INTRODUCING SHIELDS MOUND (8DU12) AND THE MILL COVE COMPLEX

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Looming large in a residential area of southern Jacksonville, the Shields Mound (8DU12) was originally excavated by Clarence B. Moore in 1894 and 1895. This large mound and causeway complex, along with Mt. Royal (8PU35) in Putnam County and Thursby Mound (8VO36) in Volusia County, are touted today as "the three best known St. Johns IIb [A.D. 1050-1513] mounds" in Florida (Milanich 1994:269). A fourth frequently referenced St. Johns II earthwork is the Grant Mound (8DU14), located less than a kilometer from the Shields Mound. The distinction of being "best known" is somewhat misleading, however. While all four mounds were extensively dug by Moore—with many of the recovered artifacts featured in his and other publications—virtually nothing is known about the villages associated with these major St. Johns II Period mounds. In an attempt to rectify this situation, systematic shovel testing and unit excavations were undertaken in the vicinity of the Shields Mound between 1999 and 2002. These excavations yielded an impressive array of artifacts including St. Johns II and Ocmulgee pottery types (Rolland 2005, this issue), various bone and shell artifacts (Penders 2005, this issue), stone points anddebitage (Bland 2001), scraps of copper, and an abundance of vertebrate faunal remains (Marrinan 2005, this issue).

This paper begins with a detailed review of C.B. Moore's excavation of the Shields Mound. I next chronicle the history of archaeological investigations in the vicinity of the mound, with an emphasis on the findings of excavations conducted between 1999 and 2002. The spatial focus of the paper is then widened to include sites situated between Shields Mound on the east and Grant Mound on the west (see Thunen 2005, this issue, for a discussion on the Grant Mound). Archaeological evidence along with a series of radiometric assays indicates that the Shields and Grant mounds are contemporaneous and spatially linked. Finally, the term Mill Cove Complex is introduced to refer to the collectivity consisting of the two large sand mound and intervening St. Johns II Period middens that date to ca. A.D. 900-1250.

Ecological Setting

The Shields (8DU12) and Grant (8DU14) mounds are spaced about 750 m apart on the western edge of Mill Cove (Figure 1). Physiographically, the southern shoreline along this stretch of the lower St. Johns River encompasses Pleistocene beach ridges and paleo sand dune fields (Brooks 1981). The area is described as undulating, which is unusual for this part of Florida where the land surface typically has less than one percent slope. The northern faces of the high sand ridges that front the river are exposed as steep bluffs that in areas rise some 16 m above the water (Figure 2). These bluffs have been subject to severe scouring by river flow, and the rate of erosion has been exacerbated over the past century by intentional channel modification to facilitate ship traffic. The Shields and Grant mounds were erected upon the two highest points along the west side of Mill Cove, each perched with a magnificent view of the river.

The upland ecology of the Mill Cove vicinity is characterized as a maritime hammock, consisting of large live oak, laurel oak, red bay, and magnolia trees. Turkey oak and other xeric vegetation dominate on the higher, excessively well-drained sand ridges. The natural vegetation has been altered to varying degrees in the past half century due to suburban development. The properties situated between the two mounds currently consist of two types of residential development. The areas surrounding the Shields Mound and immediately cast of the Grant Mound consist of long linear, wooded lots, with minimal site damage other than a riverfront house, a garage or two, and a septic tank and drain field (Figure 3). These are representative of the traditional house lots that formerly gave the entire Mill Cove vicinity a bucolic air. More recent residential communities, comprised of tightly clustered houses, have claimed much of the Grant Mound itself and loci to the south, as well as an approximately 200-m wide wedge situated between the two mounds.

The most distinguishing ecological feature of the area is Mill Cove, a natural indentation or meander within the southern side of river channel, approximately 15 km west of its mouth. The eastern half of the cove is bordered by expansive salt marshes, whereas its western shoreline consists mostly of mucky tidal flats with a thin marsh border. The integrity of Mill Cove has been greatly altered over the past century due to river maintenance, channel dredging, and spoil island formation, which, combined, have caused extensive silting. During the early decades of the twentieth century, Mill Cove was the scene of a thriving local fisheries industry. But what was once "a fish-laden body of clear water whose depths ranged up to 18 feet" with white sandy beaches is now a mucky slough less than a half-meter in depth at low tide (Anonymous 1986). The presence of shell middens and mounds along the river banks attests to the former productivity of Mill Cove and the broader St. Johns River estuary, a rich and diverse aquatic environment that provided the local natives with resources beyond...
their immediate needs.

To date, more than 40 prehistoric midden and mound sites of various time periods have been recorded along the upland fringes of Mill Cove. Of the 18 St. Johns II Period sites reported in the Florida Master Site File, 15 are tightly clustered between the Shields and Grant mounds on the west side of the cove. Based on their sheer size, number of mound interments, and presence of exotic materials, the Shields and Grant mounds dominated the cultural landscape of the Mill Cove vicinity, as well as broader northeastern Florida during the early St. Johns II Period. It should be noted that in contrast to the broader St. Johns River basin the St. Johns II Period in northeastern Florida is restricted to circa A.D. 900-1250 (Table 1).
C.B. Moore and the Shields Mound

In 1893, C.B. Moore (1894:204-205) briefly visited and dug into an "Indian earthwork of great size" that he referred to as "Mound near Mill Cove." But intensive digging of this mound did not occur until the next year, when he and 31 men spent 17 seven-hour days at the sand tumulus now called the "Shields Mound" (Moore 1895:452-468). According to Moore (1895:455), the Shields Mound was 5.5-m tall and structurally quite complex. It was "slightly oblong with rounded corners," and had a basal diameter of 65.2 m and a summit measurement of 40.5 by 35.1 m. He characterized it as "a great platform mound entirely unlike in form any aboriginal earthwork on the river." Although a house atop the "platform mound" had recently burned, Moore (1894:205) was rather adamant about it being a flat-topped mound and asserted "it is not probable that the mound was in any way leveled for its [house] reception, since examination of the steep and symmetrical sides showed no appearance of deposits from above."

The mound was situated upon "high rolling ground," approximately 137 m south of the river bluff (Moore 1894:204; 1895:454). Admittedly, rolling does not often come to mind when one considers the topography of northeastern Florida, but, as previously discussed, it appropriately describes the relic dune terrain that sweeps across this section of the lower St. Johns River. Figure 4 depicts Moore's rendering of the Shields Mound (see Morgan 1999:210 for an idealized rendition of the Shields Mound based on Moore's data).

A "carefully graded approach" or earthen ramp, 38.2 m-long and 26.7-m wide, led to the mound summit from the north, whereas a series of "curious ridges" extended off the other side of the mound in a south-southwest direction. Of the latter, the main southern ridge is unique and shaped like a fishhook. It began at the base of the mound with an elevation of about 30 cm and continued southwesterly for about 150 m where it rose to a maximum height of 4.1 m, before it turned sharply back to the north and gradually descended until it reached surface grade at the hook tip. According to Moore (1895:454), the interior slope of the hook was "so abrupt as to be difficult of ascent."

Another ridge apparently continued southwesterly at the point where the main ridge began its hook turn. As this ridge continued to descend gradually for about 100 m it remained rather amorphous in shape, but eventually formed a discernible low ridge that was about 10-m wide and 15 to 25 cm high. Paralleling this was another low ridge that's shape was clearly visible back closer to the hook. Although the two low ridges were soon "lost in the surrounding territory," Moore (1895:454) speculated that together they "served as a covered way" about 20-m wide that led to a "small lake," some 546 m from the platform mound.

Although the "platform mound" exists today (Figure 5), it has been impacted by the construction of a house along the summit's southern edge. Connected to the house, at ground level, is a basement-like garage set into the southern slope of the mound. A dirt road has been graded into its eastern slope,
with a cement wall erected along the western side of the road to curtail erosion from above. According to one landowner, the summit was modified and scraped to a lower grade in the 1960s to accommodate construction of the house (Kinzey Reeves, personal communication, 1999). Portions of the "ridges" nearest the mound also are still visible as part of an open yard. The hook segment and its interior ravine are discernible, but currently heavily overgrown with forest cover. Although partly obscured by vegetation, the layout of this area does not appear as well defined as Moore's sketch leads us to believe. The southernmost extent, including the two low ridges, have been destroyed or altered beyond recognition by road construction and suburban development.

Moore perceived the mound complex to be solely the result of aboriginal construction, but this may not be entirely true. It appears that the mound and main ridge are part of a natural relic dune formation that parallels the present Atlantic coastline. While a considerable amount of fill may have been added to create the platform mound, much of the main ridge may have already existed in some form as a sand ridge. However, the landform was sculpted to produce the desired shape. Thus, as was the situation with the Grant Mound, the builders of the Shields Mound may have taken advantage of a prominent natural feature in the creation of "monumental architecture." If this was indeed the case, this may explain why the Grant Mound was positioned directly on the bluff and the Shields Mound was placed over 100 m away; the builders intentionally selected the highest points for mound construction.

Each mound clearly provided a commanding view of the river, and each was bordered on the east by a very abrupt and rather dramatic drop in natural elevation. However, this does not mean that native peoples did not add to, modify, or sculpt existing landforms; evidence clearly indicates that they did put substantial effort into building the mounds. By working the earthworks into the "rolling" natural topography, a grander edifice was erected with less work. Depending on one's vantage point, the Shields Mound exhibits varying heights and appearances, but is most impressive when viewed from the river to the north and the east.

Moore (1895:455) dug the bulk of the eastern slope of the Shields Mound, including the easternmost 3 m of the summit plateau, to a depth of approximately 5.2 m below the summit. From that point, the entire mound top was excavated to depths between 1.8 and 2.4 m below the summit surface. Although "no uniform stratification" was apparent, Moore, in his own convoluted and at times contradictory way, describes three general strata. The deepest stratum (herein referred to as Zone III) was a light yellow sand described as both "free from admixture of any foreign substance" and "with occasional particles of charcoal." Although Moore's measurements varied, depending on location, it appears that Zone III was encountered between 2.4 and 4.3 m below the summit, and represents sterile dune soil.
Table 1. Radiocarbon assays for St. Johns II contexts in northeastern Florida.

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<th>Site</th>
<th>Beta #</th>
<th>Material</th>
<th>Measured C14 Age (BP)</th>
<th>C13/C12 Ratio (o/oo)</th>
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<th>Calibrated 1 Sigma (AD)</th>
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<td>1240 - 1310</td>
<td>1180 - 1390</td>
<td>Ashley 2002</td>
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* C13/C12 ratio estimated by Beta Analytic, Inc.
** Uncalibrated date previously interpreted as Swift Creek (Ashley 1995:26, 1998:200)
Surmounting Zone III, beneath the center of the summit, was a "stratum of dark yellow sand," 0.9 to 1.5-m thick, with considerable charcoal flecking (herein referred to as Zone II). The basal section of this zone contained a thin charcoal-rich layer "taken as indicating the base of the mound" (Moore 1895:45). Within the eastern slope area, however, he describes Zone II as containing "irregular and local strata" consisting of yellow sand, charcoal, shell, and gray sand darkened by fire and extending from 0.8 to 4.3 m below the eastern summit floor (Moore 1895:456). It was his belief that "these strata probably extend through the mound." In his concluding remarks, he claims that Zone II lacked burials and displayed strata of shell midden and fireplaces, "all the marks of prolonged occupation" (Moore 1895:467).

In support of this argument, Moore cites his discovery of "a large bed of oyster shells" near the center of the summit, about 2.1 m below its surface, in which he discerned a posthole, 20-25 cm in diameter and 1.4 m deep. He attributed this to "domiciliary" activities that preceded the summit's use as a mortuary facility (1895:467). Contrary to Moore's belief, the shell midden may represent either a pre mound surface related to the initiation of mound use or a deposit related to a specific episode of mound activity. Because of the ambiguity of some of Moore's statements, it is unclear whether Zone II represents mound fill free of interments or premound contexts, but it appears that Moore favored the latter interpretation.

Above Zone II was "mortuary" mound fill (herein referred to as Zone I) that consisted of an eclectic assortment of colored sands, including: yellow, dark yellow, chocolate, white, and red, all of which "varied at every stage of the digging." He encountered both pockets and thin lenses of colored sands, as well as an irregular layer of "light chocolate to brick red" sand that covered much of the central and eastern part of the summit. The latter stratum, colored various hues of red through the addition of hematite, approached a thickness of 1.5 m in certain areas of the summit.

With regard to burials, Moore ran across a "few interments" along the outer margins of the mound, "possibly two
dozen" burials within the eastern slope-summit area, and an undisclosed number of human remains at over "150 points" within the main part of the mound. With regard to the latter two loci, burials were restricted to Zone I. In fact, all human remains were encountered within 0.9 m of the summit surface, except for four interments revealed at a depth of 1.8 m below surface. Unlike Grant Mound, secondary or disarticulated burials appear to have outnumbered primary interments in the Shields Mound. Unfortunately, because of Moore’s vagueness, the actual number and distribution of burials are uncertain. A few pathological bone specimens were observed as were a number of “platycnemic tibiae,” but no intact crania were recovered (Moore 1895:456-457). Unfortunately, we are unable to glean any sex or age information from Moore’s descriptions of the burial population at the Shields Mound.

As was the case at Grant Mound, Moore’s excavation at Shields Mound produced an array of local and nonlocal materials that included various items and fragments of copper; smaller amounts of galena and mica; 119 stone projectile points; polished stone celts, and other ground stone implements; marine shell beads; whelk cups; ceramic and stone pipes; and nine ceramic pots, a tureen shaped clay pendant, and a bird shaped clay vessel.

Moore (1895:457) mentioned coming across occasional sherds, especially in association with “midden refuse.” Plain sherds predominated, but check stamped and complicated stamped also were found. According to Moore, these latter sherds exhibited patterns unlike those found at other nearby mounds (i.e., Late Swift Creek). The specimen illustrated in Moore’s volume is a classic example of charcoal-tempered Early Swift Creek, which indeed typically displays design patterns of poor quality compared to those of Late Swift Creek. Although ambiguous, it appears that these pottery fragments were coming form both Zones I and II, and represent either unintentional inclusions in mound fill, submound refuse, or perhaps instances of both.

Among the most impressive Shields Mound finds were two long stemmed spatulate celts or what Moore (1895:461) termed “spade-shaped implements.” The Shields Mound specimens, “probably of Saussurite,” each demonstrated a broad round bit with four tick marks along its sides, pronounced barbs, and a slender, elongated poll or stem with a rough or unfinished end. Moore (1895:461) provided a drawing of the larger specimen (Figure 6), whereas Goggin (1952:Plate 10) presents a photograph of each. Spatulate celts, erroneously called spuds due to the early belief that they represented an agricultural tool, have been found in mounds throughout the Mississippian Southeast and often have been interpreted as badges or emblems of office or high status (Brown 1976:126; Brown et al.1990:264; Larson 1971; Pauketat 1983; Pebbles 1971). Moore also recovered three spatulate celts from Mt. Royal (see Ashley 2005a, this issue). The presence of these and other exotic materials from the Shields Mound indicates the existence of external exchange relations that allowed the acquisition of a variety of non-local metal, stone, and minerals from far-flung areas of eastern North America during the period A.D. 900-1250.

Shields Mound after C.B. Moore

Following Moore, Shields Mound garnered the attention of several archaeologists, but always from afar (e.g., Goggin 1952; Milanich 1994; Milanich and Fairbanks 1980; Williams and Goggin 1956). Either the mound’s unique layout or
Figure 6. Spatulate celt from the Shields Mound [24 cm long] (Moore 1895:461).
its unusual artifacts was used in cultural syntheses on the St. Johns II culture or on the Mississippian Period in general, with total reliance on information generated by Moore’s investigations. Additionally, in his synthesis of Hopewell traits in Florida, Brose (1979) used Moore’s excavation results to misclassify the Shields Mound as Middle Woodland.

No formal testing or professionally run excavations were undertaken until 1988, when limited shovel testing was performed in the vicinity of the mound (Johnson 1988:93-106). During this grant-sponsored project, residential yards surrounding the Shields Mound were subjected to surface reconnaissance and random shovel testing that resulted in the documentation of 6 previously unrecorded sites, 8DU5603-5608 (Figure 7). The small size and intermittent distribution of these sites, more appropriately middens, are the byproduct of limited shovel testing, since it appears that a only day or two was spent in the Shields Mound vicinity.

The Shields Mound (8DU12) itself also was visited and sampled, but no mention was made of the investigative strategy involved in the collection of 32 artifacts, the "majority" of which "came from the earthwork" (Johnson 1988:68). The presence of a dirt road along the eastern edge of the mound and other areas of ground surface exposure suggest that the artifacts were surface collected. Although recorded as seven separate sites, all are contained within an area that measured approximately 300 by 300 m. As discussed below, recent testing of this same location has shown that they are all part of one large St. Johns II Period site.

**Testing of the Shields site, 1999-2002**

While worthwhile information can be gleaned on exchange...
networks and ceremonial life of the St. Johns II people by examining C.B Moore's mound data, he provided no information on villages or habitation contexts at Shields Mound. To remedy this void, archaeological testing of non-mound loci at the Shields site was initiated in July 1999 and continued intermittently until February 2002. This investigation involved, at one time or another, students from the University of Florida, Florida State University, and the University of North Florida (UNF), along with local residents and other volunteers. Episodes of fieldwork were typically restricted to long weekends, although a three-week UNF field school was conducted at the site in the summer of 2001.

In total, 69 50-cm square shovel tests (1-m deep) were excavated within a riverfront section of the Shields site, encompassing five contiguous house lots north and west of the burial mound. In general, shovel tests were placed 25-m apart, although some adjustments were made to compensate for areas of disturbance (e.g., paved driveways, fences, septic fields, garage, etc.) and to sample certain loci. The investigated section of the site measured about 300 m (E-W) by 250 m (N-S) and was bounded by the river to the north, a dramatic drop in elevation to the east, a marked decline in artifact density to the south, and recent residential development with tightly spaced houses to the west. In addition to shovel testing, eight 1 x 2-m units were excavated within midden concentrations located on one of the lots.

The location of the various tests excavated at the Shields site is shown in Figure 8. The topography undulates, but the general trend is for a gentle southward downslope from the high bluff shoreline that, after about 125 m, begins a fairly steep ascent. Much of the area is open and grass covered, although large oak and hickory trees are scattered about (see
Figure 3). Situated closer to the houses are smaller, planted trees and shrubs. The southernmost portion of the sampled area is covered by secondary forest vegetation. All roadways are dirt and have been created via continuous use, although a limrock layer has been laid down to increase traction.

Standard field procedures were employed throughout fieldwork. Shovel tests were dug in arbitrary 20-cm levels, whereas larger units were excavated in natural levels that did not exceed 10 cm in thickness. Fill from all units was screened through 6.35-mm hardware cloth, with all cultural materials retained according to provenience (e.g., unit level, area, feature). The total volume of shell from each shovel test or unit level was measured in liters in order to develop shell density and distribution maps. Soil samples of varying size were taken from selected features and shell mound contexts and subjected to either fine mesh (1.19 mm) water screening or flotation.

Sixty-four shovel tests were dug across the site on a 25-m grid to sample for the presence or absence of cultural materials and to gain a better understanding of the spatial organization of the site. Five additional shovel tests were dug in specific areas to test distinct rises, suspected to represent shell deposits or other anomalies. Across the sampled section of the site, shell density per shovel test ranged from a trace to over 100 liters. Using a volume of 20-liters per shovel test as a criterion for high shell density, three high concentration loci were delineated. From north to south, these shell middens are designated Bluff Midden, Reeves’s Rise, and Kinzey’s Knoll (see Figure 4). All three are partially discernible today as low rises in a grass covered yard. Outside of these three concentrations, only two shovel tests yielded a shell volume of 10 liters or more, and both were determined to represent very localized deposits of shell refuse. As expected, vertebrate faunal remains density was positively correlated with shell density, a consequence of the acidity reducing quality of calcium leaching from the accumulated masses of shell refuse. There was also a positive correlation between ceramic frequency and shell midden density, although high and moderate concentrations of pottery occurred in areas of little or no shell.

Of the 69 shovel tests, 66 yielded artifacts. Ceramic distribution data indicate an unbroken spread of St. Johns II Period wares over the entire area; types grossly contemporaneous with the Shields Mound, given Moore’s results. To date, no pre-St. Johns II Period and only a few post-St. Johns II Period artifacts have been identified among the more than 5000 sherds retrieved to date. Based on his earlier testing of this same area, Johnson (1988) reported finding small amounts of Deptford (n=45), Swift Creek (n=1), and San Marcos (n=3) types among the more than 600 sherds from sites 8DU12 and 8DU5603-5608; St. Johns (n=448) and cordmarked (n=96) wares were the most dominant. The number of Deptford Check Stamped sherds is somewhat perplexing, since we have sampled the same loci as Johnson and have yet to find a single Deptford sherd. I suspect the Deptford Check Stamped sherds recovered by Johnson are actually sandy St. Johns, a paste type we have recovered and recognized microscopically (Rolland 2004). The three mission-period San Marcos sherds recovered by Johnson were from the far northwestern part of the site; an area not sufficiently sampled during our investigation. The Swift Creek sherd was recovered well back from the river and away from our primary loci of testing.

Thus, the area surrounding the Shields Mound represents an almost pure St. Johns II Period site. The few St. Marys, San Marcos, and Swift Creek series sherds suggest short-term use such as resource procurement encampments. More substantial Swift Creek refuse deposits and sand burial middens were previously documented a short distance south of the main concentration of St. Johns II Period refuse situated between the Shields and Grant mounds. In an attempt to gain a better understanding of the site’s St. Johns II component, the 3 shell middens (Kinzey’s Knoll, Reeves Rise, and Bluff Midden) were subjected to additional testing.

Kinzey’s Knoll

Kinzey’s Knoll is a distinct dome-shaped rise of densely packed shell midden that measured about 15 m in diameter. However, shovel testing and subsurface probing revealed that the distribution of thickly deposited shell midden was actually much larger and continued downslope to the west and north, eventually covering an area that measured 30 m (N-S) by 25 m (E-W). This locus is consistent with the location of site 8DU5606, which Johnson (1988:100-102) described as a 1.2-m thick midden measuring only 30 by 25 m.

In the summer of 1999, two closely-spaced 1 x 2-m units (Units 1, 2) were dug into the northern section of Kinzey’s Knoll, approximately 50 m northwest of the Shields Mound. The following summer, we expanded Units 1 and 2 with the excavation of two more 1 x 2-m units (Units 3 and 4). Together the four form two staggered, yet contiguous, 2-m squares. Units 5 and 6, also 1 x 2 m in size, were excavated in the summer of 2001 and were placed south and west of Kinzey’s Knoll (Units 1-4), respectively.

The excavation of Units 1-4 on Kinzey’s Knoll revealed an approximately 80-cm thick shell midden that contained an abundance of pottery and large quantities of vertebrate fauna. The top of the shell deposit occurred immediately below the grass and thin layer of humus. The shell midden consisted primarily of an upper stratum of dark brown sand followed by a slightly lighter lower stratum of brown sand (Figure 9). For the most part, the shell was densely packed, although pockets and areas of more loosely accumulated shell were documented. Within the four investigative units, a high shell to soil ratio was documented, and a total shell volume of 3864 liters was recorded. Thus, shell, not dirt, formed the matrix within which the overwhelming majority of artifacts were recovered.

Oyster was by far the dominant shellfish constituent within the midden, with much lesser amounts of quahog clam, Carolina marsh clam, Atlantic ribbed mussel, and stout tagelus. Small amounts of whelkdebitage also were recovered. Occasional lenses of these minority species were noted, but no distinct concentrations were recorded. A small, intrusive pit containing a mason jar, nails, and other twentieth-century debris was encountered within the shell
midden. A few other historic items were recovered from the upper 20 cm of the units.

Several features were identified at the shell midden-subsoil interface, including a small, circular pit surrounded by a series of 8 possible postmolds, 2 thin, amorphous stains of heat-altered sandy clay, and an approximately 10-cm diameter stain of finely ground hematite and sand (Figure 10). The pit contained small amounts of shell and bone and a few St. Johns series sherds, and the dispersal of postholes appeared random with no discernible pattern. Also identified were a small pocket of shell refuse, a dip or low spot in the overlying shell midden, and a dark area of leachate soil. The function, distribution, and precise relationship of these features to the overlying shell midden are uncertain due to restricted areal extent of unit excavations.

The shell midden, replete with preserved vertebrate faunal remains, contained an impressive variety of fish, deer, bear, canid, bobcat, turtle, small mammal, and bird bones (Marrinan 2005, this issue). With regard to plant remains, while no formal ethnobotanical analysis has been performed, cursory examination of both large and fine mesh screen samples failed to identify any preserved maize cobs, kernels, or cupules.

Pottery from Kinzey's Knoll consisted mostly of St. Johns Plain and St. Johns Check Stamped, but chalky punctated, red filmed, and Little Manatee varieties also were found. Most conspicuous among the nonspiculate wares were sherds of grittempered Ocmulgee Cordmarked, several of which possessed interior red filming, an unusual trait combination also reported by Moore (1895) on two partial vessels from the Shields Mound. A recent technofunctional study by Rolland (2004, 2005, this issue) of more than 2100 sherds from two of the four excavation units indicated that portions of over 350 separate vessels were represented. At least 30 were grittempered cordmarked pots, including vessels that displayed both folded and simple (unfolded) rims. One red filmed vessel possessed a unique calcareous clay paste suggestive of a northcentral Florida production origin.

In addition to pottery, a striking array of other items made
of shell, bone, stone, and metal were retrieved. Items of modified bone consisted of undecorated and incised pins or pin fragments, awls, shark centrum beads, dolphin tooth abraders, and shark tooth gravers/scrapers and drills (Penders 2005, this issue). There also were several informal tools crafted of mammal bones as well as two antler tine fragments. Shell artifacts were primarily beads, but a scraper, a pendant, and a few columella punches or burnishers were part of the midden assemblage (Penders 2005, this issue). What is most interesting about the bone and shell artifacts is the high ratio of decorative objects to tools, which led Penders to conclude that these items were not routine domestic or living area garbage. For example, a bone pendant (or dagger) exhibits an incised design on both sides consisting of three eye motifs horizontally stacked and each linked by four ladder motifs. James Brown (personal communication, 2001) has commented that the design is reminiscent of Muskogean cosmology that envisions three worlds (Upper, This, Lower) connected by four cosmic cords. This incised piece contained remnants of finely ground hematite powder in the incisions.

Lithic material from the midden included sandstone abraders and abrader fragments, a sandstone hone, two greenstone celt fragments, several projectile points, a large heat treated chert core, and a small amount of debitage (Bland 2001). The two pieces of greenstone appear to represent celt fragments, one of which exhibited red pigment (iron oxide) embedded in surface and edge pores. Of the 12 projectile points recovered to date, 11 came from Kinzey's Knoll and include seven small triangular Pinellas bifaces, a Citrus biface, a Santa Fe biface, and an unusual side-notched biface (Bland 2001). The notched biface, the Santa Fe, and three of the Pinellas points came from lower shell midden levels, whereas
the remainder of the stone points was recovered from contexts immediately below the shell midden. However, all were associated with levels yielding abundant St. Johns II Period pottery. The Citrus and Santa Fe bifaces are earlier point types probably scavenged from Archaic sites elsewhere. The same may be true of the flakes—many of which were heat treated—used to manufacture the Pinellas points (Bland 2001).

Moore (1895:460) recovered over 100 projectile points from the Shields Mound and many of those illustrated are Archaic types. The scavenging of earlier point types to use in ritual or ceremonial contexts appears to have been a common practice among St. Johns II peoples in northeastern Florida and at Mt. Royal (see Ashley 2005a, this issue).

Three small scraps of copper and a small copper bead were recovered and provide direct evidence of the acquisition of raw materials derived from areas beyond northeastern Florida. Copper was recovered from depths of 20 cm, 40-50 cm, and 60-70 cm below surface. The bead is a piece of rolled sheet copper that may have been manufactured on site, and the scraps may be pieces left over from working sheet copper (e.g., as covering for wood, stone, or bone artifacts). In addition, several fragments of iron oxide or hematite ($\text{Fe}_2\text{O}_3$), a well-known source of red pigment, were recovered. Hematite powder or dust (ochre) was also observed in the cracks and crevices of certain artifacts, such as sherds and a fragment of greenstone.

Because St. Johns II pottery types dominated all excavation levels from top to bottom, the Kinzey’s Knoll shell midden can be dated broadly to the period A.D. 750-1500. In an attempt to narrow this span of time, oyster shell recovered from a depth of 15 cm below surface and another from 67 cm below surface were submitted for radiocarbon dating. The one-sigma calibrated assays were A.D. 865-1035 and A.D. 990-1070, respectively, and the two-sigma calibrated date ranges were A.D. 765-1155 and A.D. 910-1170, respectively. These radiocarbon dates, combined with a lack of sherd cross-mending between excavation levels, suggest the midden was laid down in distinct deposits over a relatively short period of time between ca. A.D. 900-1150. The two dates bracket a radiocarbon date from a St. Johns Period II feature beneath the base of the Grant Mound (Thunen 2005, this issue), suggesting contemporaneity between these areas of the Shields and Grant sites during the period A.D. 900 to 1150.

Abutting the Kinzey’s Knoll shell midden to the west and south was a low-density spread of midden refuse. To sample this peripheral area of shell midden, two 1 x 2-m units were excavated, with one (Unit 5) placed to the west and the other (Unit 6) to the south. Unit 5 intersected a locus of disturbance associated with the construction and subsequent filling of a mid-twentieth century well. Chert gravel and other historic debris were abundant within the top 40 cm of soil. However, undisturbed contexts below 40 cm indicated an organic midden with scattered oyster shell, little vertebrate bone, and St. Johns II Period pottery. A thin shell deposit was partially exposed within the western section of the unit. Probing indicated that this St. Johns Period II feature was oval and measured 1.68 by 1.22 m. The shell deposit was 11 cm thick along the unit’s western wall, and thinned to a tapered point that formed its eastern edge. This suggests that it represents a small shell midden deposited on an old ground surface. The only unusual artifact from Unit 5 was a portion of a greenstone Celt recovered from a mottled leachate zone beneath the organic midden in the eastern part of the unit.

Unit 6 was positioned about 30 m south and slightly downslope of the apex of Kinzey’s Knoll at the base of a southward rising slope. This locus corresponded to Johnson’s (1988:102-104) site 8DU5607, which he described as a circular, shell midden rise that measured only 20 by 15 m. Unit 6 revealed a thick, dark grayish-brown earth midden with occasional whole and fragmented mollusk shells and large amounts of St. Johns II Period pottery and vertebrate animal bone. A large pit feature, more than 1 m in diameter, was partially exposed at the midden-submidden interface. The feature extended into the western and northern walls of Unit 6, such that only a small portion was within the unit and excavated. The sloped walls and round bottom of the 1.1-m deep pit were lined with a layer of well-packed shell midden along with flecks and small chunks of charcoal.

An oyster shell from the base of the feature yielded a one-sigma calibrated radiocarbon assay of A.D. 1240-1310 and a two-sigma date range of A.D. 1180-1390. This represents the cracks and crevices of certain artifacts, such as sherds and a fragment of greenstone.

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An oyster shell from the base of the feature yielded a one-sigma calibrated radiocarbon assay of A.D. 1240-1310 and a two-sigma date range of A.D. 1180-1390. This represents the latest (most recent) radiometric date associated with a St. Johns II Period context in northeastern Florida, and it suggests that feature post-dates the activities at Kinzey’s Knoll. Cultural materials recovered from the pit feature were similar to those recovered from the overlying midden, which consisted mostly of St. Johns II Period pottery and vertebrate bone. Because the pit was only partially excavated, its precise function is uncertain, but it may have been constructed for food processing or cooking and later used as a receptacle for refuse.

Reeves Rise

This shell midden was located about 25 m north of and upslope from the northern edge of the Kinzey’s Knoll shell midden. Its size (ca. 20 m in diameter) was delineated via probing, but it stood out visually as a high spot directly in front of the southern entrance to a modern house (Reeves family); the northern quarter of the midden extended beneath the elevated house. Testing here was at first restricted to a single 0.5-m square on the midden peak, since the landowner was somewhat apprehensive about having a large unit opened in this part of his yard. Following the success of the first shovel test, however, he allowed us to excavate two more shovel tests in close proximity to the first. Each was dug to a terminal depth of 1 m. These shovel tests produced shell volumes of 72 liters, 70 liters, and 29 liters. The former tests were positioned roughly along the same north-south axis but 3 m apart, whereas the later test was situated 3 m south of the western test, per the landowner’s direction. Areas to the north and west were apparently impacted by house construction and the building of a cement pond filled in the 1960s.

The two northern shovel tests contained small amounts of
glass, metal, construction rubble, scattered and broken oyster shells, and a few potsherds in the top 15 cm of soil. Beneath this disturbed layer was a consolidated oyster shell stratum that extended from 15 to 48 cm below surface. Maximum shell volume was documented at a depth between 30 and 40 cm below surface. A radiocarbon assay on shell taken from near the base of the midden (45 cm below surface) produced a one-sigma calibrated date range of A.D. 1160-1270 and a two-sigma calibrated date range of A.D. 1060-1300. This date range suggests that the shell midden at Reeves Rise was formed shortly after the one deposited at Kinsey’s Knoll, although the possibility exists that two are contemporaneous to some extent. The southern shovel test revealed a loosely packed shell midden that contained material down to a depth of 40 cm below surface.

Cultural material from the three shovel tests consisted exclusively of St. Johns ware fragments and small amounts of grit-tempered cordmarked pottery. The most unique find was an effigy adorno from a St. Johns Plain pot. Unfortunately, only a small section of the vessel was recovered. The adorno is a small animal head, with a thin snout, a slit for a mouth, two small punctuations for eyes, and distinctive pointed ears resembling a dog, fox, or some other canid (Rolland 2005, this issue). Only a few pieces of modified bone and no lithic artifacts were recovered. Formal bone tools and decorative pins, so conspicuous in the Kinsey’s Knoll shell midden, were absent. Copious quantities of vertebrate faunal remains were removed from the shell midden, including fish, bird, turtle, deer, and small mammal (Marrinan 2005, this issue). Oyster was the dominant shellfish constituent with trace amounts of Carolina marsh clam, stout tagelus, Atlantic ribbed mussel, and whelk shell fragments.

**Bluff Midden**

The Bluff Midden was distributed along a section of the undulating bluff that overlooks the St. Johns River to the north. It was bounded on the basis of five shovel tests, with shell volumes that ranged from 10 to 32 liters (mean volume of 17 liters). The Bluff Midden, which measured 90 by 25 m, was less dense and more variable in shell volume than the other two shell middens. This locus was previously sampled by Johnson (1988) and designated 8DU5605. He described it as an “artificial rise and associated shell midden...approximately 30 meters in diameter” (Johnson 1988:97-98). Recent testing revealed that the rise is not artificial but part of the rolling bluffline and that the shell midden extended downslope to the west. In fact, shovel testing indicated that the shell midden was thicker and more consolidated along the slope than on the apex of the bluff.

The midden is dispersed along a bluffline that rises from west to east, with a 2.8 m differential between highest and lowest surface elevations. A 2-m square, consisting of two contiguous 1 by 2-m units (Units 7 and 8), was excavated in the lower, western part of the shell midden. The unit was placed on a slope in which the ground surface along its western edge was approximately 20 cm lower than along its eastern edge. The unit was dug to a depth of 1-m below its southwestern or lowest surface corner.

The various strata revealed in the northern wall profile followed the sloped contour of the ground surface (Figure 11). Beneath the grass and humus zone was an approximately 27-cm thick layer of very dark grayish brown sand with a loose amalgam of molluscan shells, which overlay an approximately 36-cm thick layer of moderately packed shell within a very dark grayish brown sand matrix. Although the latter demonstrated a higher shell to dirt ratio than the surmounting stratum, it was not as consolidated as the sampled portions of the Reeves Rise and Kinsey’s Knoll shell middens. Below the lower midden was a leachate zone that was followed by yellow brown sand, with rare shell. There was much less pottery, bone, and shell within these lower zones.

Like Kinsey’s Knoll and Reeves Rise, all contexts sampled within the Bluff Midden yielded mostly, if not exclusively, St. Johns II Period ceramics (Rolland 2005, this issue). In addition to large quantities of chalky pottery and grit-tempered cordmarked sherds, several lithic flakes and pieces of iron oxide were recovered along with a few bone tool fragments and other pieces of modified animal bone and whelk shell. The most unique items were a minute piece of sheet copper from the shell midden and a small, rolled sheet copper bead from the leachate zone beneath the shell midden. Vertebrate animal bone refuse was recovered in large quantities and included mostly fish with occasional deer, turtle, and bird (Marrinan 2005, this issue). Other than the two pieces of copper, the remains from the Bluff Midden appear to represent typical domestic refuse. Once again, oyster was the primary shellfish species with marsh clam, stout tagelus, Atlantic ribbed mussel, and whelk scattered in small amounts throughout the midden.

An oyster shell from near the base of the midden produced a one-sigma calibrated radiocarbon date of A.D. 1070-1230 and a two-sigma date of A.D. 1030-1280. At the one-sigma date range, this places the Bluff Midden between the earlier Kinsey’s Knoll and the later Reeve’s Rise radiocarbon assays, suggesting the three loci are sequential (although the Bluff Midden and Reeve’s Rise assays overlap during the years A.D. 1160 to 1230). However, there is temporal overlap among all three loci at the two-sigma date interval. Presently it is not known how much erosion has taken place along this section of the bluff, so it is difficult to discern how far the midden may have once extended to the north.

**Discussion**

Because we have yet to uncover any direct structural evidence, such as arrangements of postholes, pits, or hearths, the precise nature and distribution of the St. Johns II Period domestic structures and other buildings at the Shields site cannot be ascertained. However, shovel testing and unit results contribute important data on the dispersal of refuse across the site. This spatial information in concert with the kinds and range of materials recovered from specific site contexts can be used to offer preliminary suggestions on site
activities and community layout.

Shovel test results indicate that there was a continuous spread of St. Johns II Period ceramics across the sampled section of the Shields site. The ubiquitous distribution of pottery contrasted with the dispersal of shell refuse. Shell midden concentrations were restricted to three discrete loci, although two other small shell features were encountered during shovel testing. Oyster was by far the dominant shellfish species within all sampled middens. As expected the density of vertebrate faunal materials was positively correlated with density of shell.

Of the 69 shovel tests dug on site, 57 (83%) yielded 8 liters or less of shell, and 46 (67%) produced 1 liter or less of shell. Though a trace scattering of shell is present throughout the site, a distinct mantle of shell midden is not pervasive nor are individual house middens peppered over the site, as is the case with later St. Marys II Period sites in the region. Compared to the amount of shellfish refuse found on sites to the east, closer to the coast or on the barrier islands, much more shell was expected at the Shields site than was encountered, particularly considering the fact that the site may have been occupied for several centuries.

Factors contributing to the patterning of shell refuse at the Shields site include the possibility that oysters were not consumed as much by site inhabitants as they were by groups inhabiting sites near the coast. Alternatively, perhaps a good deal of oyster processing occurred off site, possibly near the locus of exploitation. An interesting fact regarding the location of both the Grant and Shields sites is that expansive salt marshes do not front the river shoreline as is the case farther to the east. Both the Mariano de la Rocque map of 1791 and the Charles Vignoles watercolor map of 1822
provide detailed sketches of the lower St. Johns River, and each shows that the distribution of marsh habitat terminated within the center of Mill Cove, east of the Shields sites (see maps in Ward 1985:87, 126-127). It is very likely that the dispersal of salt marsh biomes coincided with that of viable oyster beds, meaning that oyster populations may not have been immediately available to the occupants of the Shields and Grant sites. Along the lower St. Johns River west of the Grant Mound, known archaeological sites are characterized by either very low-density scatters of shell or no shell at all.

From the Shields Mound, site occupants may have had to travel at least 2 km to the eastern fringes of Mill Cove before they would have encountered expanses of marsh, according to the earlier maps. However, reports from the early twentieth century indicate that Mill Cove was a deep-water cove that was less brackish than it is today (Anonymous 1986). According to local fishermen whose families have been fishing these waters for the past century, certain freshwater fishes were once more common in Mill Cove than elsewhere along the lower St. Johns River (Walter Wells, personal communication, 2002). In fact, prior to major rechannelization efforts in the 1930s, freshwater eelgrass grew along the banks of Mill Cove and oyster beds were absent. The salinity level of the cove may have been lower in pre-Columbian times due to a higher rate of freshwater intrusion caused by north-flowing freshwater within the original channel moving into Mill Cove. At the least, salinity levels could have been variable due to hydraulic or climatic conditions. In either case, it may have had a pronounced effect on oyster populations in the cove, meaning the occupants of the Shields site, at times, may have had to travel even farther downstream to gather oysters.

Village cleaning is another factor we must keep in mind when interpreting the spatial distribution of shell midden refuse at the Shields site. If people were living there continuously, instead of periodically, there may have been a need to dispose of large amounts of non-biodegradable refuse (e.g., oyster shell) in a way that would not have impinged upon site activities or living and work spaces. Thus, people may not have been able to throw or sweep trash anywhere they wanted, and there may have been an emphasis on keeping large sections of the site clean or free of bulky refuse, meaning that secondary communal dumps would have been localized and situated away from houses. There may have been less concern for where sherds and other smaller pieces of refuse were discarded, particularly if these items could have been recycled. This may have been a common practice at local St. Johns II villages, but such a distribution becomes obscured on multicomponent sites with a high degree of subsequent reoccupation. A more detailed interpretation of the three middens and the Shields site in general is provided in a later paper (Ashley 2005b, this issue).

Mill Cove Complex

Grant Mound

The Grant Mound (8DU14) is located 750 m northwest of the Shields Mound and situated on a high bluff overlooking the river to the north (see Figure 1). Moore (1894:200) described it as a "truncated cone" about 8.1-m high, with a base diameter of approximately 65.8 m and a summit plateau diameter of 7.3 m (Figure 12). Moore (1895:473) spent parts of two summers digging the Grant Mound. He encountered numerous human burials, although the exact number is difficult to decipher from Moore's writings. Although some mound artifacts were directly associated with human remains, the overwhelming majority apparently were not (see Thunen 2005, this issue).

Artifacts of both local and nonlocal origin were recovered and included polished celts, chipped stone tools, soapstone elbow pipes, shell drinking cups, pearls, shell beads, bone pins and tools, and pottery vessels. The recovery of 147 ground stone celts from the mound by Moore is astonishing. Also taken from Grant Mound were various mineral and metals such as galena, mica, and copper, the latter of which included beads, sheets with repoussé bosses and beaded lines, two Long-nosed god maskettes (actually earpieces), and a variety of wood and stone items overlaid with sheet copper. The maskettes and two copper covered "cones of wood" that together form a biconical ear ornament suggest possible connections to Cahokia and Spiro, or at least to the Midwest region in general (Goggin 1952; Kelly and Cole 1931; Williams and Goggin 1956). A direct connection between Grant and Spiro, as well as between Grant and Gahagan Mound in Louisiana (Webb and Dodd 1939), seems unlikely, and it is more probable that the three share similar exotic artifacts that originated from a common location, perhaps Cahokia. These exotic items along with other artifactal evidence place Grant Mound in the Early Mississippian Period or local St. Johns II Period, ca. A.D. 900-1250 (Ashley 2003:139-144; Thunen 2005, this issue).

Grant Mound Vicinity

In 1988 Johnson recorded 13 new sites between the Grant and Shields mounds (Figure 13). The discontinuous distribution of these sites reflects both limited shovel testing and incomplete survey coverage, since fieldworkers were at times denied access to some properties. In addition to refuse deposit observed along the western edge of Grant Mound (8DU14), additional shell middens were noted to the west (8DU5597), southwest (8DU5598), and southeast (8DU5599) (Johnson 1988:70-75; 78-85). The area immediately south and southeast of the mound was not inspected due to cul-de-sac construction and landowner refusal, respectively. However, other landowners living south of the mound report little oyster shell but abundant check stamped pottery. Although recorded separately, the vast majority of artifacts from the three sites are St. Johns II Period wares, along with trace amounts of Deptford and Swift Creek sherds, which renders the middens grossly contemporaneous with the Grant Mound. These deposits indicate that a continuous spread of St. Johns II material radiated out from the mound for a distance of approximately 100 m to the west, south, and east. Though
shell midden density is variable across the rolling relict dune landscape, shell and refuse accumulations were thickest (in excess of 1 m in some loci), immediately west and southwest of the mound.

In January of 1989, a large segment of the Grant Mound was removed by earthmoving equipment (Thunen 2005, this issue). Robert Thunen and students from the University of North Florida (UNF) were permitted on the property during bulldozing, but were not allowed to stop the removal of mound fill. Following the mechanized removal of mound fill, UNF crews were able to excavate four 2-m square units (Thunen 2005, this issue). Two were placed in areas where the mound once stood in anticipation of uncovering either intact basal remnants of the mound or submound features. The other two units were placed outside mound boundaries to sample midden deposits and search for domestic features. These excavations revealed substantial cultural deposits both beneath the mound and along the bluff line to the west. An oyster sample from Feature 1, which contained several Papysh Bayou sherds, was radiocarbon dated (one-sigma calibrated) to A.D. 905-1025 (Thunen 2005, this issue). Since the radiocarbon-dated feature was situated at the base of the midden, we can estimate when the midden began to accumulate, but we presently do not know how long it took to build up. Based on the artifacts recovered from the mound by Moore (1894a: 1895) we can infer that the mound and midden date grossly to the same era, and that it is likely that some midden and mound related activities were precisely coeval.

The most recent archaeological work conducted in the Grant Mound vicinity has occurred on two contiguous riverfront tracts, within an area of the site designated 8DU5599 by Johnson (1988). The first, undertaken in the summer of 1999 by members of the Northeastern Florida Anthropological Society (NEFAS 2001), involved the testing of private property, located about 60 m southeast of the mound. This tract is situated immediately southeast of and slightly above the “abrupt dip of the land” mentioned by Moore (1895:493), but still at an elevation 3 to 5 m lower than the bluff on which the burial mound is perched.

Thirty-one 1-m square units were dug on a tight 10-meter grid across a residential yard along the river. In addition, a single 2-m square was dug to expose a feature encountered during grid testing. While shell was scattered over the entire area, only a few distinct shell deposits were encountered. A 1
by 2-m unit was excavated into one of these middens, which displayed a densely-packed shell zone, 15 to 30-cm thick. The unit yielded over 200 sherds, most of which are characteristic of a St. Johns II Period pottery assemblage. An oyster shell from the midden was radiocarbon dated to A.D. 1170-1285 (NEFAS 2001). Preliminary results, combined with my own inspection of the recovered artifacts, indicate a strong St. Johns II Period presence marked by St. Johns II and grit-tempered cordmarked wares and Pinellas points; small amounts of earlier Woodland Period and later St. Marys II Period pottery types were also recovered.

Finally, a cultural resource assessment survey was made of
an approximately 1.6-ha tract, 120 m southeast of the Grant Mound and contiguous with tract surveyed by NEFAS (Hendryx and Smith 2002). Approximately 75 percent of the 630 sherds from the site unequivocally date to the local St. Johns II Period; inclusion of some of the nondescript plainwares could conceivably bring this figure up to about eighty percent. Little in the way of Woodland Period pottery was recovered, but later St. Marys II Period (A.D. 1250-1500) and San Pedro (post-A.D. 1500) ceramics were more common. Although occupational debris was dispersed over the entire area, discrete shell deposits or middens were few, limited in horizontal extent, and restricted to the area near the bluff. This tract appears to have sustained a fair amount of disturbance, although intact St. Johns II Period deposits may exist.

Defining the Mill Cove Complex

With the data on hand, how might the spatial relationship between the Grant and Shields mounds be interpreted? Traditionally, the two have been discussed as separate St. Johns II Period constructions (Goggan 1952:54-55), although, in recent years, we have alluded to the possibility that the two may somehow be related (Ashley 2002; Thunen and Ashley 1995:6). With a battery of radiocarbon dates and the results of recent archaeological testing now available, it is proposed that the two large mounds are indeed contemporaneous and spatially connected. Positioned about 750 m apart, the two are linked by an almost continuous spread of St. Johns II Period refuse; however, midden materials are generally not present along steeply sloped and low landforms not conducive to human settlement (Hendryx and Smith 2002; Johnson 1988; NEFAS 2001). Current data indicate that shell midden deposits and discarded refuse are most heavily accumulated in close proximity to each mound, with variable density midden interspersed between the two. More data are needed from loci midway between the two mounds, although these areas have been heavily impacted by recent residential development.

The two sites appear cocorial or at least so closely separated in time as to be statistically indistinguishable during the period A.D. 900-1250. For instance, one of the radiocarbon assays from a shell midden near the Grant Mound is statistically equivalent to an assay from a refuse deposit near the Shields Mound. In another case, one of the Grant Mound dates is tightly bracketed by two dates from Kinzey’s Knoll. With respect to the mounds themselves, both the Long-nosed god maskettes (earpierces) from Grant Mound and the long-stemmed spatulate celts from Shields Mound are considered Early Mississippian and date to circa A.D. 1000-1200. Admittedly, we still do not know the precise physical layout or extent of the village community at any one time during the three and a half century span of the local St. Johns II Period. However, the site was clearly not a vacant mound center.

The term Mill Cove Complex is proposed to refer collectively to the Grant and Shields mounds and the widespread dispersal of St. Johns II Period middens scattered between them (Figure 14). The names Shields Mound and Grant Mound will continue to be employed to denote each respective earthwork. Additionally, the word “mound” is dropped and replaced with “site” when referring specifically to nonmound areas adjacent to each mound (e.g., Shields site, Grant site). Although a detailed discussion of the Mill Cove Complex is presented in Ashley (2005b, this issue), a few general statements on the mounds and middens are offered here.

First, a reminder for those unfamiliar with the Mill Cove Complex vicinity, its topography is atypical of northeastern Florida. The landscape is very undulating, with marked changes in relief. Topographic features consist of rolling hills, ridges, and ravine-like declivities, all representative of ancient marine terraces, ridges, and dune fields. The builders of both the Grant and Shields mounds apparently utilized the natural terrain to their advantage and crafted their earthen monuments onto the most prominent natural formations in the immediate area.

Second, an interesting distributional aspect of the area is that St. Johns II Period artifacts are overwhelmingly concentrated along the bluff, whereas Woodland-period Swift Creek materials are much more prevalent in middens or artifact scatters away from the river on the sand ridges. Refuse dispersal data suggest that St. Johns II Period peoples were distributed in a linear fashion along the river, staying within a 200 m or so of the bluff. That the shoreline has undergone considerable erosion in the past century or two indicates portions of the site's St. Johns II component also has eroded into the river.

Third, the Shields site is virtually a pure St. Johns II Period site, with occasional temporally unrelated ceramics recovered within 20 cm of ground surface. In contrast, the Grant site has demonstrated more mixing in the form of Woodland-Period Deptford and Swift Creek sherds; however, only small amounts have been recovered to date. The recovery of St. Marys, San Pedro, and San Marcos series pottery also provides evidence for post-St. Johns II Period occupations at the Grant site. Again these wares pale in comparison to the number of pottery types associated with St. Johns II Period occupation of the Grant Mound vicinity.

Conclusion

As recently as a decade ago, the consensus among Florida archaeologists was that the St. Johns II Period covered the same general timeframe (A.D. 750-1500+) in northeastern Florida as it did to the south in the St. Johns heartland. Recent research, however, has dispelled this notion and demonstrated a more compressed St. Johns II Period in northeastern Florida—ca. A.D. 900-1250 (Ashley 2002:163-164, 2003:96-104). Contrary to earlier beliefs, the Grant and Shields mounds were not sequentially constructed and used earthworks, but contemporary pieces of mortuary architecture dated to circa A.D. 900-1250. Abundant amounts of St. Johns II Period refuse deposited between the two large mounds indicate that people also were living there during the same period, and the site was not a vacant center or necropolis. Some middens contain mere domestic trash, whereas others closer to the mound suggest the byproduct of ritual and feasting. But more
archaeology remains to be conducted within the proposed boundaries of the Mill Cove Complex. To date, no structures have been identified nor has a specific complex layout been determined for specific periods within the broad A.D. 900 to 1250 timeframe. Future excavations are planned with the hope of filling these gaps within the archaeological record.

Notes

1 In this paper the term "northeastern Florida" is used in a specific manner to refer to present-day Nassau, Duval, and northern St. Johns counties.
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