991 A Story of Plants, Fire, and People: The Paleoecology and Subsistence of the Late Archaic and Early Woodland in Virginia. In *Late Archaic and Early Woodland Research in Virginia: A Synthesis*, edited by T.R. Reinhart and M.E.N. Hodges, pp. 185-220. Special Publication No. 23 of the Archeological Society of Virginia. Deitz Press, Richmond.

Stewart, R. Michael
1993 Comparison of Late Woodland Cultures: Delaware, Potomac, and Susquehanna River Valleys, Middle Atlantic Region. *Archaeology of Eastern North America* 21:163-178.

Stewart, Michael, and John Cavallo
1991 Delaware Valley Middle Archaic. *Journal of Middle Atlantic Archaeology* 7:19-42.

Tankersley, Kenneth B., and Barry L. Isaac
1990 Concluding Remarks on Paleoecology and Paleoeconomy. In *Early Paleoindian Economies of Eastern North America*, edited by K.B. Tankersley and B.L. Isaac, pp. 337-355. Research in Economic Anthropology, Supplement 5. JAI Press, Greenwich, Connecticut.

Testart, Alain
1982 The Significance of Food Storage among Hunter-Gatherers: Residence Patterns, Population Densities, and Social Inequalities. *Current Anthropology* 23:523-537.

Waselkov, Gregory A.
1982 *Shellfish Gathering and Shell Midden Archaeology*. Ph.D. dissertation, Department of Anthropology, University of North Carolina, Chapel Hill.

Watson, Patty Jo, and Mary C. Kennedy
1991 The Development of Horticulture in the Eastern Woodlands of North America: Women's Role. In *Engendering Archaeology*, edited by J. Gero and M. Conkey, pp. 255-275. Blackwell, Oxford.

Whyte, Thomas R.
1990 A Review of Evidence of Human Subsistence During the Early and Middle Archaic Periods in Virginia. In *Early and Middle Archaic Research in Virginia: A Synthesis*, edited by T.R. Reinhart and M.E.N. Hodges, pp. 119-132. Special Publication No. 22 of the Archeological Society of Virginia. Deitz Press, Richmond, Virginia.

Yentsch, Anne Elizabeth
1994 *A Chesapeake Family and Their Slaves: A Study in Historical Archaeology*. Cambridge University Press, Cambridge.

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