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Cover photograph, Erin Dodge flintknapping, by Linda Toro.

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Letter from the Editor

Jodi A. Barnes

When people think about archaeology, they imagine the field work - the process of excavating artifacts with brush and trowel. Rarely, do people consider the time archaeologits spend in front of a computer, writing. Yet most archaeologists spend more time recording the details of their research than conducting field excavations. The act of putting pen to paper (or fingers to keyboards) is necessary for interpreting and sharing the information learned as well as developing propoals to secure funds for future research. In this volume, Erika Shofner (pg. 128) reviewed Brian Fagan's book *Writing Archaeology*. Fagan, the author of numerous archaeological textbooks, provides useful information for archaeologists - professionals, advocationalists and students alike - who want to write and broaden the audience for their work. Reading Shoftner's review reminded me of ASSC's mission: "to share information about South Carolina's archaeological heritage." The act of sharing information requires writing. The variety of essays that are published annually in *South Carolina Antiquities* is a testament to the writing that South Carolina archaeologists are doing. Yet the majority of essays published are written by professional or student archaeologists. So I am challenging advocationalists to submit essays or Notes from the Field for the 2013 issue. I am also challenging professional archaeologists to encourage someone who has worked at your site or in your lab to submit an essay, because writing is as important part of training archaeologists as the excavations.

Okay, that's my soapbox. The essays in this year's issue range from the recovery of a Middle Archaic cache and its implications for provisioning and social interaction in the coastal plain to the archaeology of settlement Indians, from the re-examination of ceramic assemblages to the archaeology of Anglican churches and Gullah communities. The variety of essays and updates on current projects demonstrate the important work ASSC members are doing to interepret and protect South Carolina's archaeological and historical resources. Thank you to all of the contributors.

The cover photograph was submitted by Linda Toro. It is a photograph of Erin Toro learning to flintknap as part of her Science Fair research with Chris Judge. *SC Antiquities* accepts photo submissions annually, so submit one of yours for next year's issue. We are also always looking for book reviewers. There are a number of books for review for next year's issue. There is a list on the ASSC website (http://www.assc.net/publications/sc-antiquities). We regularly receive new books, so check back.

If this is your first time reading *South Carolina Antiquties*, please consider becoming a member of the Archaeological Society of South Carolina. The Archaeological Society of South Carolina and this journal can only exist with your help.

Recovery and Luminescence Dating of a Buried Cache from Frierson Bay, Barnwell County, South Carolina: Implications for Middle Archaic Provisioning and Social Interaction in the Inter-riverine Coastal Plain

Christopher R. Moore, Mark J. Brooks, James K. Feathers and Tommy Charles

Introduction

Studies of settlement, mobility, and social structure of foraging societies have relied heavily on research employing an organization of lithic technology approach (e.g., Amick and Carr 1996; Anderson and Hanson 1988; Binford 1977, 1979, 1980; Daniel 1998; Goodyear 1979; Goodyear et al. 1979; Sassaman et al. 1988; Shott 1986; Walthall and Holley 1997). While many of these studies have been successful using this approach, including theoretical insights relating to social relations, adaptive flexibility, demographic shifts, exchange, and adaptation to environmental change (e.g., Anderson 1996; Sassaman 1991), site-level data lacking clear chronological control or contextualization within larger regional data sets are often relied upon. The recovery and luminescence dating of an intact cache of bifacial cores and recycled tools from a Carolina bay sand rim, in concert with a regional analysis of raw material use and distribution during the Middle Archaic using data from the South Carolina Statewide Collector Survey (Charles 1981, 1983, 1986), offers the rare opportunity to examine technological and social organization of Middle Archaic hunter-gatherers in the inter-riverine Upper Coastal Plain of South Carolina.

Background

Over the last three years, the Savannah River Archaeological Research Program (SRARP) has undertaken a long-term geoarchaeological study of three Carolina bays in the Central Savannah River Area (CSRA) (Brooks et al. 2012; Moore et al. 2010a, 2011, 2012). This work builds on previous Carolina bay research by the SRARP stretching back more than 15 years (e.g., Brooks et al. 1996, 2010). Carolina bays are oriented, upland ponds on the Atlantic Coastal Plain from Northeast Florida to New Jersey, with their greatest numbers occurring in the Carolinas and Georgia (Walker and Coleman 1987). The overall focus of this research is on understanding site formation processes, particularly as they relate to archaeological site burial and preservation within Carolina bay sand rims.

Insofar as our data allow, we are broadly interested in understanding the functional role of Carolina bays within Paleoindian and Archaic settlement systems and ascertaining linkages between climate, natural processes, and human adaptation since the late Pleistocene. A detailed geoarchaeological monograph for all three study sites is forthcoming and will be published as an occasional paper of the SRARP. The three study sites with relevance to this paper include: Flamingo Bay (38AK469), Johns Bay (38AL246) and Frierson Bay (38BR1319 and 1320) in Aiken, Allendale, and Barnwell counties, respectively (Figure 1).

The remainder of this paper will discuss: 1) The recovery of an intact cache of bifacial cores and tools from Frierson Bay (38BR1320); 2) A descriptive and technological characterization of these artifacts; 3) An examination of OSL age estimates for the sediments that buried the cache; and 4) A regional distributional analysis using the South Carolina Statewide Collector Survey. Lastly, the cache artifacts will be discussed within the larger cultural framework of the Coastal Plain, including implications for Middle Archaic technological organization, implied cultural quarrying activities, settlement organization, exchange, and stone provisioning away from nearby sources of high-quality tool stone.

Frierson Bay is large (~1.2 km along its long axis and .6 km at its widest point), forested, and contained permanent water until drained in the early 1960s for farmland. The bay's prominent eastern sand rim, which was the focus of recent geoarchaeological attention, has prograded into the western edges of two other Carolina bays immediately to the east (Figure 2). In 2009, archaeological survey and testing was conducted at Frierson Bay as part of the larger geoarchaeological study of Carolina bays. The survey

Figure 1. Carolina bay study sites within the Central Savannah River Area. Frierson Bay is located in the upper right in northeastern Barnwell County.

included shovel test transects along the prominent eastern sand rim, followed by limited Test Unit excavations for geoarchaeological and luminescence sampling.

Virtually all shovel tests contained archaeological material, primarily Coastal Plain Chert (CPC) debitage to a maximum depth of about one meter. All Archaic and Woodland period components were represented. Unlike other bay rims in this study (e.g., Flamingo Bay), no particular area appeared to contain noticeably higher densities of material, but this may be due to the larger testing interval at Frierson Bay. Thus, the placement of three adjacent 2 x 2 m Test Units (TUs 1, 2, and 4) and one isolated 1 x 2 m TU (TU 3) was largely arbitrary. While no Native American pottery was found in any of the TUs, the presence of Woodland and Mississippian pottery within the uppermost shovel test levels documents the stratigraphic association of late prehistoric occupations overlying Archaic deposits at Frierson Bay.

In the southeastern portion of the Frierson Bay (38BR1320) sand rim, a single 1 x 2 meter TU (TU 3) produced an artifact cluster or cache of CPC and orthoquartzite biface cores and core fragments, along with fragmentary pieces of soft sandstone (likely used as an abrader) between 61 and 69.5 centimeters below surface (cmbs) (Figures 3 and 4). A descriptive and techno-functional analysis of these artifacts is described below.

Analysis

Cultural material recovered from this cache includes 14 distinct artifacts: 12 CPC artifacts (Figure 4: A-C and F-N), one orthoquartzite biface (Figure 4: D), and fragmentary pieces of a soft sandstone likely used as an abrader (Figure 4: E). Of the 12 CPC artifacts, three are, or were, previously used as bifacial knives, scrapers, or as utilized/retouched flakes, while one is a broken tip of a mid- to late stage bifacial preform. The remaining five consist of bifacial cores or core fragments (Table 1). It appears likely that all CPC artifacts ended their use-lives essentially as raw material for flake production (more on this below).

The one orthoquartzite biface present in the assemblage is coarse-grained and appears as a hybrid between true orthoquartzite and CPC. In other words, the general

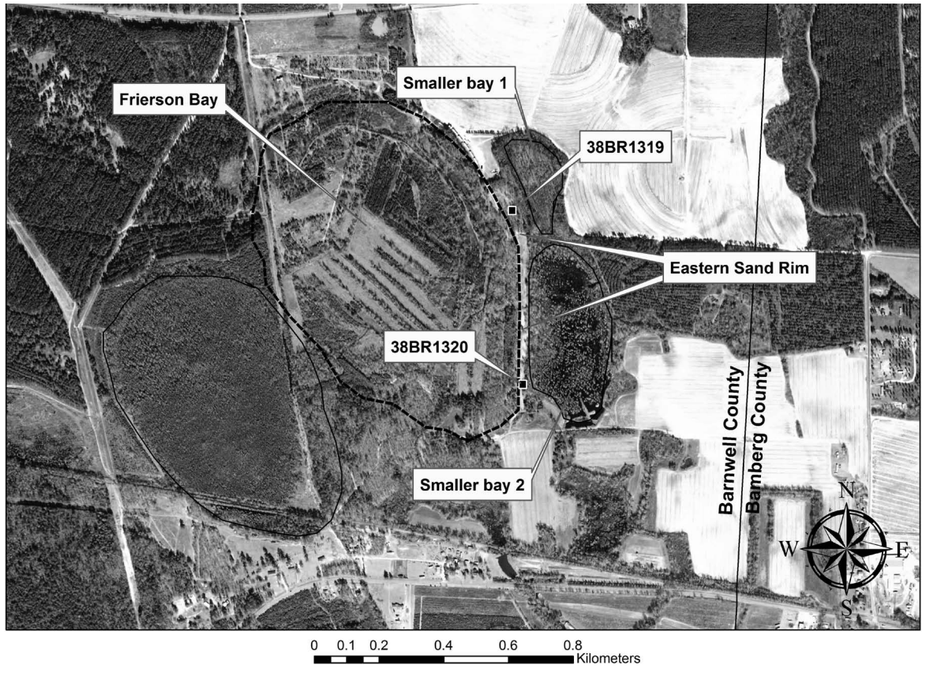

Figure 2. Color-infrared aerial image of Frierson Bay showing identified archaeological sites and surrounding Carolina bays. Historically, Frierson Bay was referred to as "Buckmire Pond" and was drained for farm land in the 1960s.

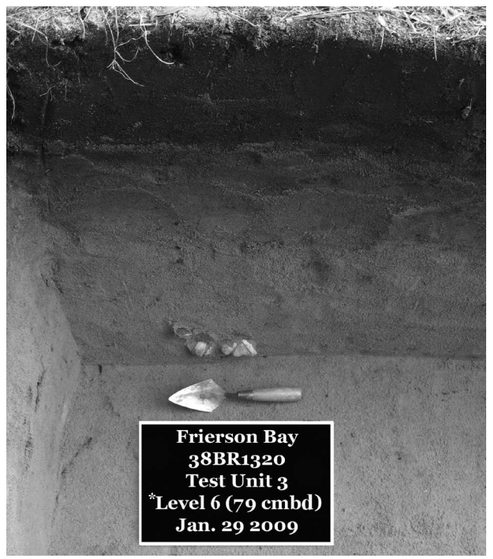

Figure 3. East wall profile of Test Unit 3 at 38BR1320 showing the in-situ cache of CPC bifacial cores and preforms (n = 12), an orthoquartzite biface, and sandstone fragments possibly used as abraders. Depth of cache ranged from ca. 61 to 69.5 cmbs. *Excavation level is indicated as centimeters below datum (cmbd).

groundmass consists of a mix of silica-cemented medium to coarse sand grains with apparent voids consisting of nearly pure chert. Finally, the sandstone fragments are fairly soft and very light, indicating a low density material. Although fragmented, this material appears smoothed and likely served as an abrader for use in a variety of tasks, including stone tool manufacture and maintenance. Other abraders have been recovered from Frierson (38BR1319) and Johns (38AL246) bays (Moore et al. 2010b). These abraders were made from much harder, and generally coarser, fragments of ferruginous sandstone.

Another very interesting attribute of some of these artifacts is the presence of "river cortex" (Figure 4: J, K, and M). River cortex occurs as a dark organic precipitate on the exterior of CPC that has been submerged in riverine environments for a long period of time. Artifacts K and M not only have very distinct river cortex, but river cortex precipitated over former and presumably much older flake scars (i.e., double patination). Other parts of these core fragments are clearly much more recently flaked and lack river cortex. Thus, these artifacts appear to have been scavenged, or recycled from secondary or "cultural quarry" contexts, rather than having been obtained directly from

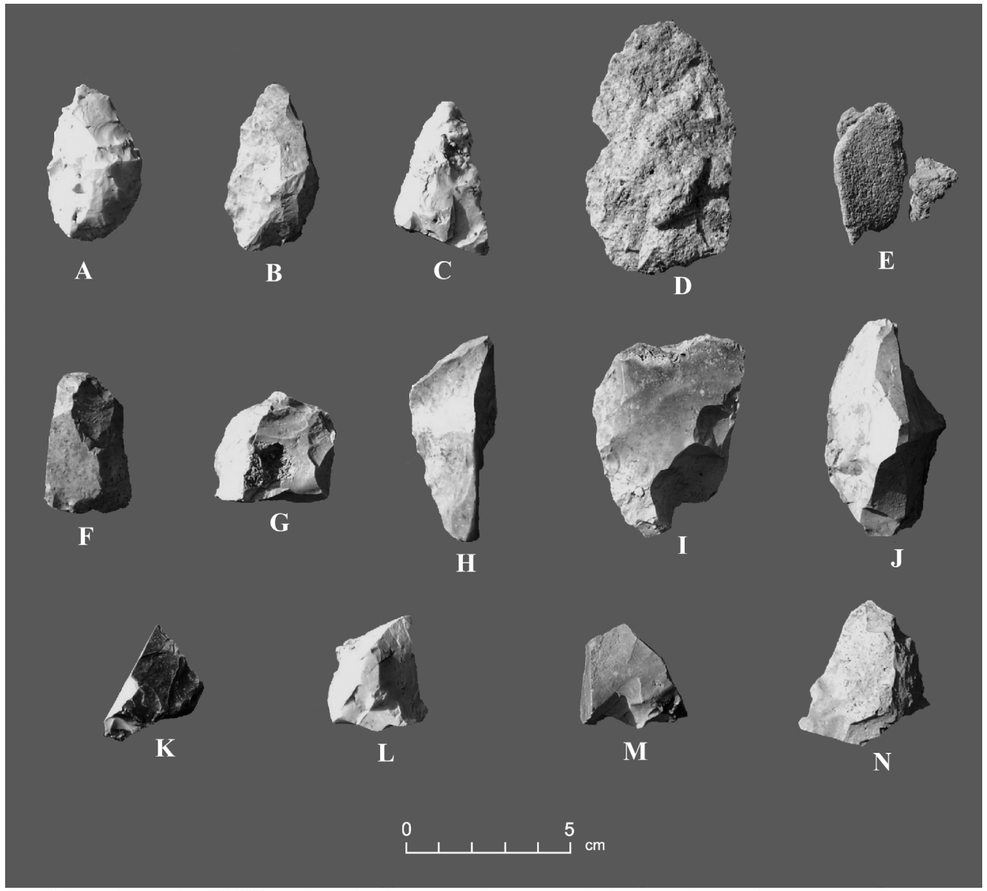

Figure 4. Frierson Bay cache from 38BR1320, including: (A-B) preforms or ovate bifaces/scrapers; (C) biface or point fragment; (D) an orthoquartzite biface; (E) sandstone abrader fragments; (F) bifacially retouched core fragment; and (G-N) bifacial cores and core fragments. Three fragments (J, K, and M) have remnant "river cortex" or iron oxide staining on top of previous flake scars (i.e., double patination) suggesting recycling of older artifacts.

naturally occurring outcrops of CPC (Amick and Carr 1996:45; Sassaman and Brooks 1990).

Small areas of remnant chert cortex are visible on several bifacial cores and appear to be from early-stage quarry debris or quarry blades originally flaked at source locations for CPC (e.g., Allendale County sources). These artifacts served almost exclusively as bifacial cores for flake production, rather than as preforms for bifacial tools or projectile points. Their placement within this cache as nearly exhausted bifacial cores is probably indicative of the relatively remote interior, upland, Coastal Plain setting of this site, nearly 50 km from large outcrops of CPC on the Savannah River.

Lastly, several artifacts within this cache appear to have served at some point in their use-lives as actual tools. Evidence of bifacial retouch or utilization (Figure 4: A, C, F, and L) occurs on several tools, while unifacial retouch is evident on one crude bifacially flaked and plano-convex artifact (Figure 4: B). These tools were evidently used as crude knives or scrapers, while at the same time serving as bifacial cores until additional sources of chert could be obtained.

Luminescence Dating

The dating in this research relies on optically stimulated luminescence dating (OSL) (Huntley et al. 1985; Wintle 2008). OSL dates sediment to the last exposure to light. This is usually a burial event, if the depositional process provided sufficient sunlight to remove any previously acquired luminescence signal. Once buried, sediment grains begin to accumulate a latent luminescence signal through the absorption of natural background ionizing radiation. The total absorbed dose, which takes the form of a trapped charge within defects in the crystalline structure (of usually quartz or feldspar), is called the paleodose. It is estimated in the laboratory as an equivalent dose (De) by calibration against laboratory sources of radiation. Dividing the De by the dose rate (Dr) yields an age.

Table 1. Attribute data for the Frierson Bay (38BR1320) cache.

※Artifact	Material	Type	Length (mm)	Width (mm)	Thickness (mm)	Wt. (g)	Comments
A	CPC	Bifacial Knife	50.5	30.1	10.6	15	Plano-convex knife or scraper.
B	CPC	Unifacial Knife	54.7	28.20	15.1	21.42	Plano-convex knife or scraper with cortex.
C	CPC	Preform Frag.	42.4	31.90	11.1	12.32	Broken tip of mid- or late stage biface preform.
D	Orthoquartzite	Biface	79.6	44.5	16.4	55.15	CPC and Orthoquartzite "hybrid."
E	Sandstone	Abrader	44	27.1	15.7	10.325	Soft sandstone fragments with smoothed surfaces.
F	CPC	Utilized Flake/Scraper	42.8	21.60	12.7	15.19	Core flake with distal retouch/ utilization.
G	CPC	Bifacial Core Frag.	33.5	37.2	13.2	18.09	Small core fragment lacking cortex.
H	CPC	Bifacial Core Frag.	61.8	26.6	11.7	23.96	Possible light retouch on one edge.
I	CPC	Bifacial Core	59	42.3	20.30	62.17	Core fragment worked bifacially with cortex.
J	CPC	Bifacial Core	66.5	40.40	27.00	51.36	Core fragment worked bifacially with river cortex.
K	CPC	Core Frag.	35.9	22.00	11.60	7.39	River cortex on one side with old flake scars.
L	CPC	Core Frag.	33.2	30.20	10.1	10.5	Possible utilization on one side.
M	CPC	Core Frag.	34.4	30.50	11.9	13.51	Light river cortex staining over older flake scars.
N	CPC	Biface Frag.	44.1	41.50	17.8	22.16	Truncated, large early to mid stage biface preform.

※ These letters correspond to the artifacts in Figure 4.

Methods

Three OSL samples from Test Unit 3 at 38BR1320 were submitted to the Luminescence Dating Laboratory at the University of Washington. One sample was collected adjacent to the cache at 66 cmbs (75 cmbd), and the other two were collected from above and below at 50 and 80 cmbs (59 and 89 cmbd). The samples were collected in light-tight containers (PVC or copper tubing) inserted into cleaned profile exposures. Upon removal, the ends were capped. Additional samples for bulk moisture and dose rate determinations were also taken from each sample location. The tubes were opened under red light conditions in the laboratory. The two potentially exposed ends were discarded, while the remaining sediment was separated into size fractions by sieving and treated to a variety of chemical treatments to isolate the quartz fraction. The 180-212 µm fraction was used for dating.

The collection tubes were 1.5-2 cm in diameter in order to provide fine depositional resolution given that depositional events along bay sand rims since the late Pleistocene were centimeter-scale events. Larger diameters, which are often used to increase sample size, would risk intersecting multiple depositional events (e.g., Feathers et al. 2006). In addition, single-grain dating was employed to better understand formational processes of the bay rims, source-bordering dunes and sand-sheets (Brooks and Taylor 2008; Moore 2009; Moore and Daniel 2011). Grains from any one sample may be of different ages because of small scale deflation, mixing from floral/faunal turbation, or partial bleaching (where some grains retain an inherited paleodose). This variation would be masked by the averaging effects of multi-grain aliquots (Arnold and Roberts 2009; Feathers and Tunnicliffe 2011). By looking at the distribution of De among single grains, and taking into account other sources of De variation, information on grain movement, mixing of closely-spaced depositional events, partial bleaching, and in general site integrity can be obtained (Bateman et al. 2003; Boulter et al. 2006; Feathers 2003;

Frederick et al. 2002; Rhodes 2011). Single-grain dating is particularly appropriate for slightly mixed or bioturbated sediments in shallow and slowly accreting deposits such as those represented by the Carolina bay sand rims.

De was estimated using the single-aliquot regenerative dose (SAR) protocol (Murray and Wintle 2000; Wintle and Murray 2006), using specific criteria for evaluating the signal from each grain. Similar procedures can be found in Feathers et al. (2010). Dose rate was measured by thick-source alpha counting, beta counting and flame photometry.

Results

The De distributions showed the samples to be of mixed age. The ages most consistent with the archaeostratigraphy of the site (Table 2 and Figure 5) were computed from the minimum age model (Galbraith et al. 1999). The ages from the central age model, a weighting statistic for the central tendency (Galbraith et al. 1999), seem unreasonably old. Using the minimum age model assumes the age of deposition is represented by the youngest grains, older grains having been worked into the sample, which is not uncommon for slowly accreting sand deposits. Given the likely water-lain and eolian depositional environment of bay sand rims, partially bleached grains may also be contributing to central age model overestimates. The OSL sample taken immediately adjacent to the cache produced an age of 6.4 ± 1.1 ka, consistent with the terminal Middle Archaic in the Southeast. The two bracketing ages are 7.0 ± 2.5 ka for the lower sample and 4.0 ± 0.4 ka for the upper sample. (The ages are given in ka, or thousands of years before the present. The present being 2010 when the measurements were made.) Unlike radiocarbon ages, they require no further calibration. Although temporally diagnostic artifacts are missing, an examination of the technological attributes of the assemblage supports the inference that this is a late Middle Archaic Period artifact cache. The CPC artifacts also lack significant weathering—a somewhat useful proxy for determining the relative age of chert artifacts in the Coastal Plain.

Table 2. Dosiometry data and OSL age estimates for Frierson Bay (38BR1320).

Sample	Site	Depth	^{238}U	^{233}Th	K	Beta dose rate (Gy/ka)		Total dose rate*	N	Central age	σ_b (%)	Minimum age	Central age	Minimum age
		(cmbs)	(ppm)	(ppm)	(%)	ß-counting	*a*-counting flame photometry	(Gy/ka)		De (Gy)		De (Gy)	(ka)	(ka)
UW2139	38BR1320	50	0.91±0.07	2.10±0.50	0.03±0.02	0.21±0.02	0.22±0.02	0.58±0.05	192	4.4±0.2	54±4	2.3±0.1	7.6 ± 0.8	4.0± 0.4
UW2140	38BR1320	66	0.95±0.09	4.42±0.74	0.03±0.01	0.24±0.03	0.28±0.02	0.73±0.06	40	7.9±0.6	41±7	4.7±0.7	10.8 ± 1.3	6.4 ± 1.1
UW2141	38BR1320	80	0.98±0.10	4.57±0.83	0.04±0.01	0.25±0.03	0.30±0.03	0.75±0.06	12	20.7±5.5	85±19	5.2±1.8	27.7 ± 7.7	7.0 ± 2.5

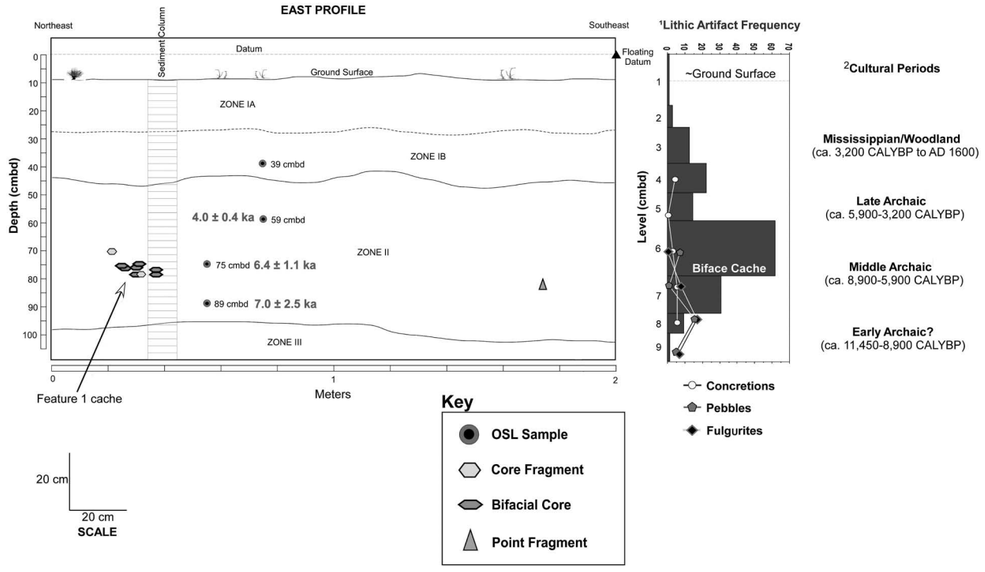

Figure 5. Artifact backplot for TU 3 at 38BR1320 showing the buried cache and results of single grain OSL dating. Also included are: 1.) Lithic artifact frequency by level; and 2.) Cultural periods for the Southeast based on calibrated calendar years BP. Frequency of plinthite (e.g., iron concretions), pebbles, and fulgurites are also indicated by level.

The OSL age estimates provide a geochronology of site burial and landform development of the bay sand rim at Frierson Bay. Interestingly, the ages indicate somewhat deeper burial for Middle and Late Archaic deposits than typical for other parts of the site. These findings may indicate that this portion of the bay sand rim was more active during the mid-Holocene with greater accumulation of sands. The implications for site burial and linkages to climate and ecological change in the CSRA are beyond the scope of this paper and will therefore be addressed in future publications.

While temporally diagnostic artifacts were infrequent at Frierson Bay, the recovery of an intact feature consisting of bifacial preforms, bifacial cores, and core fragments packed tightly together is strong evidence for a buried occupation surface in TU 3. Multimodal lithic artifact frequency distributions for TU 3 also indicate a stacked sequence of occupations (see lithic frequency graph in Figure 5). These data were derived from arbitrary 10-cm levels which partially mask much of the archaeostratigraphic variability within shallowly stratified sites such as Carolina bay sand rims. Future work at Frierson Bay will include close-interval levels (i.e., 2.5 cm levels) to look for artifact distributions indicative of buried occupations indicated by analysis of earlier fieldwork.

In addition to the biface cache, TU 3 produced numerous fragmentary pieces of fulgurites beginning in Level 6 (the same level as the cache and peak artifact density) and extending through all remaining levels. Fulgurites are hollow tubes of melted and fused sand grains that occur during lightning strikes in sandy sediments. The presence of fulgurites in these levels provides additional, if circumstantial, evidence for the presence of a buried, long-term stable surface, possibly associated with the biface cache and overall peak accumulation of cultural debris in Level 6. Based on depth range, technology, degree of patination, and OSL age estimates, a Middle Archaic cultural affiliation is likely.

Discussion

The recovered cache of artifacts is noteworthy for its clear, buried (*in-situ*) context, its atypical character, and for the fascinating technological and behavioral inferences implied by its composition To begin with, the artifacts were recovered in a tightly-packed cluster (all but one artifact were found between 66 and 69.6 cmbs) that had the appearance of a stacked pile, possibly indicating storage in a container (e.g., skin or textile bag) and/or shallow pit. The other possibility is that this feature represents a "set aside" pile of raw material on a former "living surface" to be used at a later time. In either case, the presence of this feature is very strong circumstantial evidence for a buried surface. The results of OSL dating support this inference.

The characteristics of this artifact cache are somewhat unusual in that unlike many recorded caches (ostensibly consisting of formal bifaces, bifacial preforms, or quarry blades), this cache appears to represent purposeful conservation and provisioning of limited and relatively depleted raw material away from stone resources. The term cache, as used here, refers to items stored or hidden in particular locations in anticipation of future use (Binford 1979:262; 1980). Thus, the caching of tool stone implies that Middle Archaic foragers at Frierson Bay intended to return to this stone poor region of the Upper Coastal Plain, and were supplementing their anticipated need for stone in the interriverine zone through caching. In this case, many of the artifacts appear to have been used as bifacial cores, although some appear to be tools at or near the ends of their use-life (i.e., recycled as bifacial cores for flake production). Given the likely late Middle Archaic time frame implied by OSL dating and analysis of the artifacts, some discussion is in order with regard to technological organization, lithic provisioning, and settlement implications for this time period.

The Middle Archaic (ca. 8900-5900 cal. BP) represents a shift from earlier side- and corner-notched traditions to various stemmed projectile point forms, including Kirk Stemmed (ca. 8400-9400 cal. BP), Stanly (ca. 8700-8300 cal. BP), Morrow Mountain (ca. 8200-6000 cal. BP), and Guilford/Brier Creek (ca. 6800-6200 cal. BP) (Anderson et al. 1996:15; Daniel 1994; Moore 2009). Evidence for demographic shifts or outright abandonment of much of the Coastal Plain has been proposed based on the apparent dearth of sites dating to this period (Anderson 1996). Overall, Middle Archaic research in South Carolina suggests that this period represents a time of large increases in population (outside the Coastal Plain), social circumscription, more generalized toolkits, far less emphasis on curated tools, increased use of local raw material with less emphasis on stone quality, use of ground stone tools and storage pits (implying more sedentary life ways), and evidence for intensive harvesting and mass processing of nuts, such as hickory, walnut, and acorns (e.g., Amick and Carr 1996; Anderson 1996; Blanton 1984; Blanton and Sassaman 1989; Goodyear et al. 1979; Kowalewski 1995; Poplin

et al. 1993; Sassaman 1983, Sassaman and Anderson 1995, 1996; Sassaman et al. 1988; Ward 1983). Much of this was synthesized by Sassaman (1991) in an essay describing his Adaptive Flexibility Model for the Middle Archaic.

The argument for increasing sedentism and reduced mobility (e.g., Goodyear et al. 1979) during the Middle Archaic was challenged by Cable (1982) who suggested that Middle Archaic foragers were adapting to a warmer mid-Holocene climate through increased residential mobility, albeit within smaller group territories than during the Early Archaic. What is clear is that range of mobility was decreasing—often leading to group territories more distant from high quality sources of tool stone. Thus, the distance between Middle Archaic forager groups in the inter-riverine zone and sources of tool stone may have presented greater challenges for stone provisioning than typical for highly mobile and wide-ranging Paleoindian or Early Archaic hunter-gatherers.

The fact that the Frierson cache appears to represent collecting and provisioning of stone from a secondary or recycled context (i.e., cultural quarrying) is consistent with more regionally circumscribed groups provisioning themselves with valuable tool stone through conservation and recycling of tools normally discarded by earlier, more wide-ranging hunter-gatherers. This hypothesis is supported by the size and weight distribution of debitage (Ahler 1989; Shott 1994) recovered at Frierson Bay, with typically smaller maintenance and resharpening CPC flakes more common than from Flamingo Bay (38AK469), 40.5 km, and Johns Bay (38AL246) only 20.1 km from abundant sources of chert (Figure 6). While the percentage of flakes in the smallest size class (Size Class 1) are only slightly higher at Frierson Bay than flakes from Flamingo and Johns bay, weight percentage data reveal a step-like drop-off in the percentage of total flake weight with increasing flake size at Frierson Bay, and a more gradual drop-off in weight distributions for Flamingo and Johns Bay. These data indicate earlier stage (larger package size) and greater size variability for chert cores and bifaces entering Flamingo and Johns Bay than at Frierson Bay. Cortical flake frequencies also suggest earlier stages of lithic reduction for Flamingo and Johns Bay, while Frierson Bay (furthest from chert quarries) has the lowest cortical flake frequency of all bays in this study (Figure 7).

It appears that Middle Archaic foragers in this part of the Coastal Plain ameliorated their need for stone away from quarries through scavenging or cultural quarrying of material deposited by earlier inhabitants, and collected as encountered during more embedded residential mobility. In this sense, looting of Paleoindian and Early Archaic sites is not a recent phenomenon. For more regionally and socially circumscribed Middle Archaic inhabitants foraging along the periphery of their macroband territory, cultural quarrying may have provided supplemental access to high-quality tool stone not easily gathered directly and less costly than exchange. Thus, while exchange alliances may be more likely between regionally circumscribed groups for a variety of reasons, reliance on exchange for the vast majority of a particularly important or rare resource (i.e., tool stone in stone poor regions of the Coastal Plain) is maladaptive and goes against normally risk-averse behaviors characteristic of foraging societies (e.g. Meltzer 1989:26, 30).

An alternate view for the presence of non-local or exotic stone in archaeological assemblages (possibly indicative of long-distance exchange) suggests more fluid social connections reduce risk by reinforcing social networks for groups in extreme or marginal environments (Gould 1980; Sassaman et al. 1988). In this case, while CPC is non-local, it is hardly exotic in the sense that it constitutes the vast majority of the tool stone utilized at Frierson Bay (>93 % for all artifacts and >97 % for debitage). While the inter-riverine Upper Coastal Plain in Barnwell County was likely never considered an "extreme" environment in the sense described by Gould (1980) for Australian Aborigines, it was stone poor compared to areas along the Savannah River and Piedmont regions of South Carolina. Thus, if exchange networks were responsible for providing nearly all tool stone utilized by Middle Archaic inhabitants at Frierson Bay, it likely entailed significant social and economic risks. This is particularly likely if these groups were themselves unable to acquire high-quality stone through direct procurement due to social pressures from competing or hostile groups in surrounding regions.

Data from Frierson Bay suggest that while less mobile and more circumscribed than earlier inhabitants, Middle Archaic foragers in the inter-riverine CSRA were nevertheless directly accessing chert sources (at least occasionally) along the Savannah River and elsewhere while supplementing this with cultural quarrying and through the practice of conservation and caching of stone—even in relatively exhausted states. On the other hand, evidence for cultural quarrying and conservation of CPC suggests that, at the band level, frequent access to quarries was becoming less common and perhaps more problematic than during the Early Archaic as groups settled into smaller territories.

Based on a recent analysis of regional-scale point data from the South Carolina Statewide Collector Survey, percentages of all Middle Archaic points made from CPC in Barnwell County are ~50 percent (quartz = 43 %), but drop off rapidly to the north and west of the Edisto River (Figure 8) (Charles 1981, 1983, 1986). The sample size for Barnwell County, however, is fairly low (n = 358) and of these, only 30 points are categorized as Middle Archaic.

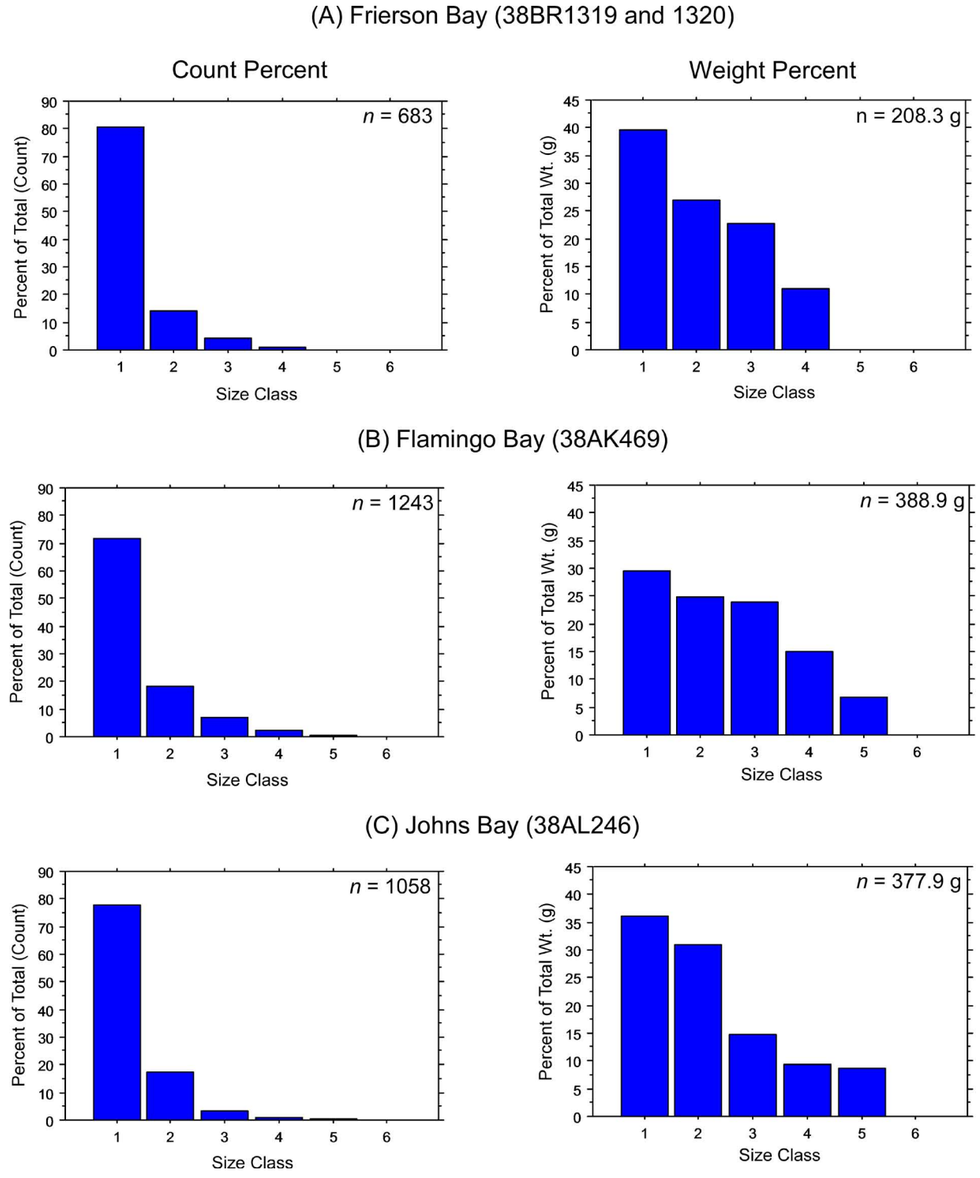

Figure 6. Count and weight distributions by size class for flakes from A) Frierson Bay (TU 1-3), B) Flamingo Bay (Prov. 55-57), and C) Johns Bay (TU 1-2). Note: Size Class 1 = 1-100 mm^2, Size Class 2 = 101-225 mm^2, Size Class 3 = 226-400 mm^2, Size Class 4 = 401-625 mm^2, Size Class 5 = 626-900 mm^2, and Size Class 6 = 901-1225 mm^2. One Size Class 6 flake was removed from Flamingo and Johns Bay data for calculation of weight percentage distribution bar charts.

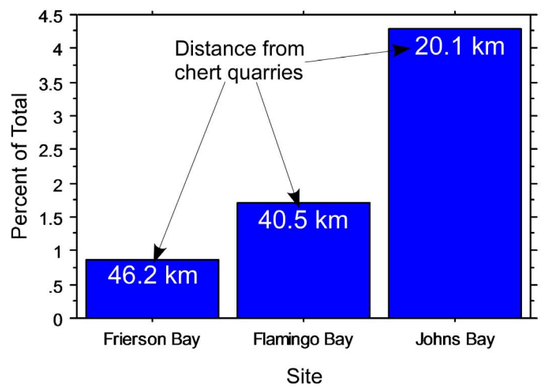

Figure 7. Cortical flake frequency for Carolina bay study sites showing decreasing frequency of cortical flakes with increasing distance from sources of CPC. For this study, distance to chert quarries was normalized based on linear distance between study sites and chert sources on the Savannah River at the Topper Site (38AL23).

Adjacent counties, closer to chert sources on the Savannah River, and with much larger point samples, have greater than 94 percent CPC use for the Middle Archaic.

Interestingly, point data from the South Carolina Statewide Collectors Survey reveal a significantly lower percentage of CPC for Barnwell County overall than indicated by excavation data from Frierson Bay. As discussed above, this may be an issue of sample size, but may also be a result of differences between sites located on prominent upland travel corridors or trails versus less traveled areas of the uplands of Barnwell County (e.g., Brooks et al. 2010; Eberhard et al. 1994; Moore and Irwin 2011). Frierson Bay is located on a prominent interstream divide between the Edisto and Salkehatchie rivers (see Figure 1). These divides would have facilitated more rapid travel across the landscape once leaving quarry locations. Thus, stone resources along travel corridors would be less depleted further from the source than other areas of comparable distance.

The Edisto River appears to form somewhat of a northern boundary for intensive exploitation of CPC by Middle Archaic foragers in the Coastal Plain, forming a wedge-shaped distribution from Aiken County to Charleston County, South Carolina (see Figure 8). Beyond this boundary, use of CPC drops precipitously, falling to low single digits north of the Saluda River in the Coastal Plain and west of the fall line. North of the Edisto, some level of interaction with Piedmont and more northerly Coastal Plain groups is indicated by some utilization of CPC, but at much lower frequencies than quartz and metavolcanic stone. Given the step-like decline in CPC, the low frequency of CPC north of the Edisto may represent exchange/interaction with neighboring macrobands.

If we assume social territories can be crudely estimated based on the distribution of points and raw material (Binford 1979), then there is clear evidence for a Middle Archaic macroband (focused on CPC) that includes Frierson Bay in northeastern Barnwell County (see Figure 8). While clearly linked to the Allendale Macroband, Frierson Bay is on the periphery of this territory and yet exhibits little evidence for significant interaction with Piedmont groups focused on quartz and metavolcanic sources of stone.

The relative lack of debitage or stone tools made from quartz or quartzite at Frierson Bay suggests a lack of interaction with Piedmont groups or reduced range constituting what Sassaman et al. (1988) characterize as "...distinct Piedmont and Coastal Plain cultural entities...." While quartz and quartzite is present in very small quantities (mostly in the form of core and cobble shatter), it is clear that interaction spheres and mobility patterns were more tightly confined or circumscribed than earlier groups. Projectile point raw material distributions suggest that further differentiation of Middle Archaic cultural entities is warranted for the Coastal Plain, particularly in regard to a localized Allendale macroband focused on CPC.

In addition to their presumed end-life use as cores for flake production, it is also likely that artifacts in the Frierson Bay cache still had utility for use as expedient bifacial and unifacial tools given the clear evidence for bifacial and unifacial retouch and utilization on several cache artifacts. While evidence has been reported elsewhere for the use of more diverse and curated tools during the Middle Archaic than previously thought (e.g., Cantley and Cable 2002), technological attributes of this cache support earlier ideas for a more generalized toolkit for Middle Archaic foragers in the inter-riverine Coastal Plain. Although these data are limited, the ad-hoc use of bifacial cores and core flakes and fragments for scraping and cutting, suggest very little emphasis on formal tools.

Future analyses of Middle Archaic point data from the South Carolina Statewide Collectors Survey will examine raw material distributions for early Middle Archaic points (e.g., Morrow Mountain) versus later Middle Archaic points such as Guilford and Brier Creek. These data may reveal distributional changes during the ca. 3,000 year period of the Middle Archaic that reflect increasing regional and social circumscription and/or suggest settlement organizational shifts (i.e., logistical versus foraging strategies) in response to environmental change or demographic

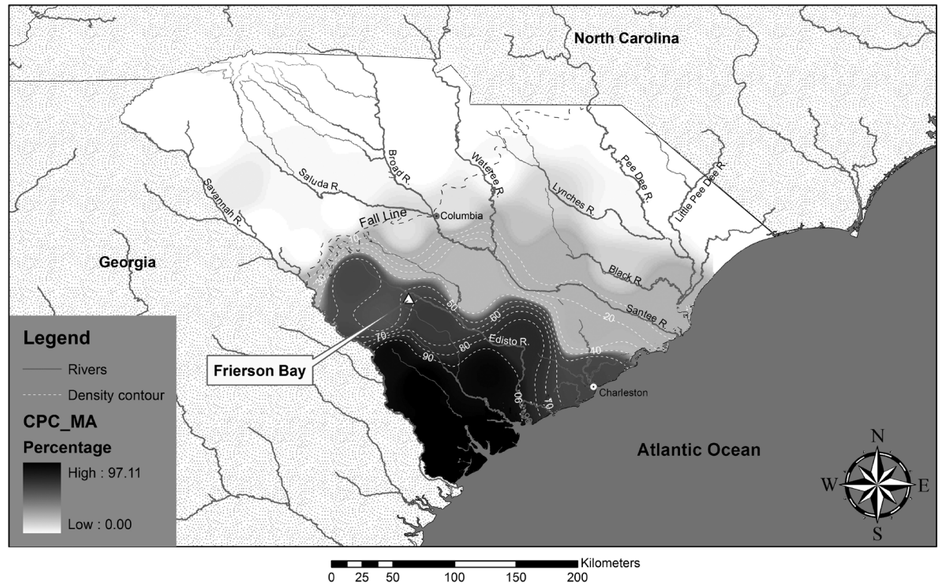

Figure 8. Distribution for all Middle Archaic points made from CPC in South Carolina (n = 4,259) based on recently synthesized data from the South Carolina Statewide Collector Survey.

transformations during the mid-Holocene (Amick and Carr 1996; Anderson 1996; Anderson and Joseph 1988; Blanton and Sassaman 1989; Cable 1982; Charles 1981:53). Although beyond the scope of this essay, a distributional study of projectile point and raw material for Archaic through Woodland/Mississippian hunter-gatherers in South Carolina is underway based on data from the South Carolina Collectors Survey and includes data on nearly 92,000 identifiable point types from 45 of the 46 South Carolina counties.

To our knowledge, this is the first artifact cache indirectly dated with the use of luminescence dating in the region. The methods explored here, including analysis of OSL data, may be used to interpret site formation processes such as artifact taphonomy and the age of sedimentary deposits containing cultural materials but lacking temporally diagnostic artifacts. Together, these data provide a rare glimpse into Middle Archaic technological and settlement organization in the lower portion of the Upper Coastal Plain in South Carolina. Future work will focus on gathering samples for radiocarbon dating by excavating immediately adjacent to this buried cache. Additional excavations may also provide temporally diagnostic tools or bifaces that would complement chronometric dating with OSL and radiocarbon.

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An Archaeology of the Settlement Indians of the South Carolina Lowcountry

Carl Steen

In South Carolina, and throughout much of the eastern United States, Native American groups were split up by war, disease, enslavement, and governmental oppression after Europeans moved into the Americas (e.g., Meriwether 1940; Merrell 1989; Milling 1940; Waddell 1984). Within the Carolina colony's first 50 years, many groups were said to have been destroyed, particularly after the Yemassee and Tuscarora Wars of the 1710s. While their tribal structures were indeed destroyed, in fact a number of families remained, tucked away in the backwoods and swamps of the Lowcountry and inland in the Coastal Plain. For reasons that will be discussed below, these Native Americans masked and downplayed their Native heritage.

Today, people claim to be their descendants and want to re-organize as tribal groups (Figure 1). This is not to say that they and their ancestors did not consider themselves Native Americans, but that their organization into groups of unrelated people is a modern phenomenon, in many cases. While I am not an "activist archaeologist" (e.g., Stottman 2010), I do wonder if archaeology can contribute to their efforts in a positive way? That is, their original tribal identity is long gone, and can never be completely re-captured, but can we empirically demonstrate that these people are in fact descendants of the Native Americans who lived in South Carolina before European contact, giving them a level of recognition?

On the other hand, this is not a simple problem. The unaffiliated are not likely to be adopted into existing groups. Many whose ancestors jealously clung to their native identity understandably resent what they consider "wannabes." Likewise many of the unaffiliated would probably resent an outsider sticking his nose in their business. What if we prove they are not Native Americans, at worst, or not descended from the tribe they want to be (Loller 2012)? So the idea of an archaeology of the Settlement Indians is sure to rouse someone's ire. However, the Settlement Indians of the 18th and 19th centuries are a people who fall into the cracks between White and Black society, and archaeology may be one of the most important sources of information on them.

To introduce the concept of Settlement Indian archaeology, we have to understand how such a group evolved, and their historic context. There are a number of groups who identify themselves as Native Americans today that are not recognized by the state or federal government, and there are a few that are recognized by the state only. None of them probably think of themselves as Settlement Indians, and may in fact view the name negatively. This is a term I have imposed to set their ancestors apart from the rest of Carolinian culture. This is not to make an "other" of them, but to allow a more specific focus on these overlooked people.

The Spanish explored the Southeast, and passed through the Carolinas in the first half of the century. They settled near present day Beaufort at Santa Elena in 1565 (Lyon 1984; South 1991). For about 20 years, they maintained a fort, town, and satellite communities stretching to the Appalachian mountains (Moore 2002). Because of geopolitical pressure Santa Elena and the Carolinas were abandoned in the 1580s. Spanish missions remained along the Georgia coast, and priests ministered to the Indians of South Carolina (Quattlebaum 1956). Nearly a hundred years later, in 1670, British settlers came to form the Carolina colony (Wallace 1951). While they found numerous Native Americans in the Lowcountry, there were no large, well organized groups like the Creek and Cherokee (Waddell 1984). Instead, there were numerous small groups ruled, more or less, by consensus. For instance, in 1710 an observer noted that "their head man, whom ignorantly we call King has the power over them as a father in his family, but he labors and fares with the rest." (LeJau, 13 June 1710, in Klingberg 1956).

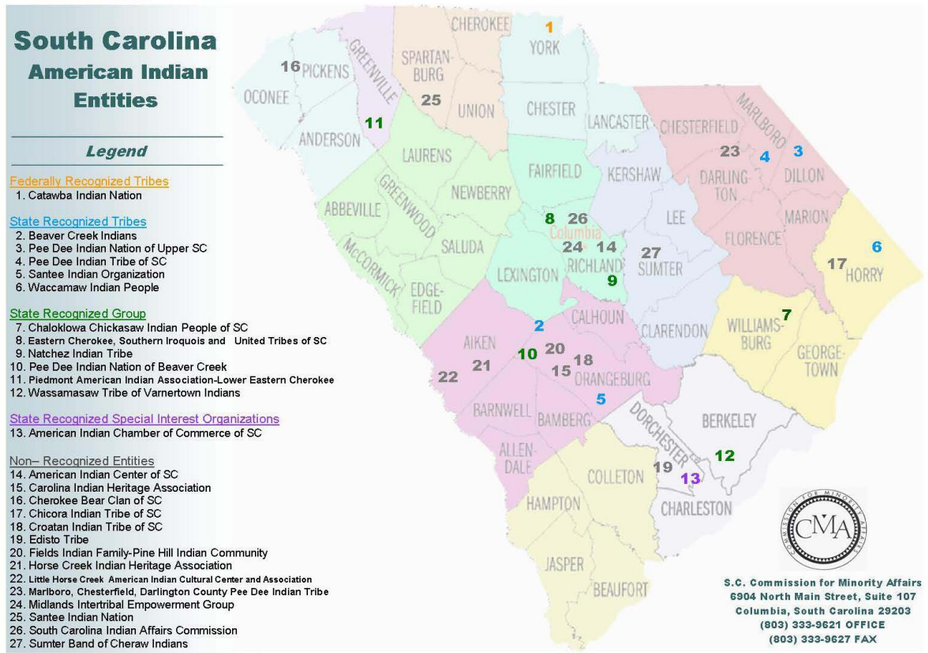

Figure 1. Native American communities in South Carolina (S.C. Commission for Minority Affairs).

By the time of the British settlement, natives in North and South Carolina had been in contact with traders from Virginia for about 20 years (Gallay 2002). French influenced groups followed ancient trading paths from the North and harassed and raided the backcountry groups, causing many to move south and east, to the protection of the new settlers. Others, such as the Westo and Savannah, became middlemen in trade networks that extended to the Mississippi River by 1698 (Moore 1999; see Figure 2).

In 1708 after invasions by the Spanish and French during Prince Phillips War failed, Governor Nathaniel Johnson wrote: "The Indians under the protection of this government are numerous and may be of great use and service in time of invasion" (in Merrens 1977: 34). He goes on to mention the Yemassee (Figure 3) with "500 men able to bear arms"), the Paleathuckles ("about 80 men"), and the Savannas (about 150 men in three towns). The Appalatchyes, with about 250 men, had deserted the Spanish about five years earlier, and "behave themselves very submissive to the government" serving as middlemen for trade said to extend 700 miles beyond the Savannah River. The western tribes included the Tallabousee and Alabamess and Chickasaws. The Chereky's had 60 towns and "at least 5000 men" However, he also said, "the trade we have with them is inconsiderable; they being but ordinary hunters and less warriors."

The latter is important because it underlines the nature of Native / European interactions in the Southeast in the late 17th and early 18th centuries. Although trade for deer skins and other furs was important, an often overlooked fact is that from the first British contacts Indians were enslaved. They were usually captured by their fellow Native Americans in wars that were encouraged, if not directly by the traders, then by the added incentive of getting revenge on an enemy group, while receiving valuable English goods in return (Etheridge and Shuck-Hall 2009; Gallay 2002). It is estimated that there were 2000 Indian slaves in the colony in 1720 (Menard 1995: 283). However, this does not reflect the true number of enslaved Native Americans, as the Carolina colony was mainly a transhipment point,

Figure 2. The Thomas Nairne Map of 1711

sending Southeastern Indians to the Caribbean and New England (see Hicks and Tauckchiray 1998:33, for example).

Ten years later, Governor Robert Johnson, Nathaniel's son, wrote that at the beginning of the year 1715 there were some 28,000 Indians "subject to the government of South Carolina... But in the said year 1715 most of them rose in rebellion ... several slaughter's and bloodlettings which has lessened their numbers and utterly extirpating some little tribes as the Congerees, Santees, Seawees, PeDees, Waxaws and some Corsaboys so that by war, pestilence and civil war amongst themselves the Charokees may be computed reduced to about 10,000 souls and the Northern Indians to 2,500 souls" (Johnson 1719 in Merrens 1977: 59). The Northern Indians were the Congerees and others. At this time many captives were sold into slavery, further weakening their tribal structure.

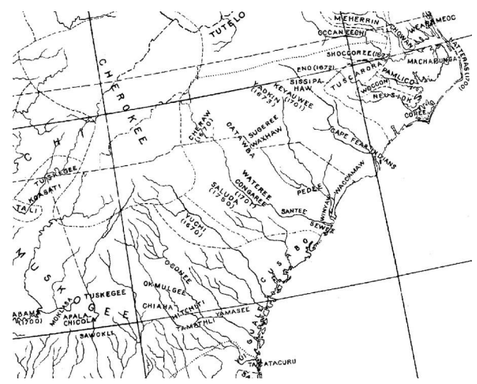

Figure 3. Native American Communities in the Southeast in 1670 (Swanton 1946).

In a table (Figure 4) accompanying the text Johnson names 23 tribes, gives their locations relative to Charleston, and outlines the number of towns and demographics. Among these are the "Itiwans" and "Corsaboys" who were said to be "mixt with the English Settlement." This document and table underline another of the problems in grasping the connections between the Lowcountry Native American groups of the 17th and 18th centuries and their descendants today. The documentary record is spotty and inconsistent. The Pedees and Waxaws are found in the text, but not in the table. The "Paleathuckies" mentioned in 1708 are never seen again, though they may have been the same group as the Palichicolas (Milling 1940:177). In short, the few Indians who were left were almost beneath mention to the recorders of history, who were far more concerned with rice and slaves and trade.

Robert Johnson thought the Pedee, Santee and others had disappeared; yet in 1728 it was proposed that the Wineau and Pee Dee be "placed" on the Santee River. The Pee Dee are a good example of how what a later Governor, James Glen, called the "Settlement Indians" evolved. Although a group with a similar sounding name, the Vehidi, was mentioned during the 1500s (Hudson 1984), the "Pee Dee" were first mentioned in conjunction with the 1711 Tuscarora War, when several fought with Captain John Bull's "Esaw Company" (Hicks and Taukchiray 1999; Schohn 1998). That year Colonel John Barnwell's map

Distance from Charleston		No. of Villages	Men	Women	Boys	Girls	Total No. of Souls
90 miles Southwest	1. The Yamasees	Ten	413	345	234	228	1,215
130 miles Southwest	2. The Apalatchicolas	Two	64	71	42	37	214
140 miles West	3. The Apalalchees	Four	275	248	65	55	638
150 miles Westerly	4. The Savanos	Three	67	116	20	30	283
180 miles W.N.W.	5. The Euchees	Two	130	270	women & children		400
250 miles W. and by N.	6. The Ochesees or Creeks	Ten	731	837	417	421	2,406
440 miles West	7. The Abikaws	Fifteen	502	578	366	327	1,773
390 miles W.S.W.	8. The Tallibooses	Thirteen	636	710	511	486	2,343
430 miles S.W. by W.	9. The Albamas	Four	214	276	161	119	770
				3,032	3,446	1,698	9,992
	The Charokees (vizt.)						
450 miles N.W.	10. The uper settlement	Nineteen	900	980	400	480	11,530
390 miles N.W.	11. The middle settlement	Thirty	2,500	2,000	950	900	
320 miles N.W.	12. The lower settlement	Eleven	600	620	400	480	
640 miles W.	13. The Chikesaws	Six	700	1,200	women & children		1,900
200 miles N.N.W.	14. The Catapaws	Seven	570	900	women & children		1,470
170 miles N.	15. The Sarows	One	140	370	women & children		570
100 miles N.E.	16. The Waccomassus	Four	210	400	women & children		610
200 miles N.E.	17. The Cape Fear	Five	76	130	women & children		206
70 miles N.	18. The Santees	Two	43	60	women & children		125
120 miles N.	19. The Congerees	One	22				
80 miles N.E.	20. The Weneaws	One	36	70	women & children		106
60 miles N.E.	21. The Seawees	One	57	men, women & children			57
Mixt with the English settlement	22. Itwans	One	80	160	women & children		240
	23. Corsaboys	Five	95	200	women & children		295
						Total	28,041

Figure 4. Table of Native American Communities mentioned by Nathaniel Johnson (1708) (from Merrens 1977).

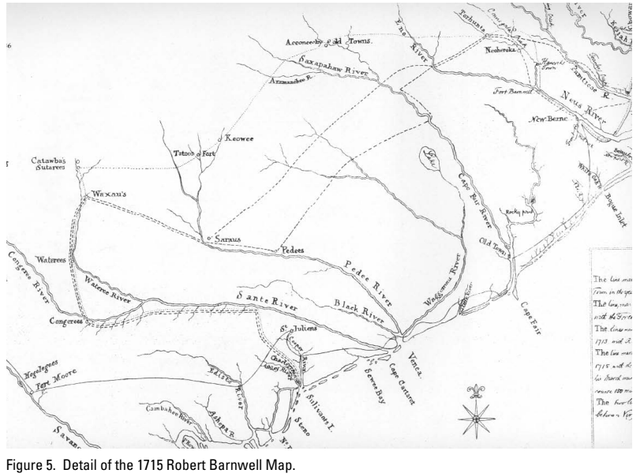

Figure 5. Detail of the 1715 Robert Barnwell Map.

placed them on the Pee Dee River, downstream from the Saraw (Figure 5). They were among the Northern Indians who attacked the Europeans in 1715, but who also sought peace after the initial raids. Facing diminished numbers and raids from more powerful groups, they sought shelter among the Europeans.

In 1737, they, and a group of "Notchee" (Natchez) were granted 100 acres as a reservation on Indian Field Branch in upper Dorchester County near modern day Coachmans Crossroads (Figure 6). Hicks and Taukchiray (1999) do not think they stayed on the reservation for long, but, again, the historic record is so spotty it is difficult to say for sure. However, the Beaver Creek Pee

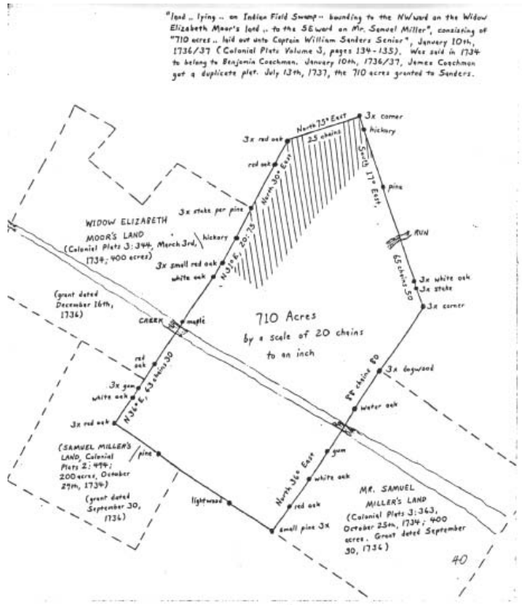

Figure 6. The Pee Dee / Natchez Reservation at Coachman's Crossroads. Reconstruction by Wes Taukchiray (Hicks and Taukchiray 1998).

Dee, a modern group, live just a few miles away, and Native descendants who have been called the Edisto, Coosa and Coosa-Natchez live throughout the area. Arguably they have been present all along, just passed over by history, like most lower socio-economic status people. As early as 1736 the name "Pee Dee Lake" (Figure 7) was attached to a cut off lake in Four Holes Swamp, about five miles to the north in lower Orangeburg County (Steen 2006). In 1742, Pee Dees were said to be living at Four Holes Swamp, and on the Santee (Figure 8). In 1753, they were still on Four Holes Swamp, but soon after at least some joined the Catawba, as there is a documented Pee Dee village among the Catawba towns (Merrell 1989). Later mentions are made of Pee Dees in the Goose Creek area, and Marlboro County (Hicks and Taukchiray 1999).

Pee Dees from Orangeburg and Marlboro counties served in the American Revolution with Captain John Allston's "Foot Rovers" (Schohn 1998:26). The company roster gave researcher Michelle Schohn a list of names that they were able to trace forward through time (Figure 9). But names can be deceptive and alone tell us little, as the names are European, not Native American.

The pressure was on natives to deny their heritage, and many families with "Indian" names such as Chavis, Goins and Locklear may have only the most remote of connections with Native American ancestors because of the choices that were forced upon those ancestors living in a rigidly structured society.

The opening of the Indian trade with the western tribes brought people in who wished to serve as middle men, and some, such as the Westo, were aggressive and warlike (Bowne 2005). The Pee Dee and other "Settlement Indians" at first sought protection from these newcomers and their enemies, but they quickly fell under the sway of European ways. In 1710, Reverend Francis LeJau of St. James Goose Creek Parish reported that his neighbors, the Etiwan, still practiced their annual celebrations, but noted that few people remembered why, and that their grasp of their ancestral religion was limited (in Klingberg 1956). In the 1730s, Phillip Von Reck made similar observations regarding the Yuchi and Palachacolas (Figure 9) on the Savannah River (Hvidt 1980). This is at least partially the result of disease and war taking the elders and religious functionaries indiscriminately, abruptly ending generations of oral history and cultural knowledge. LeJau noted that their children "were tractable and speak good English" and that some adults and children were receptive to Christianity (LeJau, 1 February 1709/1710 in Klingberg 1956). The Yemassee, who were known as Christian

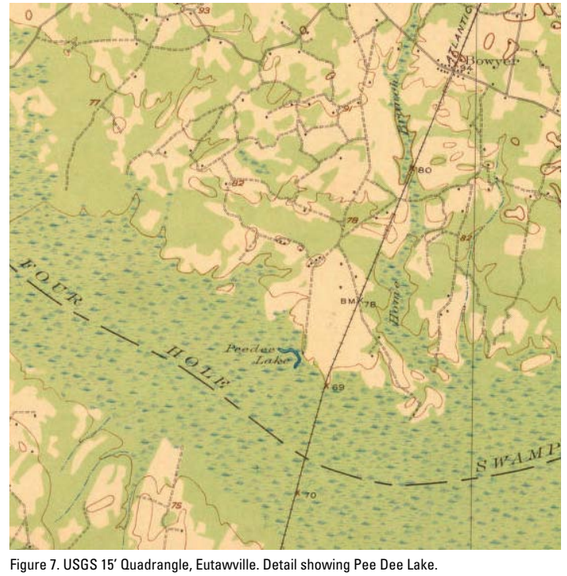

Figure 7. USGS 15′ Quadrangle, Eutawville. Detail showing Pee Dee Lake.

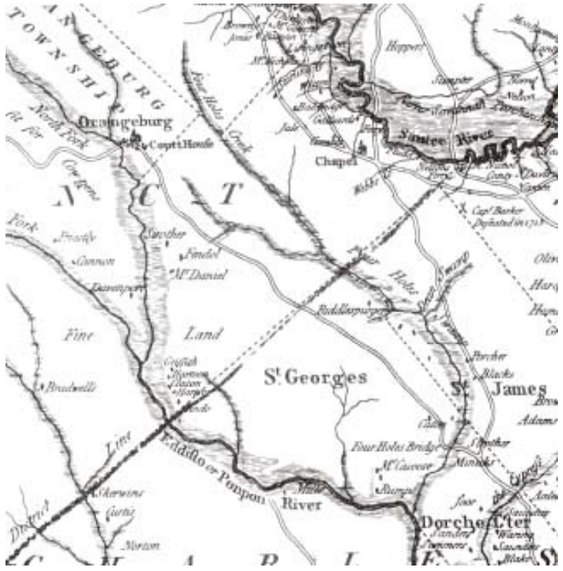

Figure 8. Detail of the Four Holes Swamp area of the Henry Mouzon (1775) map.

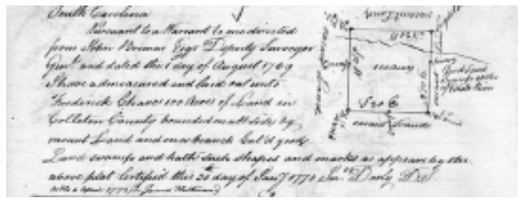

Figure 9. Land plat, Frederick Chavis, 1769.

Indians, in particular requested that priests be sent to their towns, as the Spanish had done when they were in Florida (Klingberg 1941:15).

Over the next 150 years, the remaining Native Americans faced another danger. Because they were not white skinned, it could be argued they were African or at least that there was enough admixture that unless they could prove that they were born free they could be enslaved. As Eugene Genovese (1974) and others have pointed out, the definitions changed over time. The extreme seen in the so called "one drop rule" which defined one as Black highlights the problem (Williamson 1995). An example of this from the mid 19th century was reported recently by a Gullah descendant on James Island, whose great grandmother was an Indian forced into slavery in the 1850s (Frasier 2005).

Although they were descended from people living in what archaeologists might call the "Mississippian" period, they were not necessarily practicing "Mississippian" lifeways. In 1710, Reverend LeJau reported that the Free Indians "come to see me when they fix their abode near me, for they are perpetually changing places to get food, having no provisions laid up." Again, Von Reck repeats this in the 1730s. This suggests an important hunting and gathering element. Some were employed as hunters for the plantations.

So there was pressure for them to get along with their white neighbors: to speak their language, practice their religion, mind their fences, and trade with them in the marketplace.The Settlement Indians also had to live by the State's laws, meaning they had to get titles to their lands, and pay taxes. Often they could not practice their traditional way of life – hunting, and gathering - which their white neighbors sometimes saw as trespassing, poaching and stealing.

Racial tensions worsened as the 19th century passed and the Civil War approached. The South's defeat embittered the Confederates and generations of their children. All non-whites were increasingly discriminated against (see Sider 2003, for instance). In the Lowcountry, the Settlement Indians came to be called "Summerville Indians" and the implication was that they were not "real" Indians, but mixed breed African and Native Americans who were trying to "pass" for white. When state schools were established in the 1890s, two systems were set up: one for whites, one for everybody else. Thus the former "Settlement Indians" were pressed to assimilate and deny their heritage or face segregation and discrimination (Paredes 1992).

Today, there is a renewed interest in tribal identity among their descendants, but the "Settlement Indians" of today are a different thing entirely than their ancestors. The exact set of practices that established group identity are long gone. The characteristic languages, modes of dress hairstyles and other symbols that would identify(Figure 10 and 11), for instance, a Pee Dee to the group - and to outsiders - will never be known again. So it is up to the modern groups to define their own identity and what it means to be an Indian in a radically changed world. The numerous unrecognized tribal groups that have emerged in the past decades are pursuing this goal.

An Archaeology of Settlement Indians

So can an "archaeology of the Settlement Indians" in some way help? By taking a direct historical approach, paired with modern science I believe it can, but archaeologists and natives need to work together to make it happen. Many of today's Lowcountry Native American descendants

Figure 10. Yuchi settlement on the Savannah River. Phillip Von Recke (1735).

Figure 11. Yuchi dress. Phillip Von Recke (1735).

Figure 12. Native American settlement near Summerville showing a sorgum mill. Photography by Marion Post Wolcott, December 1938.

live in the swamps of Berkeley, Colleton, Dorchester, and Orangeburg counties (Hicks and Taukchiray 1999). These swamps were not used for rice agriculture and in living history were known as impenetrable wildernesses. The Francis Beidler Forest in Four Hole Swamp, for instance, is a tract of 18,000 acres of uncut hardwood forest with cypress trees up to a thousand years old. Substantial fields for cotton and other crops are found on the high grounds, but Native Americans seem to have liked being tucked away, out of sight. Wes Taukchiray noted in the 1980s that the average Native American family in SC lived at the end of a long dirt road at the edge of a swamp (see Figure 7; Taukchiray and Kasakoff 1992).

Using Michelle Schohn's research (1998), and conducting new genealogy-oriented research as well, we should be able to build family trees and then use deeds, census and tax records to identify sites occupied by people either identified as Indians, or thought to be Indians. The sites can be sampled, and things that might make them distinctive, beyond their isolated locations, may be identifiable. Historical documents indicate that many made their livings by hunting and fishing for the market. So we might expect to see elevated amounts of hunting and fishing gear- though defining the norm in this area might be a problem, as hunting and fishing was and is ongoing. In the 19th century, some Catawba still made blowguns and darts, and still made Indian style bows and arrows (Coe 1964; Harrington 1908; Merrell 1989). Might we expect to find arrow points, perhaps made from glass? Net weights?

Figure 13. Native American gravestone with "Indian Markings" in Hoke County, NC.

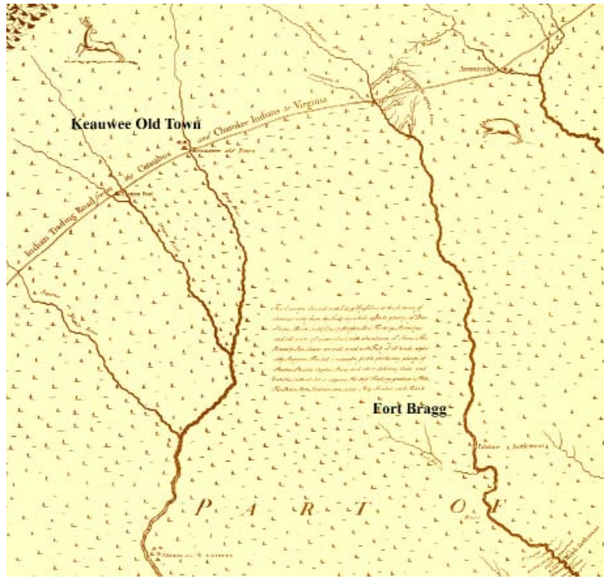

Figure 14. Detail of the Pee Dee River (Mosely 1733) showing the Saraus, Keauwees, and Pee Dees.

Baling wire from fish traps? Tools for making the wooden traps and basketry?

The Catawba also made and used snares and traps for small game, so should we look for a higher than normal number of rabbit, possum and raccoon bones in the faunal assemblage? In the botanical collection might we expect more useful plants, such as gourds? Historic photos show Native Americans in the Lowcountry growing and processing sugar cane (Figure 12). This may reflect poverty as much as anything, as locally grown and milled molasses and sugar is found across the South. But are these facilities more common on sites in this area?

Some groups, existing largely on the family level, called themselves by traditional names, but no one spoke the language or practiced the traditional religions, and few, if any, traditional cultural practices are known to have survived. Cultural traits that have survived may be deeply embedded; however, and archaeology may be one of the most promising avenues to identify such traits and their use over time. Native plant use, hunting and fishing practices, house type and size, and lot arrangement (reflecting traditional gardening lore) may be distinctive.

Most Native Americans in South Carolina are thought to have been, ostensibly at least, Christians by the 19th century, but can scraps of ancient religious beliefs be seen in symbols, and burial practices? In 1724, Reverend Francis Varnod described a traditional flexed burial, with the body positioned to face eastward, and a handful of lead shot deposited as grave goods in St. Georges Parish, which would have included the swamps discussed above (Klingberg 1941:57).

An example from North Carolina illustrates the direct historic approach. A cemetery in Hoke County contains home made concrete grave markers that have what a county historian described as "Indian Markings" (Parker 1974:170; Figure 13). A family member was interviewed in the 1990s, and he speculated that the markings might be in the Cherokee syllabary developed by Sequoyah in the 1810s (Aragon 1998; Mooney 1885). This does not seem to be the case, but their meaning is still less than clear. The cemetery contains graves from two extended, intermarried families that were associated in the documentary record as early as the 1830s.

To me, the story of these families, who out of respect for their privacy will be referred to as the Smiths and Jones, is typical of the Settlement Indians of the Carolinas, and

Figure 15. Detail of the 1747 Emanuel Bowen map.

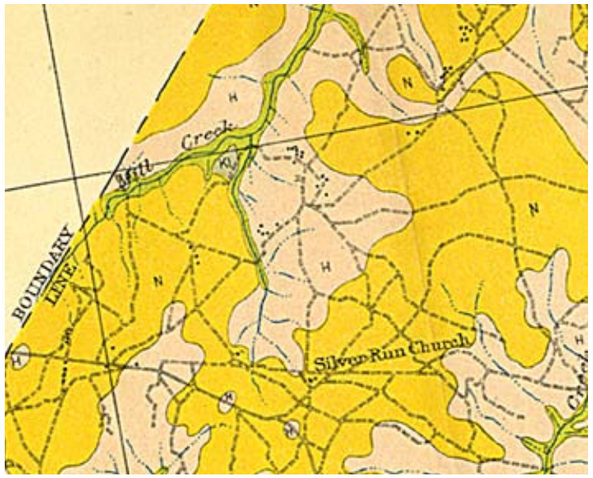

Figure 16. Detail of the area of the Smith / Jones family lands (Hoke County Soil Survey 1918).

During the 19th century, the family expanded, and settled (Figure 16) along an isolated creek in what would become Hoke County.

During the antebellum period, the Smiths and Jones were identified as free people of color in the census, but after the Civil War they were called Negros, Mulattos, or sometimes, perhaps in protest of the dearth of acceptable choices, no race at all. This reflects the struggle of the Settlement Indians of the Carolinas in general, as the states of North and South Carolina did their best to deny that they were Indians at all.

There were three Smith brothers in 1870, and a Smith sister was married to a Jones man. All four families lived in close proximity, with three clustered together and a fourth down the road a ways. In 1870, they were working for a white turpentiner, but in 1880 they had founded their own company and were running a turpentine distillery - one of the few known businesses to be operated by Native Americans in North Carolina during the 19th century (Figure 17),. The trees began to be tapped out in the 1880s, and many turpentiners moved to Georgia and Florida. Others went there for seasonal employment. At least two of the Smith Brothers stayed in Florida, in Rosewood and Gainesville, where they ran a turpentine operation. Their families remained in place in Hoke County until the last of them were forced out by the government in 1918.

The turpentine industry was mostly run by White operators, who employed Black laborers. In this case, the Smiths may have employed family members, but the census refers to them as Negros and Mulattos, not Indians. Two

Figure 17. A turpentine crew in Moore County, NC (from Butler 1995).

can be interpreted on several levels. The subject of the interview, a man in his 70s, said his grandmother and other family members believed their ancestors were Keyauwee Indians. The Keyauwee were a group who lived in western North Carolina, near High Point on the drainage divide between the Cape Fear and Pee Dee Rivers (Figure 14). John Lawson visited them in 1701. According to John Swanton they, accompanied by members of the Saponi, Tutelo, Occaneechi and Shakori "moved toward the white settlements about Albemarle Sound and some time in 1733 (Figure 14) settled farther south on the Pee Dee River with the Cheraw and probably the Eno and Shakori" (Swanton 1946:145).

In 1747, Emanuel Bowen's map showed their village site on the Pee Dee at the state line, associated with the "Saraus" (Figure 15). This is a little confusing, as these villages were thought to have been abandoned when the Sara deeded all of their lands east of the Pee Dee to John Thompson, a trader, in 1737 (Steen et al. 1998). But Bowen shows them here, as do later mapmakers such as William DeBrahms (1758) and James Cook (1773). So did enough families stay behind in the neighborhood of the old village sites to keep the place names alive?

The Smith-Jones family tradition had them moving to the Pocket Creek area of Moore County, along the old road from Fayetteville to the Yadkin Valley, about 30 miles from the later settlement (Figure 15). In 1830 they are found there in the Federal Census.

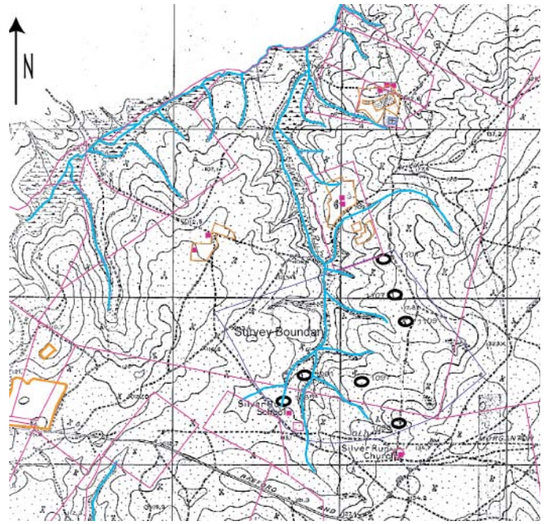

Figure 18. Detail of the area of the Smith / Jones family lands. US Army 1918 map with archaeological sites labeled (Steen 2005).

Figure 19. Chimney base at 38HK1101. Turpentine workers house on Ed Jones' land.

small domestic sites (Figure 18) on Ed Smith's land were tested in 2004 to determine their eligibility for inclusion on the National Register of Historic Places (Steen 2005). This consisted of shovel test sampling, excavation of two larger units, and a metal detector survey. Both had an extremely low artifact density, and neither had elaborate architectural remains or appeared to be occupied for long. They were located a few hundred meters down the road from the Ed Smith settlement and were interpreted as homes for turpentine workers. At the level of sampling, little was recovered that can be used to make statements about "Settlement Indian" life. Indeed, the pattern of poverty shown in the artifact assemblage is common for all of the sites we tested. It was argued at that time that the structures (Figure 19) themselves might be the most telling artifacts, as they were likely built by the Smiths and Jones, and thus were the products of Native American descendants. The testing project, unfortunately, did not focus on the Smith-Jones settlement, but using the historical record we could easily go directly to the site and start working.

The Smith and Jones families remind us of an intervening variable however. Ed Smith was in Rosewood, Florida at the time of the Rosewood Massacre, where he was at one time the second largest landholder in the county (Dye 1996). He was identified there as an African American, and he lived among African Americans and Whites. It should be noted that historians studying the Rosewood Massacre, and the South in general, use the terms Black and White exclusively, ignoring Native Americans entirely (see D'Orso 1996, for instance).

The physical anthropologist William Pollitzer (1999) has pointed to numerous rural communities in the South where Whites, Blacks and Natives lived together, interbred, and melded into what he terms tri-racial isolates. While the term "Creolization" has fallen from favor academically (Fennell 2007), it serves to loosely frame the lower classes of the society that grew up in the South (Williamson 1995). So although we may be interested in Native American descendants, we must also remember that they lived among Whites and Blacks, and absorbed and interpreted traits from both. And this was not unidirectional: Natives are thought to have taught the newcomers to find medicinal herbs and useful plants, and to have served as hunters and guides. With their shared culture of poverty as a leveling factor, the result may be that archaeological assemblages generated by Settlement Indians may not vary much from their neighbors. So a direct historical approach may be necessary to isolate Settlement Indian sites and determine what is discernibly unique to them, if indeed there is anything unique about them.

This does not mean that the archaeological record is not important. The Catawba are specifically identified as itinerant potters present in the Lowcountry in the early 19th century, both by Lowcountry observers, and visitors to the Catawba Reservation. Sherds of Catawba type pottery are often seen in context with Colonoware on Lowcountry slave quarter sites (e.g., Lewis and Hardesty 1979; Wheaton et al. 1982). Colonoware seems to date as early as the 1720s, though this is data that still needs to be refined and synthesized. A poll of Lowcountry historical archaeologists produced the 1720s date, but no one has systemati-

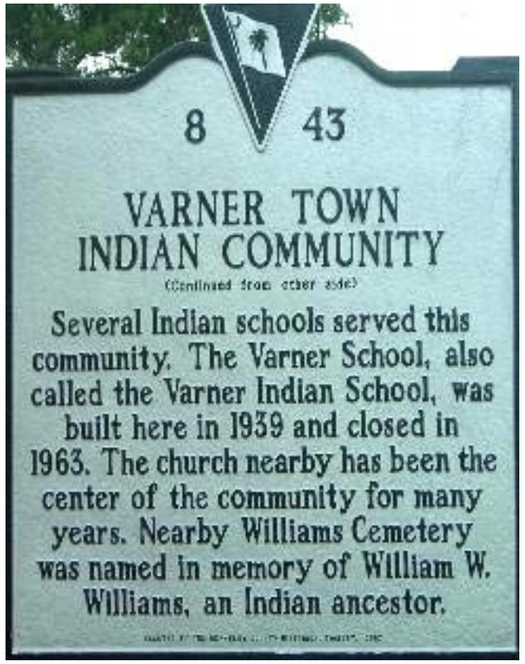

Figure 20. Historical marker at the Varner Town community, Berkeley County, SC.

cally looked at datable contexts and features with this question in mind, and few 17th century sites with discrete deposits have been identified (Steen and Shlasko 1999). Certainly by the late 18th century Catawba wares are more common (Steen 1992), and by the mid 19th century, with a few possible exceptions (Kennedy and Espenshade 1994), the only unglazed low fired earthenwares found in plantation contexts is Catawba (Steen et al. 2005).

It has been assumed that the vast majority of the Colonoware found on Lowcountry sites, both urban and rural, was made by the enslaved, and in the world of academic research in the Lowcountry the enslaved are considered African. Thus, Colonoware reflects African material culture. However, even if it is argued that there is just so much of it there that the slaves had to have made it – 20 to 30 thousand sherds at a site is not unusual (Ferguson 1978; Steen 1999) - there is still room for debate. Brett Riggs and co-authors (2006:81) pointed out that the definition of Catawba pottery has been restricted to what Wheaton and co-authors (1982) and I would call classic Catawba ware and which Anthony (1989) and Ferguson (1992) term "River Burnished" ware. This is the very thin, well made and highly burnished wares that look like the ceramics that the modern Catawba make. But in excavations at late 18th century Catawba sites in the area of the reservation in York County, they found considerable variation, including sherds that would probably be called Colonoware in a Lowcountry assemblage (Riggs et al 2006:81).

The Catawba confederacy was made up of people who would have been related to the Settlement Indians, and there appears to be both short term residential mobility (ie, expeditions to make and trade pottery) and more permanent alliances where families and tribal remnants took up long term settlements. From the numerous mentions of people identified as Pee Dee and other groups (Hicks and Taukchiray 1998) known to have lived among the Catawba it seems that these alliances fluctuated, and residential mobility was unidirectional. So what if the Settlement Indian women made colonoware in the swamps of the Lowcountry for 100 years while their husbands hunted and fished to trade with the plantation folk? Clay analysis has shown that the clays used in Colonoware were from Lowcountry sources, but no specific source has been identified (Crane 1993). What if the blindered approach that has been taken in both the historical and archaeological consideration of slavery and Colonoware research has caused this possibility to be brushed aside out of hand?

Figure 21. A Native American house near Summerville in the 1930s.

If we want to prove or disprove this hypothesis first we need to identify potential Settlement Indian sites in the core of Colonoware country. So what do we look for? As stated before, a direct historical approach may prove useful, though we have to recall the limitations of this. Archaeological sites might be identified by their isolation. Slaves tended to live in settlements of many families, though short term camps for naval stores production and cattle herding are known to have existed. The Settlement Indians are not believed to have been wealthy plantation owners, though individuals like Ed Jones doubtlessly prospered more than others. Rather they are likely to have been poor families living on the edges of society. Their homes would not have been fancy, because they were in all likelihood expedient structures built on land owned by someone else. Research at sites occupied by relatively poor white families on Ft. Bragg showed that over the generations they made a significant impact on the landscape in the form of fences, ditches, roads, fields, and outbuildings. The Settlement Indians may not have been able to stay put long enough to make such alterations.

So we are looking for a lower socio-economic status site on the edge of a swamp away from the plantation settlements that may have only been occupied briefly. If they were making colonoware there would be a lot of it. At the New Town site (38YK434), Riggs and co-authors (2006:61) recovered nearly 62,500 sherds. If they were making it for their own use, it might be in more traditional forms than the trade wares or at least in forms not often seen on plantation sites, like large cooking vessels. It might also be decorated, and indeed there is a small subset of Colonowares that have punctate and incised decorations. Low fired earthenwares might be found in later contexts as well. There might be less European ceramics and glass, as slaves are thought to have received hand-me-downs from their masters, an avenue not available to free people.

Have sites like this already been found and simply not identified correctly because of a lack of understanding of the dynamic context of the Lowcountry? Historians and archaeologists almost always look at Lowcountry society as Black or White. Indeed, I raised this point to colleagues who had found decorated Colonoware on a Cooper River plantation that they were interpreting as African designs, though they were struggling to find matches in the literature. What about the Settlement Indians, I asked? Couldn't they have made these ceramics, allowing for a more parsimonious interpretation of the data? They said unequivocally that there were no Native Americans in the Lowcountry after the Yemassee War. Everyone had joined the Catawba. This is what they, and I, were taught in school, and this is what most of our colleagues believe to be true. However, the site was located about six miles from Varner Town, a settlement of Native Americans with roots deep in Lowcountry history (Figure 20). They were about ten miles from St. James Gooose Creek Church, where the Indian neighbors of Reverend LeJau camped. Their site was about the same distance downriver from the Seewee Fort shown on the 1685 Thornton-Morden map. Early plats identify "Old Fields" just across the river, in fact, so the idea that every site in the Lowcountry was occupied by either Whites or Blacks is naïve, and needs to be re-examined.

Though they were few and mostly slipped beneath the notice of the documenters of South Carolina history (Figure 21), the Settlement Indians of the Lowcountry and the Carolinas at large have an interesting past, and there seems to be great potential for studying them and their contributions to our shared past. Should this be done for its own sake, or out of a desire for advocacy? I lean toward the former, but would not be unhappy if the findings resulted in the latter.

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Defining Wando: A Distinct Late Woodland Manifestation in the Charleston Harbor Region

Jon Bernard Marcoux and Eric C. Poplin

Two decades ago, Michael Trinkley (1992) addressed a growing consensus among southeastern archaeologists that excavations at small coastal Woodland-period shell middens had reached the point of needless redundancy. Espenshade et al. (1994:181-185), for example, argued that the cost of excavating this type of archaeological site far outweighed any benefits in terms of generating new or improved understandings about past lifeways. Trinkley (1992:39-40) countered that the perceived redundancy identified by Espenshade and others more likely reflected the need for new research questions and perspectives rather than the need to forgo further excavation at these sites. In recent excavations at the Wando-Welch site (38CH351) in Mount Pleasant, South Carolina, the authors followed Trinkley's call by applying new analytical techniques and research perspectives to a site containing a palimpsest of small Woodland-period shell middens (Marcoux et al. 2011). A particularly interesting characteristic of this site is the dominant presence of limestone-tempered pottery (defined as the Wando series) – a phenomenon that appears to be concentrated at sites in the Wando River basin on the northeast side of Charleston Harbor. While very similar in vessel form and surface treatment to the sand-tempered Late Woodland Santee and McClellanville series, we still do not have a solid grasp on the temporal range of Wando-series pottery. Furthermore, little has been done to characterize the "place" of shell midden sites bearing Wando-series pottery with respect to the settlement and subsistence strategies.

In this essay, we employ data generated from excavations at the Wando-Welch site and other sites in the area to take on these two issues. We begin by addressing the distinctive Wando-series limestone-tempered pottery – employing ceramic seriation and radiocarbon dating to define the chronological position of this series within the cultural history of the region. Then we consider seasonality data from faunal and botanical materials and use a number of estimation techniques to assess group size and occupation duration at the site. Finally, we explore temporal variability in coastal hunting and gathering lifeways by comparing certain archaeological indicators of sedentariness for the Wando-Welch site and a number of other coastal South Carolina sites. We conclude that the Wando phenomenon is part of a large-scale regional process of cultural change, when groups began to form more localized identities in response to increasing sedentism in the Late Woodland period.

The Wando-Welch Site and the Wando Pottery Series

The Wando-Welch site (38CH351) is a large multi-component site containing evidence of numerous occupations spanning from the Ceramic Late Archaic period (ca. 2500–1000 BC) to the mid-20th century. The site, which measures approximately 510 meters north-south by 750 meters east-west, is located on a small bluff above Hobcaw Creek near its confluence with the Wando River (Figure 1). The site lies within the boundaries of the Wando-Welch Terminal, a shipping facility operated by the South Carolina State Ports Authority (SCSPA). Archaeological survey and evaluative testing excavations were conducted by Brockington and Associates, Inc. in 2007 and 2008 in order to assess the National Register of Historic Places (NRHP) eligibility of the site prior to the expansion of the terminal's facilities (Bailey and Ellerbee 2007; Marcoux and Salo 2008). The multistage testing program, including shovel tests and excavation units, revealed the presence of three discrete artifact concentrations in the northwest portion of the site- the area slated to be disturbed by the facility's expansion (Figure 2). These three loci contained intact shell middens and subterranean refuse-filled pit fea-

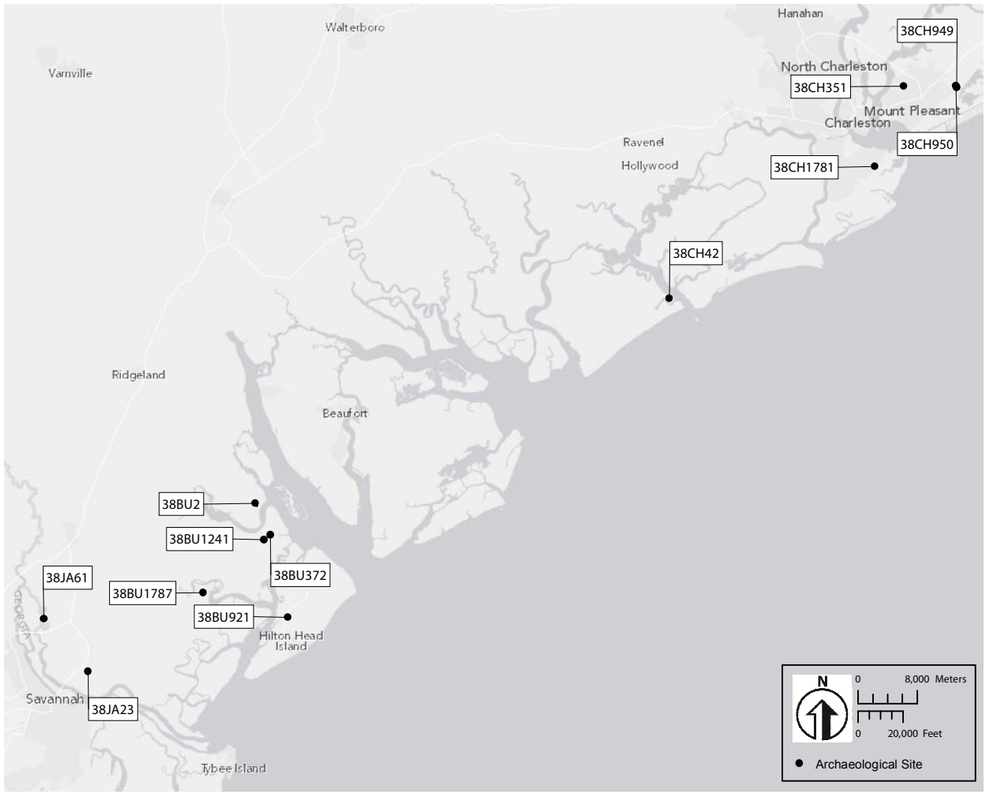

Figure 1. The Location of the Wando-Welch site (38CH351) and other sites discussed in this essay.

tures. Diagnostic pottery assemblages recovered from these loci were dominated by limestone-tempered and sand-tempered sherds with plain, cord marked, and simple stamped surfaces of a presumably Woodland period vintage. Investigators concluded that these deposits held significant research potential and recommended the site eligible for the NRHP. The authors subsequently supervised data recovery excavations within the affected portion of the site between August and December 2009. These investigations included 450 shovel tests, 41 m² of hand-excavated units, and the mechanical stripping of the upper 30 cm of topsoil from areas totaling approximately 310 m². These excavations identified nine discrete shell middens, ranging in size from just over 1 m² to 50 m², and nine refuse-filled pits. No structures or architectural features, such as postholes, were identified.

Wando pottery, whose moniker signifies its geographic concentration in the Wando River basin in Charleston and Berkeley counties, has only recently become the focus of serious analytical efforts. Indeed, as recently as the late 1980s, the Wando series went unmentioned in a synthesis of the Woodland period in South Carolina (Trinkley 1989). Foundational work on this pottery series began in the early 1990s and has included the formal description of Wando-series pottery (Adams et al. 1993), as well as quantitative analyses and frequency seriations aimed at determining its temporal and geographic range in relation to existing Woodland-period pottery series such as Deptford, Wilmington, Santee, and St. Catherines (Poplin et al. 2002).

Adams and co-authors (1993:65-72) provided the first formal description of Wando-series pottery as part of their discussion of a site (38CH1474) identified during an intensive survey of a tract of land in the Charleston Harbor area. The pottery assemblage recovered from the site was dominated by limestone-tempered sherds, some of which had cord-marked and check-stamped surfaces. Adams and co-authors (1993:65) defined Wando-series pottery to include sherds exhibiting a sandy paste tempered with

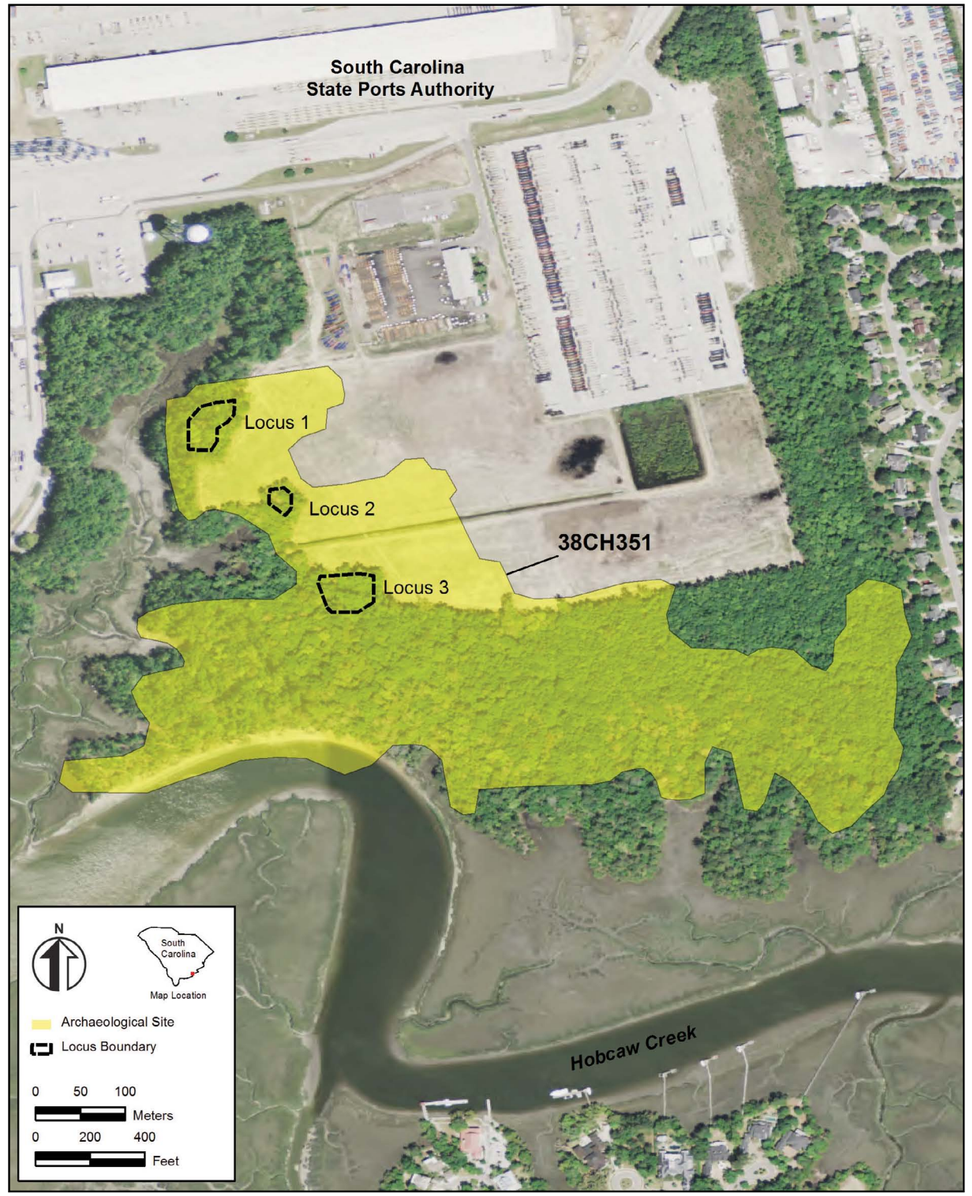

Figure 2. Locations of Loci 1-3 within the Wando-Welch site (38CH351).

abundant quantities of limestone particles. They noted that the limestone particles, which ranged in size from 0.5 to 6.0 mm, were often leached out near the surface of the sherds, leaving rounded voids. The authors created the pottery types Wando Cord Marked and Wando Check Stamped to designate two common surface treatments found on this limestone-tempered ware. Wando-series rims in the assemblage were all straight and possessed both round and

flattened lips; however, no definitive vessel forms could be identified. Adams and co-authors (1993:68) also discussed the geographic concentration of Wando-series pottery at sites along the Wando and Cooper rivers. They concluded their formal description by mentioning possible parallels with the shell-tempered Oak Island pottery series that dates to the Middle and Late Woodland periods in northern South Carolina; however, they stated that these parallels were purely speculative as "nothing [at that time was] known about the temporal context of the Wando series."

More recent analyses by Poplin (2005) and colleagues (Poplin et al. 2002; Jateff et al. 2008) have added much to our growing understanding of the stylistic, geographic, and temporal range of Wando-series pottery. In their report of data recovery excavations at 38CH1025, Poplin and co-authors (2002:38) added a number of pottery types to the Wando series based on newly identified surface treatments, including Wando Brushed, Wando Fabric Impressed, Wando Incised, Wando Punctate, Wando Simple Stamped, and Wando Plain. Two vessel forms were present in the study sample: simple bowls and straight-sided, cylindrical jars.

The authors consulted dozens of excavation reports in order to plot the geographic distribution of sites containing Wando-series pottery. The results of this analysis supported the highly localized distribution pattern that Adams and co-authors (1993) identified. Indeed, the researchers found that sites yielding Wando pottery were heavily clustered along the Wando and Cooper rivers (Poplin et al. 2002:59). After considering a number of possible environmental and technofunctional explanations for the highly localized distribution of Wando-series pottery, the authors concluded that the use of limestone tempering most likely reflected a conscious decision of local potters—a material statement of identity meant to distinguish members of local communities from individuals hailing from communities outside the Wando and Cooper river basins (Poplin et al. 2002:77). We will visit this interpretation at the conclusion of this essay.

The Wando-Welch Pottery Assemblage

The data recovery excavations at the Wando-Welch site yielded a total of 1,345 non-residual sherds (i.e., with a dimension greater than 2 cm). Of these, 1,302 could be confidently placed into an established ceramic series or an indeterminate category that was temporally diagnostic (Table 1). The site-wide assemblage is dominated by limestone-tempered Wando series pottery (53 percent), followed by sand-tempered Deptford series pottery (11 percent) and McClellanville series (5 percent). Stallings, Thom's Creek, Refuge, Wilmington, Santee, and Mississippian complicated stamped pottery are also present in trace amounts. Within the Wando series, cord marked and plain are the dominant surface treatments, followed by simple stamped, fabric impressed, and check stamped. Check stamping dominates the Deptford series assemblage Figure 3 displays examples of the Wando and McClellanville types from 38CH351.

Inspection of the relative frequencies of Wando-, Deptford-, and McClellanville-series pottery for each locus supports the assignment of primary occupational components in Loci 1 and 3 to the Woodland-period Wando phase. In Locus 2, we argue that there are two separate significant occupations dating to the Wando and early Middle Woodland Deptford phases. In Loci 1 and 3, Wando-series pottery composes over 69 percent and 49 percent of the assemblages respectively. Deptford series pottery, which is primarily check stamped, composes five percent of the Locus 1 assemblage and six percent of the Locus 3 assemblage. McClellanville Cord Marked pottery makes up approximately seven percent of the Loci 1 and 3 assemblages. As will be discussed below, the results of a regional ceramic seriation conducted with multiple samples from coastal South Carolina sites indicate that these relative percentages are typical of Wando sites across the Charleston Harbor area. The assemblage from Locus 2, on the other hand, is comprised of 37 percent Wando series pottery and 26 percent Deptford series pottery. While these relative contributions are not drastically different than Loci 1 and 3, it is the predominance of check stamping in the Locus 2 assemblage (15 percent) that suggests that this locus contains two separate occupational components. No stratigraphic relationship was identified between these components, as all cultural material was recovered between the ground surface and 40 cm below. The seriation results discussed below demonstrate that Deptford-series check stamped pottery and Wando-series pottery are associated with temporally distinct Middle Woodland and Late Woodland potting traditions.

Analysis of ceramics recovered from the Wando-Welch site identified a minimum of 94 ceramic vessels based on unique rim sherds. Table 2 includes the 77 vessels that could be placed within a ceramic series. A majority of those vessels are classed as part of the Wando series (71 percent), with Deptford series (nine percent) and McClellanville (eight percent) forming a significant minority.

The Wando-series vessel assemblage can be characterized by two forms, straight-sided jars and bowls. The latter vessel category can be further divided into simple bowls and restricted orifice bowls. The Wando assemblage is comprised primarily of straight-sided jars (n=26), followed by simple bowls (n=7) and a single restricted orifice bowl (Figure 4). As a proxy for overall size, orifice diameter estimates were obtained for seven specimens. These ranged from 24 cm to 30 cm with a mean of 36.5 cm and a standard deviation of 3.2 cm. Small sample size precludes any meaningful conclusions regarding size ranges. Estimates for five simple bowls displayed similar variability, ranging from 14 cm to 22 cm with a mean of 18 cm and a standard deviation of 3.16 cm. The rim of the single restricted orifice bowl was too small to estimate diameter.

Table 1. Frequencies of Temporally Diagnostic Ceramic Sherds Recovered from the Wando-Welch site (38CH351).

	Stallings Plain		Thom's Creek Shell Punctate		Thom's Creek Reed Punctate		Refuge Dentate Stamped		Refuge Simple Stamped		Deptford Check Stamped		Deptford Fabric Impressed		Deptford Linear Check Stamped		Wilmington Cord Marked	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Locus 1	6	1.1%	2	0.4%	1	0.2%	1	0.2%	1	0.2%	11	2.0%	3	0.6%	2	0.4%	2	0.4%
Locus 2	11	2.5%	1	0.2%	1	0.2%	2	0.4%	2	0.4%	44	9.9%	9	2.0%	61	13.7%	0	0.0%
Locus 3	1	0.3%	1	0.3%	0	0.0%	5	1.6%	0	0.0%	10	3.1%	2	0.6%	10	3.1%	3	0.9%
Total	18	1.4%	4	0.3%	2	0.2%	8	0.6%	3	0.2%	65	5.0%	14	1.1%	73	5.6%	5	0.4%

	Wilmington Check Stamped		Wilmington Fabric Impressed		McClellanville Cord Marked		Santee Simple Stamped		Wando Plain		Wando Cord Marked		Wando Linear Check Stamped		Wando Simple Stamped		Wando Fabric Impressed	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Locus 1	1	0.2%	0	0.0%	37	6.9%	4	0.7%	51	9.5%	129	24.0%	15	2.8%	23	4.3%	8	1.5%
Locus 2	1	0.2%	0	0.0%	1	0.2%	1	0.2%	74	16.6%	27	6.1%	0	0.0%	18	4.0%	4	0.9%
Locus 3	0	0.0%	6	1.9%	23	7.2%	3	0.9%	17	5.3%	66	20.8%	0	0.0%	3	0.9%	4	1.3%
Total	2	0.2%	6	0.5%	61	4.7%	8	0.6%	142	10.9%	222	17.1%	15	1.2%	44	3.4%	16	1.2%

	Wando Check Stamped		Wando Eroded		Sand Tempered Plain		Sand Tempered Brushed		Sand Tempered Eroded		Grog Tempered Plain		Grog Tempered Eroded		Misssissippian Complicated Stamped		Total	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Locus 1	1	0.2%	145	27.0%	36	6.7%	1	0.2%	50	9.3%	7	1.3%	1	0.2%	0	0.0%	538	100.0%
Locus 2	1	0.2%	41	9.2%	114	25.6%	0	0.0%	31	7.0%	0	0.0%	2	0.4%	0	0.0%	446	100.0%
Locus 3	1	0.3%	67	21.1%	25	7.9%	0	0.0%	71	22.3%	0	0.0%	0	0.0%	3	0.9%	318	100.0%
Total	3	0.2%	253	19.4%	175	13.4%	1	0.1%	152	11.7%	7	0.5%	3	0.2%	3	0.9%	1302	100.0%

Categories with frequencies greater than 9% highlighted.

Surface treatments present on the Wando-series vessel assemblage include cord marking, plain, simple stamping, check stamping, and fabric impressing. Cord marking is by far the dominant surface treatment on all vessel forms, and while the sample size is too small for any statistical significance, there does not appear to be any correlation between vessel form and surface treatment.

Eleven Wando-series vessels have embellishments placed along the vessel lip. Stylus notching is present on five straight-sided jars, a simple bowl, and two indeterminate vessels. Cord marking is present on a single straight-sided jar and a single indeterminate vessel. One indeterminate vessel also has a single incised line just below the lip.

The sand-tempered vessel assemblage (Deptford and McClellanville) is identical to the Wando-series assemblage, with two vessel forms: straight-sided jars and bowls (both simple and restricted orifice bowls- Figure 4). The assemblage is comprised of straight-sided jars (n=7), restricted orifice bowls (n=4), and a single simple bowl (Figure 4, Table 2). Two jar rims were large enough for orifice diameter estimates. These are 18 cm and 34 cm. Estimates for two restricted orifice bowls are both 18 cm. The rim of the single simple bowl is 26 cm.

Surface treatments present on the sand-tempered vessel assemblage are identical to the Wando-series assemblage (i.e., cord marking, simple stamping, check stamping, and fabric impressing). Also like the Wando-series assemblage, cord marking is the dominant surface treatment, and while the sample size is too small for any statistical significance, it does appear that linear check and regular check stamping are restricted to jars while bowls are either cord marked or simple stamped. Only two sand-tempered vessels have embellishments placed along the vessel lip –both jars. These embellishments include check stamping and stylus notching.

The assemblage composition at the Wando-Welch site is not surprising given that the three vessel forms are archetypal of Woodland-period cooking and storing technology across the Southeast (Anderson and Mainfort 2002; DePratter 1991; Trinkley 1989). Whether the three vessel forms relate to differences between cooking and serving functions is a crucial question that has yet to be adequately addressed in the literature, but based on studies conducted by Hally (1986) and Shapiro (1984) for Mississippian-period vessel assemblages, we can speculate that the straight-sided jars served cooking and storage functions while bowls were likely used for serving. Our understanding

Figure 3. Wando-series plain, cord marked, and simple stamped pottery and McClellanville Cord Marked pottery.

of Woodland-period ceramic function will benefit greatly from future studies of vessel function.

The defining characteristic of the Wando series is the use of limestone particles as a tempering agent. With regard to paste characteristics, we examined the size and density of temper particles in every unique rim sherd in the sample. For the former, we measured the third largest temper particle visible in the cross-section of each rim sherd representing a vessel (Steponaitis 1983). Temper particles are round to sub-round and range from 0.52 mm to 4.34 mm with a mean of 1.88 mm and standard deviation of 0.66 mm (Figure 5). The density of temper particles, as estimated with visual charts (Matthew et al. 1997:215-263; Orton et al. 1993: Figure A.4), vary considerably from

Table 2. Diagnostic Ceramic Vessels Identified at the Wando-Welch site (38CH351).

Ceramic series	Straight sided jar		Simple bowl		Restricted-orifice bowl		Indeterminate		Total	
	n	%	n	%	n	%	n	%	n	%
Thom's Creek	1	1.3%	0	0.0%	0	0.0%	0	0.0%	1	1.3%
Refuge	0	0.0%	1	1.3%	0	0.0%	1	1.3%	2	2.6%
Wilmington	5	6.5%	0	0.0%	0	0.0%	0	0.0%	5	6.5%
Deptford	4	5.2%	0	0.0%	2	2.6%	2	2.6%	8	10.4%
McClellanville	3	3.9%	1	1.3%	2	2.6%	0	0.0%	6	7.8%
Wando	26	33.8%	7	9.1%	1	1.3%	21	27.3%	55	71.4%
Total	39	50.6%	9	11.7%	5	6.5%	24	31.2%	77	100.0%

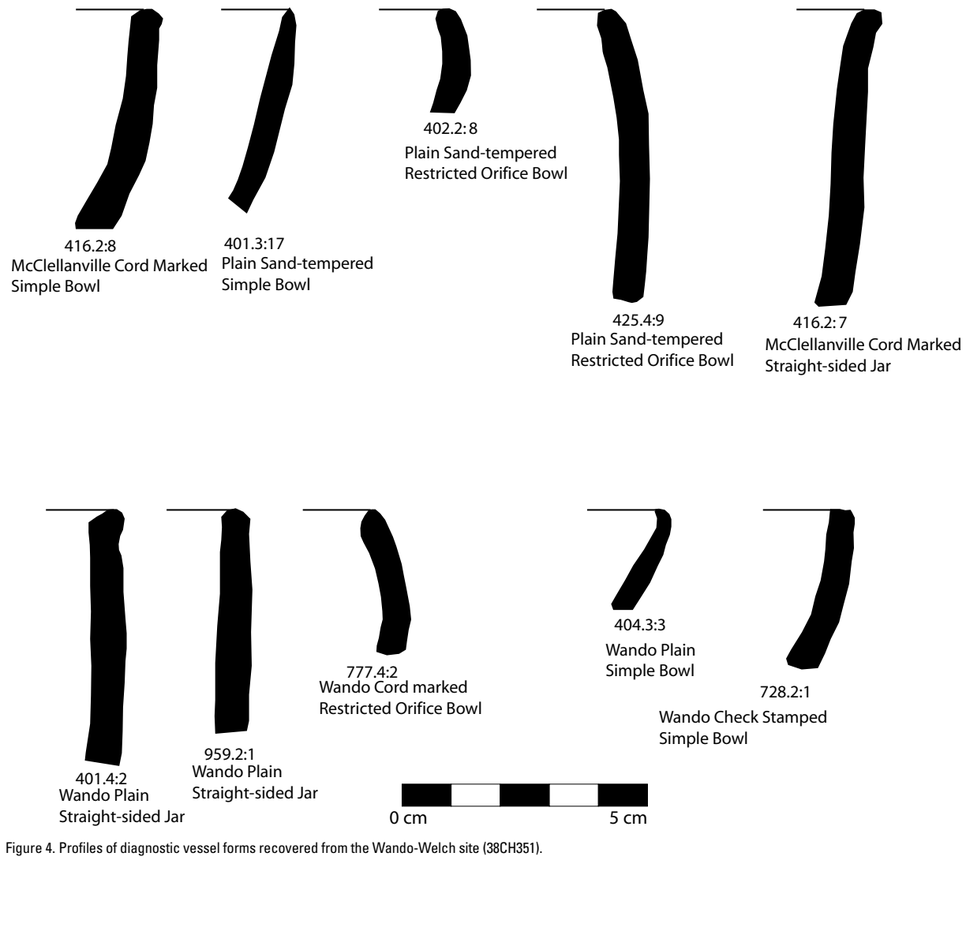

Figure 4. Profiles of diagnostic vessel forms recovered from the Wando-Welch site (38CH351).

5 percent to 45 percent with a mean of 26 percent and a standard deviation of 10 percent.

We also sought the assistance of geologists from the United States Geological Survey (USGS) in order to identify the provenance of the limestone tempering material found in Wando pottery. We suspected it might be from the Goose Creek limestone formation, which outcrops a few miles upstream from 38CH351 along the Cooper and Wando rivers. To that end, a sample of 5 residual sherds and a piece of limestone recovered in an excavation unit were sent to Drs. Robert Weems, Jean M. Self-Trail, and Lucy Edwards at the USGS. Dr. Weems, who co-authored the geologic description of Goose Creek limestone formation (Weems et al. 1982), responded that the samples were a very fine-grained limestone and did not match the Goose Creek formation, which is a very shelly and/or medium to coarse grained limestone (Weems 2010, personal communication). He passed the samples along to Dr. Self-Trail, who specializes in identifying limestone formations by examining nannofossil assemblages. Unfortunately, Self-Trail reported that her microscopic analysis did not identify any calcareous nannofossils, precluding the assignment of the sample to a known limestone formation. Finally, the piece of limestone was sent to Dr. Edwards, who is a dinocyst palynologist. Edwards's analysis did identify a number of dinoflagellate (i.e., plankton) species whose co-occurrence helped her date the limestone to the early Miocene (23-15 million years ago). In South Carolina, Miocene limestone is defined as part of the Marks Head Formation (see Marcoux et al. 2011: Appendix D for the full text of Dr. Edwards's report).

Figure 5. Representative view of limestone temper.

The Regional and Temporal Context of Wando Pottery

One of the most fundamental challenges that archaeologists face when exploring past lifeways is finding a way to establish control over time. The most effective tool scholars of prehistoric southeastern archaeology have developed is ceramic chronology (e.g., Anderson et al. 1982; Cable 2001; Jenkins 1981; Phillips 1970; Phillips et al. 1951). Historically, the construction of ceramic chronologies for the coastal regions of South Carolina has been a mixture of local research (e.g., Brockington and Espenshade 1989; Cable 2001; Cable et al. 1998; Poplin et al. 1993; Trinkley 1981) and "borrowing" from established chronologies in neighboring regions to the south (e.g., Caldwell and Waring 1937; DePratter 1991) and to the north (e.g., Phelps 1983; South 1960). While the use of established chronologies from other regions is certainly warranted and useful in many cases, one must be increasingly wary of the applicability of a borrowed chronology the farther one moves from the region where that chronology was originally devised. Furthermore, because coastal South Carolina is sandwiched between two regions with distinct ceramic chronologies, the inevitable question arises regarding which one is more applicable.

The Woodland period ceramic chronologies one sees cited in the current archaeological literature of the central coast of South Carolina demonstrates this dilemma. For example, some researchers (like ourselves) classify all grog-tempered pottery in the Charleston Harbor area as part of the Wilmington series (from the southern chronology) while others include the Hanover series (from the northern chronology) for some specimens (e.g., Steen 2008). Whether intended or not, the use of one series or the other implies cultural influences from, if not actual relationships with, these neighboring regions. Another example - many researchers base the local ceramic chronology on Anderson et al.'s (1982) work on Mattassee Lake (e.g., Cable 2008), which is located some 65 km inland from the coast. This has proven to be a very robust chronology for the coastal plains region; however, it does not include limestone-tempered Wando-series pottery, which is quite common in the Charleston Harbor area. Along with other examples like these, the overall result of the varied use of these borrowed chronologies is that the Woodland period ceramic chronology of the central South Carolina coast is poorly understood.

Of particular import to this study is our incomplete knowledge regarding the temporal and geographic place of Wando series pottery. In addition to their contribution to the definition of the Wando series, Poplin (2005) and colleagues (Poplin et al. 2002; Jateff et al. 2008) conducted a number of quantitative analyses aimed at better defining the chronological placement of the Wando series and its relation to other pottery series defined for the central South Carolina coast. While at the time of their report a definitive temporal assignment had yet to be given to Wando-series pottery, a general Woodland-period date range was typically assumed given the co-occurrence and similarities in surface treatments between Wando pottery and Deptford, Wilmington, McClellanville, Santee, and St. Catherines pottery. In two reports, the authors addressed the research problem in three ways:

1. by considering radiocarbon assays from their study sites (38CH949, 38CH950, 38CH1025)
2. by conducting analyses of co-occurrence between Wando-series pottery and pottery belonging to the other Woodland-period series at sites in the Charleston Harbor area.
3. by performing a "percentage stratigraphy" seriation (sensu Lyman et al. 1997:52) of the assemblages from five shell midden sites with large pottery samples.

The results of these separate analyses indicate that Wando-series pottery began to be produced concurrently with Middle Woodland–series (Deptford and Wilmington) pottery and before Late Woodland–series (McClellanville and Santee) pottery; however, the results also suggested that Wando-series pottery continued to be produced during the Late Woodland period. From these results, the authors concluded that Wando pottery probably represented a transition between the Middle and Late Woodland periods. The maximum date range based on radiocarbon dates is ca. AD 600–1200 (Poplin et al. 2002:66-67, 70, 78; Poplin et al. 2010). While the large datasets recovered from 38CH949, 38CH950, and 38CH1025 are ideal for anchoring a broad temporal framework for Wando-series pottery, the construction of a more refined ceramic chronology must also incorporate multiple pottery samples and radiocarbon assays from sites representing discrete short-term occupations. The three loci at the Wando-Welch site provide these much needed contexts.

In order to construct the Woodland period chronology for the central coast, we performed a frequency seriation of 66 ceramic assemblages (totaling 16,661 sherds) recovered from 55 sites in Chatham and Liberty Counties, Georgia, and Beaufort, Berkeley, and Charleston Counties, South Carolina, summarized in Table 3. In order to reduce bias associated with small sample size, the seriation is restricted to assemblages that contain more than 40 diagnostic sherds. We also combine counts of Refuge Simple Stamped and Deptford Simple Stamped in the seriation because these types are not always separated in published sources (e.g., DePratter 1979, 1991).

One of the two primary results of our seriation suggests that the "mouth of the Savannah" sequence of the southern South Carolina coast and the central coast sequence are quite similar during the early Middle Woodland period, but these sequences diverge throughout the remainder of the Middle Woodland period and into the Late Woodland period. The divergence primarily involved the eventual dominance of grog-tempering and cord marking along the southern coast, and the continued use of sand tempering and increasing diversity in surface treatments along the central coast. This pattern suggests that the ceramic sequence we present here characterizes the development of distinct regional potting traditions (sensu Marcoux 2010:73-76). Later in our discussion, we propose that this pattern might be related to a dramatic increase in the regionalization of cultural identity during the Late Woodland period along the South Carolina coast. The other major result of our seriation is that assemblages with Wando-series pottery fall in the Late Woodland portion of the sequence. Based on the extant radiocarbon dates from contexts with Wando-series pottery, this tradition most likely dates to A.D. 1000-1200.

In the Southeast, ceramic seriation has historically been the dominant method for establishing chronological order across regions. This has generally been accomplished through visual frequency seriation, with its familiar figures featuring battleship-shaped frequency curves (Dunnell 1970; Phillips et al. 1951). These curves are thought to represent the "popularity principal," which can be used to gauge relative time based on the waxing and waning of relative percentages (as a proxy for popularity). While this method is simple and effective at portraying trends in the data, it can be tremendously time consuming. Consequently, for this project we added an alternative method of seriating ceramic assemblages called correspondence analysis, or CA (Baxter 1994; Shennan 1997).

CA is a multivariate statistical technique that is especially well suited for count-based archaeological data

Table 3. Ceramic Assemblages used in the Seriation.

Site	Deptford				Refuge/ Deptford Simple St	Wilmington					St. Catherines		Wando					Santee Simple Stampe	McClellanville Cord	Total	Reference
	Check St	Linear check St	Fabric	Cord		Plain	Check St	Fabric	Cord	Simple St	Plain	Cord	Cord	Simple St.	Fabric	Plain	Check St.				
9Li238	27	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	40	Thomas 2008
9Li220	0	0	0	0	0	44	0	0	8	0	0	0	0	0	0	0	0	0	0	52	Thomas 2008
9Li221	0	0	0	0	0	35	0	0	7	0	0	0	0	0	0	0	0	0	0	42	Thomas 2008
9Li214	0	0	0	0	0	0	0	0	0	0	2	60	0	0	0	0	0	0	0	62	Thomas 2008
9Li199	0	0	0	0	6	3	0	0	21	0	29	27	0	0	0	0	0	0	0	86	Thomas 2008
9Li200	0	0	0	0	0	26	0	0	1	0	19	1	0	0	0	0	0	0	0	47	Thomas 2008
9Li194	0	0	0	9	0	31	0	0	1	0	1	0	0	0	0	0	0	0	0	42	Thomas 2008
9Li137	0	0	0	0	0	1	0	0	2	0	34	9	0	0	0	0	0	0	0	46	Thomas 2008
9Li13	54	4	0	3	56	13	72	0	3	0	2	8	0	0	0	0	0	0	0	215	Thomas 2008
9Li15	25	9	0	0	4	0	2	0	0	0	0	0	0	0	0	0	0	0	0	40	Thomas 2008
9Li19	10	0	0	1	0	7	0	0	17	0	94	142	0	0	0	0	0	0	0	271	Thomas 2008
9Li20	4	0	0	2	0	0	0	0	0	0	3	61	0	0	0	0	0	0	0	70	Larsen & Thomas 1982
9Li26	49	0	0	14	21	2	0	0	2	0	0	0	0	0	0	0	0	0	0	88	DePratter 1979
9Li45	50	0	0	16	18	20	0	0	32	0	0	0	0	0	0	0	0	0	0	136	DePratter 1979
38BU921-1	40	35	0	118	1	4	0	0	4	0	5	7	0	0	0	0	0	0	0	214	Gunn et al. 1995
38BU921-2	6	59	0	24	4	1	0	0	29	0	10	92	0	0	0	0	0	0	0	225	Gunn et al. 1995
38BU921-3	1	5	0	38	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	46	Gunn et al. 1995
38BU921-6	10	39	0	1	6	0	0	0	10	0	45	36	0	0	0	0	0	0	0	147	Gunn et al. 1995
38BU1800	2	0	1	6	13	0	0	5	50	0	0	0	0	0	0	0	0	0	0	77	Huddleston et al. 2005
38BU1787	33	0	15	244	2	16	49	96	402	0	9	566	0	0	0	0	0	0	0	1,432	Shah & Whitley 2010
38BU372	0	0	4	19	5	11	0	6	97	0	0	0	0	0	0	0	0	0	0	142	Kennedy & Espenshade 1992
38BU1241	0	0	0	0	0	0	0	1	45	0	0	0	0	0	0	0	0	0	0	46	Kennedy & Espenshade 1992
38BU67	131	0	0	154	89	1	0	0	1	0	19	239	0	0	0	0	0	0	0	634	Trinkley 1981
38BU168	9	0	0	0	0	4	0	6	0	0	0	23	0	0	0	0	0	0	0	42	Trinkley 1981
38BU347	1	0	0	0	1	0	0	4	0	0	19	100	0	0	0	0	0	0	0	125	Trinkley 1981
9Ch11bc	19	0	0	36	74	103	20	17	828	0	18	25	0	0	0	0	0	0	0	1,140	DePratter 1991
9Ch11sm	55	33	0	113	51	45	4	1	243	0	11	23	0	0	0	0	0	0	0	579	DePratter 1991
9Ch16c	1	0	0	0	0	72	3	5	324	0	33	26	0	0	0	0	0	0	0	464	DePratter 1991
9Ch16e	0	0	0	0	0	79	0	1	389	0	14	21	0	0	0	0	0	0	0	504	DePratter 1991
9Ch13v	0	0	0	4	8	102	8	0	194	0	14	5	0	0	0	0	0	0	0	335	DePratter 1991
9Ch2a	10	2	0	128	4	18	0	0	77	0	2	0	0	0	0	0	0	0	0	241	DePratter 1991
9Ch2b	26	6	0	132	12	13	4	0	77	0	0	0	0	0	0	0	0	0	0	270	DePratter 1991
9Ch2c	18	1	0	77	9	22	1	0	47	0	0	0	0	0	0	0	0	0	0	175	DePratter 1991
38BU1905N	35	39	3	82	76	0	3	4	21	0	0	0	0	0	0	0	0	0	0	263	Poplin et al. 2010
38BU1905S	18	21	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	41	Poplin et al. 2010
38CH1025-1	0	0	0	10	23	0	0	0	0	0	0	0	92	133	0	5	0	0	0	263	Poplin et al. 2002
38CH1025-2	0	0	0	2	3	3	0	0	0	4	0	0	8	20	0	1	0	0	0	41	Poplin et al. 2002
38BK1603	16	29	37	300	35	0	0	0	0	0	0	0	681	262	7	172	10	2	21	1,572	Poplin 1997
38BK1803/ 1804	0	0	7	51	84	0	0	0	0	0	0	0	75	230	14	22	2	5	0	490	Fletcher and Poplin 2002
38CH949	263	15	30	12	26	73	102	8	20	37	0	0	37	31	0	46	3	0	0	703	Jateff et al. 2008
38BK1800	0	0	13	1	5	0	0	0	0	0	0	0	1	26	0	3	0	0	0	49	Fletcher and Poplin 2002
38BK1692	3	69	0	11	1	0	9	0	0	0	0	0	0	5	0	8	0	0	0	106	Bailey and Harvey 2000
38BK1712	0	4	2	125	4	0	2	0	0	0	0	0	3	0	0	3	0	0	0	143	Bailey and Harvey 2000
38BK1719	0	130	2	10	1	1	18	0	0	0	0	0	1	49	0	23	3	2	0	240	Bailey and Harvey 2000
38BK1772	0	0	12	16	18	0	0	1	0	0	0	0	4	17	0	0	0	0	0	68	Pecorelli and Poplin 1998
38BK1776	3	0	13	2	29	0	7	1	0	0	0	0	1	32	0	0	0	3	0	91	Pecorelli and Poplin 1998
38BK1823	6	0	5	7	29	0	0	13	0	0	0	0	3	19	0	2	0	4	0	88	Bridgman & Hendrix 2001
38CH938	8	0	1	38	8	8	8	1	3	0	0	0	38	2	1	6	0	0	1	123	Stephenson 1998
38CH1033	0	0	2	9	0	0	2	0	0	0	0	0	36	20	1	2	0	2	1	75	Rust & Wolf 1999
38CH306	4	0	2	25	2	0	0	0	0	0	0	0	0	3	4	0	0	0	0	40	Rust 1998
38BK1634	8	0	26	40	24	20	17	32	6	0	0	0	22	8	0	6	0	0	0	209	Fletcher & Harvey 2002
38CH1743	5	0	13	45	3	0	1	2	6	0	0	0	1	0	0	0	0	0	0	76	Bridgman & Harvey 2001
38CH691	22	0	2	456	278	0	0	0	20	6	0	0	20	26	0	0	0	111	59	1,000	Poplin et al. 2004
38CH644A	3	0	0	3	10	0	0	0	0	0	0	0	0	0	0	0	0	56	18	90	Poplin et al. 1993
38BK2045	7	1	64	4	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	80	Fletcher & Bailey 2005
38CH1756	0	0	1	123	0	0	0	0	19	0	0	0	0	0	0	0	0	0	0	143	Bailey and Hendrix 2001
38CH1403	22	4	2	0	0	44	76	11	1	0	0	0	0	0	0	0	0	0	0	160	Rust and Poplin 2000
38BK2079	39	8	37	9	4	2	13	14	2	0	0	0	0	0	0	0	0	0	1	129	Lansdell et al. 2005
38CH1434	2	0	14	11	1	0	0	20	12	58	0	0	0	0	0	0	0	0	0	118	Rust 1996
38CH351-1	11	0	3	0	0	0	1	0	3	0	0	0	135	27	9	0	4	4	39	236	Marcoux et al. 2011
38CH352-2	48	57	9	0	0	0	1	0	0	0	0	0	28	20	4	1	3	1	1	173	Marcoux et al. 2011
38CH351-3	12	11	2	0	0	0	0	8	3	0	0	0	76	3	5	0	0	3	27	150	Marcoux et al. 2011
38CH16/275	14	8	16	40	1	3	0	86	7	0	0	0	0	0	0	0	0	0	0	175	South and Widmer 1976
38CH69	23	0	31	25	1	20	9	37	26	0	0	0	0	0	0	0	0	0	0	172	Steen 2008
38BK229	0	98	123	0	131	0	0	5	0	0	0	0	0	0	0	0	0	193	168	718	Anderson et al. 1982

(Smith and Neiman 2007). CA shares the benefits of the chi-square test in that it is nonmetric and is resistant to differences in sample sizes. CA provides the analyst with a way to visually explore and present multivariate data by reducing the dimensionality of a data matrix. It is an ordination technique that seeks to represent as accurately as possible the relationships among items (in our case, individual ceramic assemblages) and among variables (in our case, pottery types) using a small number of dimensions. These dimensions can be seen as meta-variables that are comprised of groups of the original variables (in our case, pottery types). In interpreting the bi-plots produced by this procedure, one can infer that variables and/or cases that cluster together are, in relative terms, associated with each other. In our study, this allows us to see not only which archaeological contexts had similar pottery assemblages, but also what pottery types compose those assemblages.

Figure 6 is a bi-plot combining the distribution of ceramic assemblages (represented by circles for the central coast and crosses for the southern coast) and pottery types (represented by open blue diamonds). Looking separately at the distribution of central coast ceramic assemblages and southern coast ceramic assemblages, each has the classic parabola or "twisted one-dimensional object" shape that is the hallmark of chronological seriation using multidimensional techniques (Cowgill 1972; Kendall 1971; Steponaitis 1983). Interpreting the axes, it appears that the x-axis represents a temporal trend, with the earliest assemblages on the left side of the figure and the latest assemblages on the right. Closer inspection of the biplot reveals a very interesting pattern. The distribution of assemblages and pottery types is dendritic- that is, the early Middle Woodland period assemblages, dominated by Deptford- and Wilmington-series check stamping, all cluster together on the left side of the figure, but the assemblages then diverge forming an upper branch and a lower branch. The upper branch of the biplot generally depicts the Woodland ceramic sequence outlined by Anderson et al. (1982) for the coastal plain with the important addition of Wando-series pottery. Check stamped types in late Middle Woodland central coast assemblages are replaced by the sand-tempered types Deptford Fabric Impressed and Deptford Cord Marked (classified as the Cape Fear-series by Anderson et al. [1982]), along with the grog-tempered type Wilmington Fabric Impressed. Late Woodland assemblages along the central coast are split between those dominated by limestone-tempered Wando-series pottery (primarily cord marked and simple stamped) and those where sand-tempered cord marked (McClellanville) and simple stamped (Santee) pottery are the majority types. The lower branch of the biplot essentially mimics the "mouth of the Savannah" sequence with Deptford wares (left side) being followed by Wilmington wares (center) and St. Catherines wares (right side). The seriation solution also mimics the relative temporal positions of diagnostic surface treatments including (Deptford) check stamping, (Wilmington) heavy cord marking, fabric impressing, and (St. Catherines) cross-cord marking. As others have noted (Anderson et al. 1982; Trinkley 1989), these two branches represent the divergence of Woodland-period potting traditions, with a grog-tempered tradition developing along the south coast and distinct sand and limestone-tempered traditions developing along the central coast.

The positions of the pottery assemblages from Loci 1-3 are telling. The assemblages from Loci 1 and 3 are positioned in the Late Woodland portion of the seriation based on the high frequencies of Wando Cord Marked and McClellanville Cord Marked. The position of the Locus 2 assemblage, however, is quite different. This can be easily explained by referencing the ceramic data (Table 3). Unlike the Loci 1 and 3 assemblages, the Locus 2 assemblage contains an abundance of both Deptford-series check stamped and Wando-series pottery. Actually, the check stamped sherds outnumber the Wando-series sherds. Given that check stamping and Wando-series pottery are temporally distinct in the seriation, the most likely explanation that accounts for the Locus 2 position in Figure 6 is that Locus 2 contains two distinct occupational components.

We can explore this frequency seriation solution in a more familiar format by arranging the contexts with the largest pottery samples using the classic "Fordian" visual method (Phillips et al. 1951). Figure 7 utilizes this method to present the seriation solution described above. The figure is separated into sequences for the central and south coasts. To help anchor the seriation solution to absolute dates, we also compiled radiocarbon assays from 42 sites that were used in the CA seriation. These data were obtained from published reports and from the South Carolina Native American Pottery Site website. Figure 8 presents radiocarbon date ranges in visual form. Assays obtained for assemblages in Figure 7 are listed on the left side of the graph. In Figure 7, from bottom to top, the figure shows the monotonic increase and decrease in pottery type frequencies that are predicted by the CA seriation solutions for each coast. Along the central coast, the earliest assemblages are dominated by the types Wilmington Check Stamped and Deptford Check Stamped types. Through time, these types diminish in frequency while other types, namely Wilmington Fabric Impressed and Deptford Cord Marked, increase in frequency, signaling the shift from the early Middle Woodland to the late Middle Woodland periods. The Late Woodland period is marked by the introduction of Wando-series pottery, as well as the disappearance

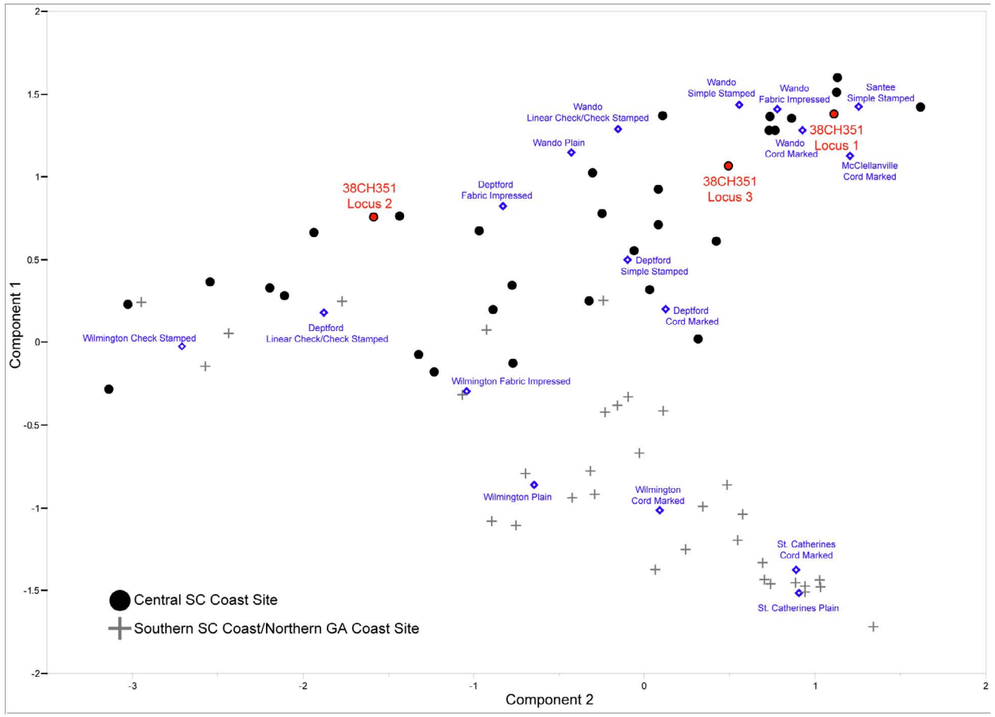

Figure 6. Combined bi-plot depicting the results of the correspondence analysis seriation of ceramic assemblages and pottery types (note the positions of Wando-Welch Loci 1-3).

of Wilmington Fabric Impressed and the dramatic increase in sand-tempered simple stamped and cord marked types.

Along the southern coast the earliest contexts have assemblages dominated by the Deptford Check Stamped and Deptford Linear Check Stamped types. Through time, these types decrease in frequency. The Deptford Cord Marked type waxes and wanes, marking the transition from the late Early Woodland period to the early Middle Woodland period. The seriation also shows the growing dominance of Wilmington wares during the Middle Woodland period, especially the Wilmington Cord Marked type, and their eventual replacement by St. Catherines wares during the Late Woodland period. The relative frequency of fabric impressing does not appear to follow any particular temporal trend. Indeed, the lack of apparent patterning is due to the fact that this surface treatment is present only in very minor frequencies in the assemblages.

We obtained radiocarbon dates from a nutshell fragment and a bone fragment from Locus 3 of 38CH351 that Marcoux et al. (2011) felt were associated with Wando series pottery. The nutshell fragment was recovered from a shallow refuse pit; the bone fragment came from an excavation level in a shell midden that contained predominantly Wando series pottery. These samples returned conventional dates of 445±20 yrs BP for the nutshell (Illinois State Geological Survey [ISGS] A2110) and 205±yrs BP for the bone fragment (ISGS A2206). The two-sigma calibrated date range associated with the first sample (ISGS A2110) is cal A.D. 1425-1466 (mean of cal A.D. 1444), and the second sample date range is cal A.D. 1648-1955 (mean of A.D. 1777). The calendric dates are calibrated using the University of Cologne's CalPal2007_HULU formula on its CalPal website (www.calpal-online.de). These are spurious dates, the latter of which indicates that the bone fragment was associated with the 18th century occupation at the site – a possibility hinted at by the presence of a few European ceramic sherds in the midden.

While the radiocarbon dating of features at the Wando Welch site was inconclusive, the chronological position of Wando-series pottery is nevertheless much clearer following our study. The seriation solution places Wando assemblages squarely in the Late Woodland portion of the ceramic sequence. Furthermore, of the nine published Wando radiocarbon assays, seven return date ranges from

ca. A.D. 1000-1200. Taken together with the fact that cord marking and simple stamping are the dominant surface treatments in Wando assemblages, all extant evidence indicates that the Wando-series is a limestone-tempered contemporary of the sand-tempered Late Woodland tradition represented by McClellanville Cord Marked and Santee Simple Stamped.

An Empirical Approach to Exploring Wando Settlement and Subsistence Strategies

In the last two decades, anthropological and archaeological studies of hunting and gathering (and foraging) groups (e.g., Barnard and Woodburn 1988; Bender and Morris 1988; Burke 2004; Crothers 2004; Keen 1988; Sassaman 2004; Sassaman et al. 2006; Whitridge 2004) have introduced a number of new analytical approaches and theoretical perspectives. These works, which provide welcome additions and alternatives to the "Man the Hunter" focus of the mid-20th century (sensu Lee and DeVore 1968), demonstrate the need to add consideration of social structure, property, and ideology to the "classic" hunter-gatherer research issues of ecological adaptation, subsistence practices, and technological change. Before engaging with any research issues along the South Carolina coast, however, we must deal with more fundamental (and empirical) research questions that can be used to create baseline datasets. We are engaging with these fundamental questions using a household archaeology approach because the "household" (in its many incarnations) represents the most fundamental and pervasive unit of economic and social production in the archaeological record (Wilk and Netting 1984; Wilk and Rathje 1982).

The concentration of intensive excavations at large stratified shell matrix sites along the South Carolina coast has led to a bias in our understanding of the lifeways of Woodland-period hunting and gathering (and foraging) groups. The effects of this bias can be ameliorated by exploring and characterizing the variability that doubtless exists across coastal Woodland-period sites. Espenshade and co-authors (1994:177-180), for example, proposed that the great variability in Woodland shell middens reflects differences in site settlement types. These authors argued that based on concentrations of sherds and shell midden

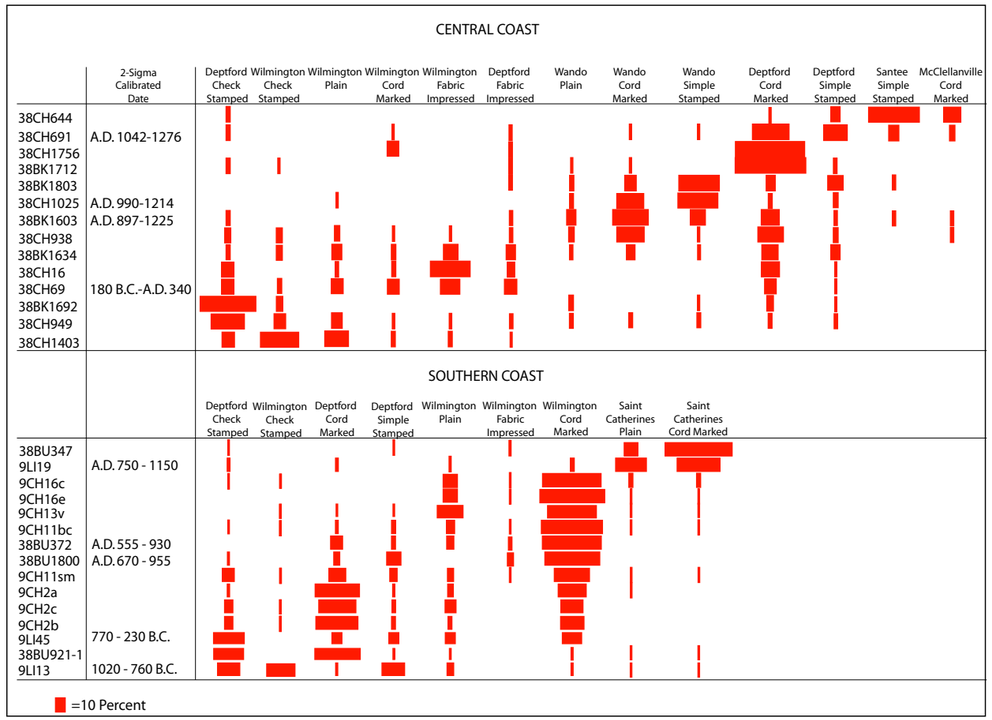

Figure 7. Results of a frequency seriation of ceramic assemblages from central and southern coast sites.

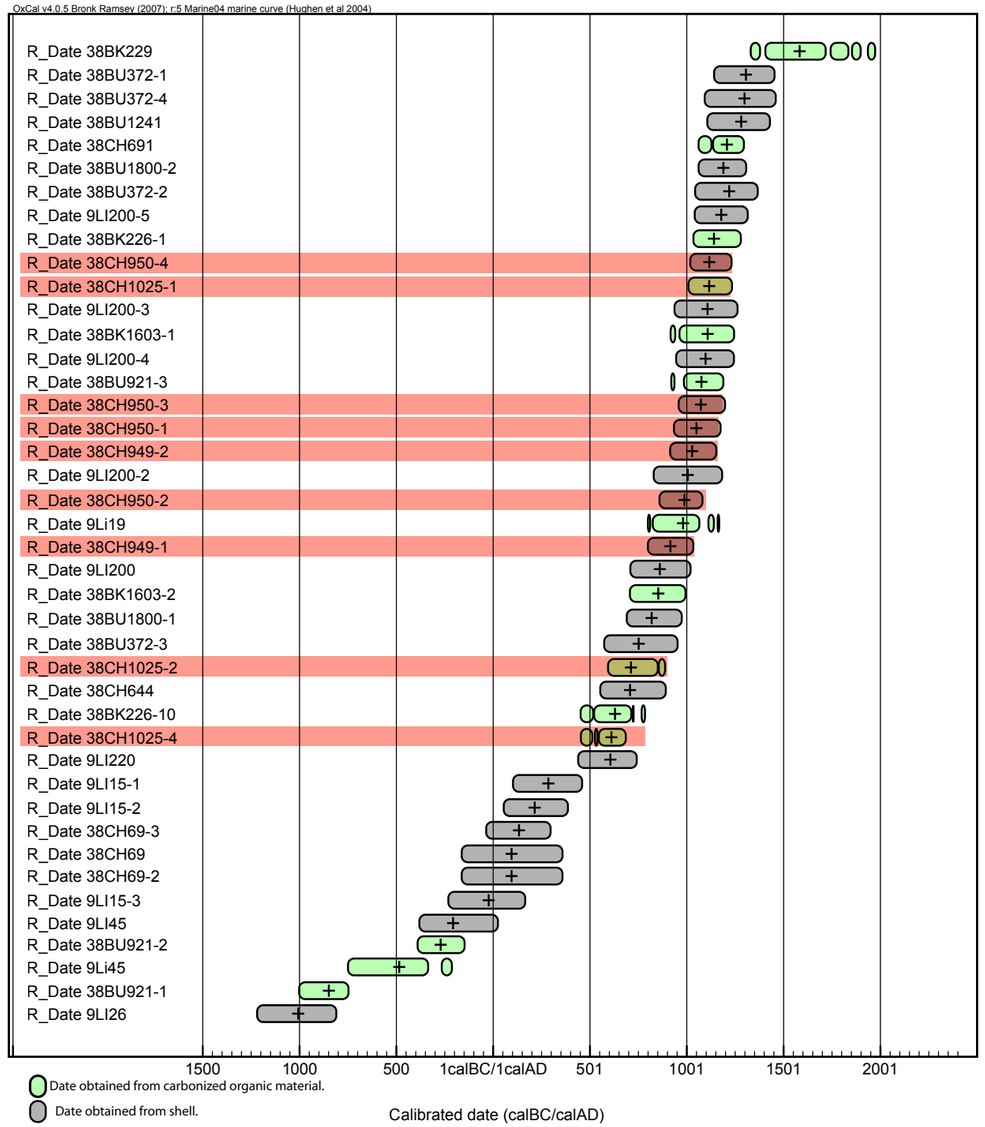

Figure 8. Radiocarbon assays of selected Woodland-period sites in South Carolina and Georgia (sites with Wando-series assemblages are highlighted in red).

deposits, Woodland sites can be separated into four types: multi-family residential bases; single-family shell middens; single-family, limited shell sites; and oystering stations. These site types reflect varying numbers of occupants as well as single or repeated visits to the site. This work represents a good foundation, but we must strive to further operationalize the key attributes of these site "types" in order to move from impressionistic description to empirical definition.

We build on Espenshade and co-author's (1994) work by using empirical methods to characterize some fundamental aspects of the lifeways materialized in the

archaeological record at Loci 1-3. We derive estimates of group size and occupation duration by examining the size and composition of the shell middens and applying recent ethnoarchaeology studies (Blair and Thomas 2008), and by considering seasonality data from faunal and botanical materials. We also compare certain archaeological indicators to assess sedentariness at the Wando-Welch site and other coastal South Carolina sites. The goal is to improve our understanding of temporal variability in coastal hunting and gathering lifeways during the Woodland period and where Loci 1-3 fit in.

The Woodland-period groups living along the coast of South Carolina were hunters and gathers (Stephenson et al. 2002:328-330). They lived a highly mobile and flexible lifestyle focused upon seasonal resources – namely shellfish, fish, and mast. Archaeologists have long wrestled with making sense of the archaeological sites that result from this lifestyle. These sites are primarily defined by heaps of discarded shell, which are easily assumed to be the monolithic result of a single behavior – eating shellfish. As many have argued (e.g., Claasen 1998; Waselkov 1987) based on ethnographic analogy, this interpretation is simply wrong. Indeed, variability abounds in the behaviors that result in a heap of refuse dominated by shell, and archaeologists must find ways to tease out this variability. The oft-cited model of shell midden site variability devised by Espenshade and co-authors (1994) is based upon the size of residential groups and the amount of time groups resided at the site. While these are doubtless key dimensions of variability, and the authors provide some ways of operationalizing them in their report, no attempt has yet to be made to use data to test this model. Fortunately, our excavations at the Wando-Welch site provide data with which to do just this.

We begin by summarizing the model and its expectations (Espenshade et al. 1994:177-180). The multi-family residential base has the largest resident group, is occupied for at least two seasons, and contains the remains of a wide variety of domestic activities. Food remains should be diverse, and artifacts should represent the full suite of stone and shell tools and ceramic vessel forms. Single-family shell middens are essentially smaller versions of the multi-family residential base, so they should contain equally diverse artifact assemblages and food remains. Single-family, limited shell sites represent the archaeological remains of upland hunting and gathering forays that took place during a single season (late Fall/Winter). Consequently, one should expect to find a more limited set of artifacts and a greater contribution of nuts and terrestrial species in food remains. Oystering stations represent the remains of special task camps focused solely on shellfish collection. The material culture assemblage associated with these sites reflects the limited nature of the activity and is dominated by oyster shells, with very few artifacts.

With these expectations in mind, we can explore the data from Loci 1-3 to see where these archaeological contexts fit into the model. We begin by exploring the shell middens identified at the site. We delineated each midden identified during the shovel testing phase using a soil core auger on a 50-cm grid and excavated a 30-by-30-cm square shovel test 30 cm deep in each to recover a sample of shell for specialized analysis. These samples were passed through a nested set of screens with ½-inch and ¼-inch mesh. The material in each size grade was sorted and weighed by species (when possible) as well as by evidence of burning. Following Claasen (1998:106), minimum number of individuals (MNI) estimates were calculated from all identifiable left valves of oysters. MNI estimates were combined with midden size estimates to extrapolate the total MNI present in each midden. Table 4 presents the data resulting from these procedures.

The shell middens at Loci1-3 vary considerably in size (Table 4). They can generally be divided into two size classes – those with areas under 10 m^2 and those with areas greater than 10 m^2. Both of these groups are quite small, especially when compared to enormous middens like that identified at 38BU372, which measures over 10,000 m^2 (Kennedy and Espenshade 1992). We identified four of the smaller class middens and one larger class midden in Locus 1, three smaller class middens in Locus 2, and one of the larger class middens in Locus 3.

The size and composition of the shell middens can tell us much about group size and occupation duration. The relationship between the size of the group, how long they lived at a site, and how many oysters that ate is deceptively simple. The pioneers of shell midden archaeology developed straightforward formulae for estimating occupation duration with the size of a shell midden (e.g., Dall 1877; Nelson 1909). This method was most often used on massive shell mounds on the Pacific coast. Radiocarbon dating and the realization of the complexity of site abandonment and reoccupation and formation processes have largely made accumulation methods for estimating occupation duration obsolete if not arcane. We argue, however, that while the cultural and natural processes that formed massive shell middens are far too complex to model with simple accumulation calculations, the middens we identified at the Wando-Welch site are categorically different. These small, discrete deposits of refuse and shell are doubtless the result of short-term discard behaviors. As such, we argue that we can use accumulation methods to estimate group size and occupation duration. In order to do this, we first had to estimate the number of oysters that might have been present in each midden. We calculated this estimate by extrapolating the MNI estimates for the 30-cm-by-30-cm column sample to match the area of each midden. For example, we calculated an MNI of 56 for Shell Sample 9, which was obtained from a 50.4 m^2 midden in Locus 3. We then divided the total area of the midden by the area of the column sample (0.09 m^2) and multiplied this quotient by the MNI, which gives a total MNI estimate of 31,360 oysters for that midden (Table 4). This procedure returned estimates for nine middens. The smaller class of midden contained between 49 and 7,120 oysters, and the two large middens contained 10,851 and 31,360 oysters. Once these estimates were obtained, we attempted to quantify how much labor would have been necessary to obtain that number of oysters.

Fortunately, David Hurst Thomas's (2008) American Museum of Natural History long-term research project on St. Catherine's Island included experimental archaeology aimed at estimating labor requirements for shellfish gathering. Given similar environmental contexts present on St. Catherines Island, we believe that this research is particularly applicable to the Wando-Welch site. These estimates (Blair and Thomas 2008) are based on gathering trips involving a collector, an assistant who helped transport shellfish and assisted in spotting promising areas for collection, and an observer. In 40 minutes, the collector and assistant were able to harvest 1,492 oysters from the banks of tidal creeks along the island (Blair and Thomas 2008:Table 7.3). Considering that these trips were undertaken by relative novices without years of education in shellfish collecting, we must consider these very conservative time estimates. Native groups most likely were able to collect significantly more oysters in the same amount of time. Dividing the estimates of total oysters by the hourly rate of collection of the AMNH researchers, we arrive at collection time estimates for each midden (Table 4). These are surprisingly low. Shell Samples 3 and 6 should be ignored because of small sample size. The remainder of the small middens would have required between 15 minutes and three hours of work for two people, and the two large middens at the site would have required a little less than five hours and 14 hours of collecting, respectively. If we assume a family of collectors numbering four people, these collection times would be cut in half. The conclusion reached from these estimates is that the occupations of all three loci are extremely short, on the order of a few days and that the groups creating these middens were very small, probably a single family.

Foodways data support a short-term occupation focused on a narrow range of resources. With regard to

Table 4. Compositional Data for Shell Middens at the Wando-Welch site (38CH351).[a]

Sample	Location	Area (m^2)	Mollusc Type (g)												Burned		MNI	Estimated Oysters	Collection Rate/hour[b]	Total Collection Time (hours)
			Oyster	Clam	Peri-winkle	Mussel	Crab Claw	Mud Nassa	Other Mollusc	>1/2 inch		1/4-1/2 inch		<1/4 inch						
										g	%	g	%	g	%	g	%			
1	Locus 1, N509E509	36.17	1,497.51	0.0	0.00	0.17	0.0	0.00	0.00	1,102.0	73.6%	342.0	22.8%	53.51	3.6%	10.40	0.7%	27	10851	2238	4.85
2	Locus 1, N518E509	2.3	1,302.30	0.0	0.00	1.40	0.0	0.00	0.00	1,013.0	77.8%	239.8	18.4%	49.50	3.8%	62.10	4.8%	23	588	2,238	0.26
3	Locus 1, N500E500	1.1	332.30	0.0	11.10	0.00	0.0	0.00	0.00	298.5	89.8%	27.2	8.2%	6.60	2.0%	0.30	0.1%	4	49	2,238	0.02
4	Locus 1, N518E530	1.9	2,184.00	3.3	6.90	1.30	0.1	0.00	0.00	1,385.0	63.4%	439.0	20.1%	360.00	16.5%	6.60	0.3%	35	739	2,238	0.33
5	Locus 1, N530E531	2.5	1,603.80	0.0	0.00	2.90	0.0	0.00	0.00	1,239.0	77.3%	232.0	14.5%	132.80	8.3%	0.10	0.0%	33	917	2,238	0.41
6	Locus 2, N506E515	5.4	132.60	0.0	0.00	0.00	0.0	0.00	0.20	96.5	72.8%	27.8	21.0%	8.30	6.3%	0.00	0.0%	4	240	2,238	0.11
7	Locus 2, N506E527	4.75	1,317.00	1.6	0.00	0.00	0.0	0.00	0.50	1,078.0	81.9%	198.0	15.0%	41.00	3.1%	67.71	5.1%	42	2,217	2,238	0.99
8	Locus 2, N519E507	7.2	3,061.00	0.0	0.00	0.00	0.0	0.43	0.00	2,822.0	92.2%	239.0	7.8%	0.00	0.0%	5.80	0.2%	89	7,120	2,238	3.18
9	Locus 3, N501E511	50.4	3,569.00	0.0	0.23	104.50	0.0	0.00	1.94	2,386.0	66.9%	716.0	20.1%	467.00	13.1%	3.31	0.1%	56	31,360	2,238	14.01

[a]Based on 30cm x 30cm x 30cm column samples from each midden. [b]From Blair and Thomas (2008:Table 7.3)

botanical remains, samples recovered from pit features and the largest shell midden at the Wando-Welch site are all dominated by hickory nut, indicating a seasonal occupation in the Fall. This is supported by the minority presence of fruit and seed species that are also limited to the Fall (see Marcoux et al. 2011 Appendix B for a complete discussion). The vertebrate faunal assemblage recovered from Loci 2 and 3 was very small. The depositional context in Locus 1, remnant dunes made of loose fine sands, resulted in poor bone preservation. Indeed, the entire site-wide MNI represented include two deer, one fox, one rabbit, one toad, and a perch-like fish. None of the remains was useful in determining season of occupation. Obtaining seasonality data from shellfish is a time-consuming and costly process that requires mercenaria clam shell – a species that is extremely rare in the Wando-Welch midden samples. Both thin section and oxygen-isotope studies performed on clam samples from St. Catherines Island noted summer through spring as a season of capture (Thomas 2008). Taken together, the foodways assemblage is what one would expect from very short-term occupations by small groups focused on exploiting shellfish and nuts. This does not exactly fit into Espenshade and c0-author's model (1994), being somewhere in between an oystering station and a single family, limited shell site.

We have very limited information at this time concerning the houses or shelters that the residents of the Wando-Welch site may have occupied during the Late Woodland period (or earlier periods for that matter). Only one house has been excavated in the Charleston Harbor area that is associated with Wando-series pottery. In the late 1980s, archaeologists with Florida Archaeological Services excavated a site in today's Molasses Creek subdivision (38CH909/910) that contained a small shell midden and the remains of a house. Limestone tempered pottery was predominant in the shell midden and in several nearby pits. The house was roughly C-shaped, with posts set in an excavated trench, and a door opening through the long wall; a small but dense shell midden lay to one side of the door (James B. Legg, personal communication, April 2012). Figure 9 provides a sketch of the Molasses Creek house. Unfortunately, bankruptcy precluded the preparation of a report of these investigations (an article concerning the site did appear in the Charleston *Post and Courier* in 1987) and flooding has since damaged or destroyed specific information related to the site in the files and collections of Florida Archeological Services (Robert Johnson, personal communication, March 2012). Interestingly, this house is similar to two Late Woodland houses excavated at 38BU1854, where dozens of small shell middens surround an earthen mound (Brockington and Associates, Inc. 2006); St Catherines and fine-medium sand tempered cord marked ceramics are predominate at this site.

Contextualizing Wando Settlement and Subsistence Strategies

How do the short-term settlement and subsistence strategies identified at the Wando-Welch site compare to those of prehistoric hunting and gathering groups at other sites along the South Carolina coast? Again, in an effort to make our study more empirical, we answered this question by creating quantitative indices that measure sedentariness by referencing two variables – residential stability and use duration. Gallivan (2002) constructed a similar index in order to study changes in mobility among prehistoric and historic horticultural groups in the James River Valley, Virginia. Working from heuristic models used in the southwestern United States (Lightfoot 1984), Gallivan (2002:538) defines residential stability as the amount of time spent at a site during the annual cycle, ranging from a single day to an entire year. Use duration operationalizes the extent of multiple-occupations at a site. It is a measure of the cumulative time over which the site has been occupied.

Linking these variables to the archaeological record requires a consideration of what types of data might make good measures. With regard to residential stability, Gallivan (2002:542) argues that sites occupied for long portions of the annual cycle should contain refuse resulting from a greater range of activities. This should be manifest in the archaeological record as high diversity in feature types and tools and greater pit volume. In adapting this index to coastal South Carolina, we add lithic tool to debitage ratios, ceramic rim to body sherd ratios, and bone to shell ratios. These added categories also measure the range of activities that are being performed at a site (e.g., tool use maintenance, cooking and storage, vertebrate and invertebrate exploitation). With regard to use duration, Gallivan (2002:543) argues that this variable would be materialized in the density of artifacts and features. We measured these density figures by summing all features and artifacts for each site, and dividing by the total area of excavations reported. Again we adapt this variable to South Carolina by adding the average area of shell middens. As accumulative features, we argue that middens are, in effect, measures of density. Note that use duration is independent of residential stability, as it is possible to have a high density of artifacts and features that evince very little diversity. To use the Espenshade and co-author's (1994) model, an example of this would be a site composed of multiple oystering station occupations.

Table 5 contains the data we used to calculate residential stability and use duration indices. The data cover 13 sites which span the Late Archaic through Late Woodland

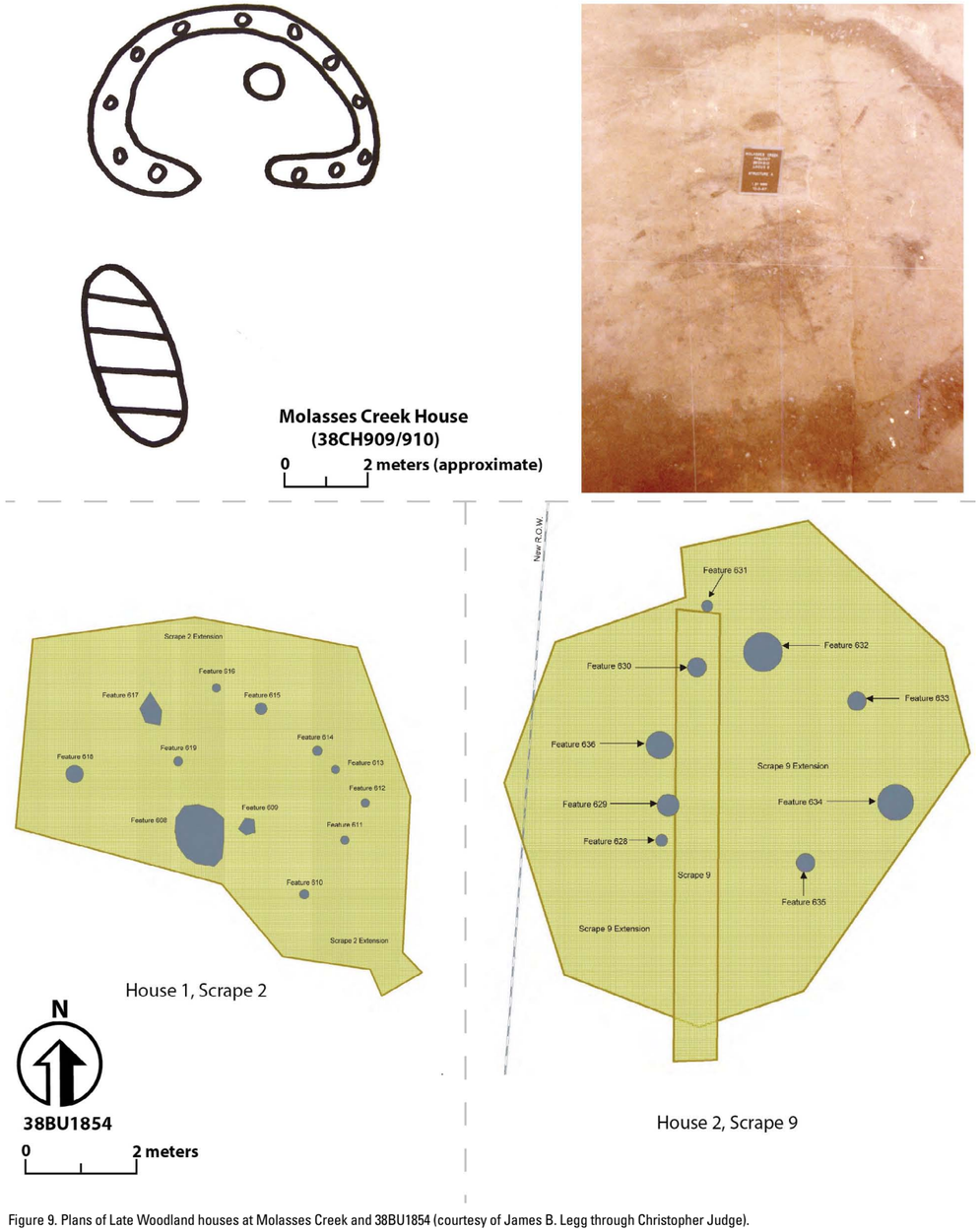

Figure 9. Plans of Late Woodland houses at Molasses Creek and 38BU1854 (courtesy of James B. Legg through Christopher Judge).

Table 5. Calculation of residential stability and use duration indices.

			Lithic Tool									
	Site	Occupation	Feature Richness	Debitage Ratio	Richness	Rims/Body	Mean Pit Volume (l)	Bone/Shell	Density			
									Mean Shell Midden Area	Feature[a]	Artifact[b]	Duration	Reference
	38CH42	Late Archaic	5	1.00	1	0.08	0.00	0.0461	5412.33	0.50	142.14	0.94	Saunders 2002
	38CH1781D	Late Archaic	4	0.14	5	0.04	347.00	0.0035	565.00	0.23	35.28	0.58	Baluha et al. 2006
	38BU2-LA	Late Archaic	2	0.07	8	0.95	0.00	0.0008	n/a	0.00	86.88	0.50	Espenshade et al. 1994
	38JA23	Early Woodland	2	0.75	3	0.06	0.00	0.0110	700.00	0.08	158.33	0.74	Crook 2009
	38JA61	Early Woodland	1	0.10	4	n/a	0.00	n/a	660.00	0.01	54.79	0.51	Lepionka et al. 1983
	38BU921	Middle Woodland	2	0.03	1	n/a	55.50	0.0008	1366.00	0.17	4.61	0.54	Gunn et al. 1995
	38BU2-MW	Middle Woodland	2	0.04	2	0.02	47.90	0.0001	n/a	0.01	12.44	0.35	Espenshade et al. 1994
	38BU1787	Late Woodland	3	0.08	3	0.22	286.50	0.0024	1415.00	0.03	29.24	0.57	Shah and Whitley 2010
	38BU372	Late Woodland	1	0.00	0	0.11	27.80	0.0001	11250.00	0.00	0.08	0.44	Kennedy and Espenshade 1992
	38CH949	Late Woodland	3	0.17	1	0.10	9.55	0.0200	3600.00	0.04	49.95	0.73	Jateff et al. 2008
	38CH950	Late Woodland	2	1.00	1	0.03	22.40	0.0035	68.00	0.01	39.00	0.39	Jateff et al. 2008
	38CH351	Late Woodland	2	0.08	3	0.08	157.88	0.0007	12.40	0.02	19.93	0.35	Marcoux et al. 2011
	38BU1241	Late Woodland	1	0.00	0	0.12	0.00	0.0001	2166.67	0.00	0.01	0.32	Kennedy and Espenshade 1992

[a] Calculated as the sum of all features divided by total area of excavation.

[b] Calculated as the sum of all artifacts divided by total area of excavation.

periods. Given the similarity of the occupations at Loci 1-3 at the Wando-Welch site, we combined data for the site in order to assure an adequate sample size for the measures. In calculating the indices, we ranked the sites for each variable assigning the lowest rank the value of 1. We then divided the rank of each site by the total number of sites for which there was a value. This resulted in a standardized value between 0 and 1 for each site within a variable. Residential stability and use duration values were then calculated for each site as the average of the standardized ranking values for each index measure. Thus, the residential stability value is the average of the rankings for feature richness, lithic tool to debitage ratio, lithic tool richness, ceramic rims to body sherd rato, mean pit volume, and bone to shell weight ratio. Use duration values for each site are the average of rankings for average shell midden area, feature density, and artifact density.

Figure 10 presents a visual representation of the distribution of residential stability and use duration values. In interpreting the plot, each quadrant represents a particular combination of residential stability and use-duration. For example, the upper left quadrant contains sites with low residential stability values and high use duration values indicating sites that were occupied multiple times, but for very short periods. A number of interesting patterns emerge from this plot. First, and of most import to this study, is the position of the Wando-Welch site. In the lower left quadrant, it has low residential stability and use duration values. This indicates that the site contains a single (or more likely a few) brief occupation(s). This offers further confirmation of the evidence presented above.

We can also use Figure 10 to see how the occupations at the Wando-Welch site compare to other Late Woodland sites and sites from other time periods. Late Woodland sites occupy three of the four quadrants of the plot. Sites 38BU372 and 38BU1241 (Kennedy and Espenshade 1992) and 38BU2 (Espenshade et al. 1994) were all classified as "oystering stations." While oysters were also the obvious focus of occupations at the Wando-Welch site, plant data indicate that nut gathering was also a very important subsistence activity. Nevertheless, these sites all represent very brief occupations focused on a narrow range of activities. Sites 38CH949 and 38CH950 are Late Woodland sites with primary occupations evinced by Wando-series pottery. The sedentariness of 38CH950 is classified as a single or a few multi-season occupations, while 38CH949 falls within the upper right quadrant, which typifies sites with multiple multi-season occupations. These two sites appear to fall within the single-family shell midden type site (Espenshade et al. 1994). Both Middle Woodland sites have residential stability values that indicate brief occupations. This matches the contention of Trinkley (1989:79) and Espenshade and co-authors (1994:180) that large sites indicative of multi-season occupation are rare in the region during the Middle Woodland period. Early Woodland period sites in the sample include brief, multiple occupations (38JA61) and multiple multi-season occupations (38JA23). The locations of the Late Archaic sites in the sample present a much different picture. These three sites all have values that indicate multiple multi-season occupations. Large sites with long occupation durations have been found to be quite indicative of the Late Archaic settlement along the South Carolina and Georgia coasts (Baluha et al. 2006; Thompson and Worth 2010). There are obvious weaknesses in this study due to the small sample size; however, the results presented above indicate that empirical measures like residential stability and use duration have great potential to improve our ability to examine variability in settlement patterns along the South Carolina coast. Regardless, this empirical method will provide others with a method to objectively test the results of our work with data from additional sites.

Discussion and Conclusion

We suggest that the distinctive use of limestone as a tempering agent by groups in the Wando River Basin is part of a large-scale regional process of cultural change, where groups began to form more localized identities in response to increasing sedentism in the Late Woodland period. Recently, Thompson and Turck (2009) presented a model of cultural change for Late Archaic and Woodland period hunter-gatherer groups along the coast of Georgia. Based on a regional study of changes in site density through time, the model focuses on major changes to subsistence and settlement strategies resulting from environmental perturbations, specifically a sea level regression at the end of the Late Archaic period.

The authors compiled site location data for Late Archaic, Early Woodland, Middle Woodland, and Late Woodland periods. With this data, they constructed a site distributions analysis using GIS software (Thompson and Turck 2009:258-263). In this analysis, the authors divided the coastal region into equally sized quadrats (54.3 km^2), and counted the frequency of sites in each quadrat for each time period. They presented their findings in a series of chloropleth maps that depict site densities for each quadrat. The results of this analysis showed a significant reduction in sites between the Late Archaic and Early Woodland period and a concomitant increase in sites during the Middle and Late Woodland periods. The impetus for the major reduction in sites, they argue, was a significant environmental change, evinced by a major sea level regression, around 1000 B.C. They argue that this change would have drastically altered resource distributions and avail-

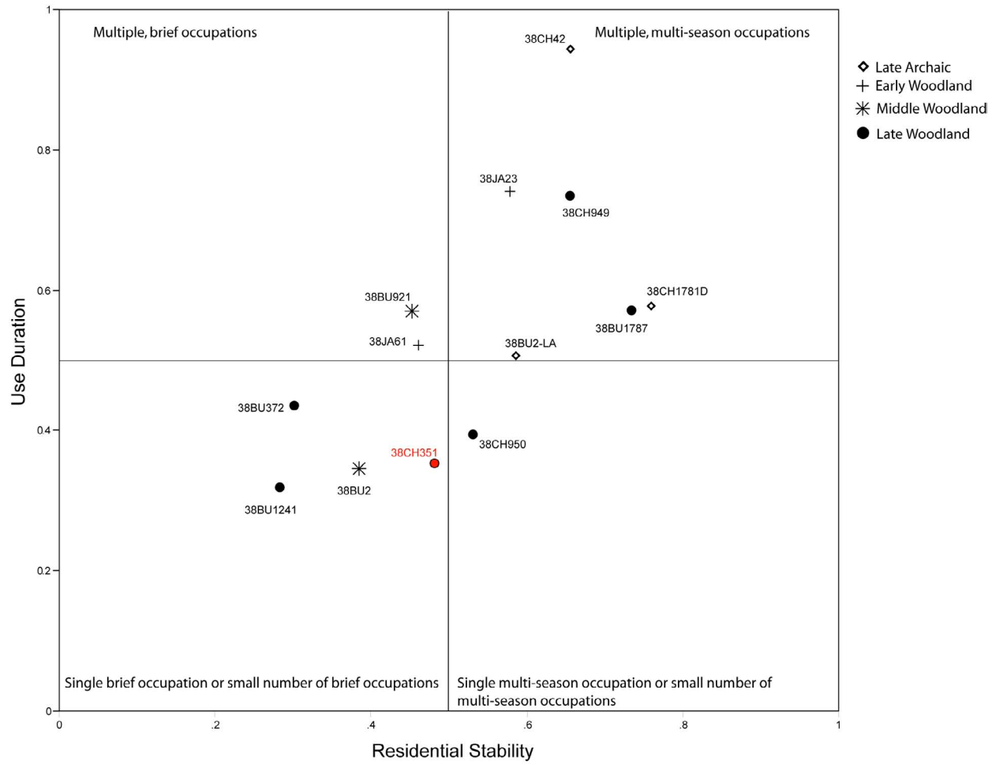

Figure 10. Scatterplot of residential stability and use duration.

ability, causing local groups to change their settlement and subsistence strategies in order to adapt. They argue that this resulted in a shift in site types from large multi-season settlements during the Late Archaic, to small briefly occupied sites in the Early Woodland. This shift reflects a more mobile lifestyle. They interpret the increase in sites dated to the Middle and Late Woodland periods as a reflection of a return to the subsistence and settlement strategies of the previous Archaic period following the return to modern sea levels and an increase in the abundance of marine food resources (especially shellfish). The authors also argue that in returning to a more sedentary settlement and subsistence strategy, Middle and Late Woodland groups reinstituted the practice of marking ownership and control over resources through the construction of mounds reminiscent of the shell rings of the Late Archaic period (Thompson and Turck 2009:273-274). As we will discuss below, we argue that the same process is happening along the central South Carolina coast, but instead of mounds, groups are expressing local identities through distinct potting traditions represented by the contemporaneous limestone-tempered Wando series and the sand-tempered Santee and McClellanville series.

Table 6. Site Densities by Time for Each Period.

	Late Archaic	Early Woodland	Middle Woodland	Late Woodland
Number of Sites	543	813	1,211	741
Length of Period	1,100	700	900	500
Site Density by Time (sites per 100 years)	49.36	116.14	134.56	148.20
Difference in Desity from Preceding Period		66.78	18.41	13.64
% Density Difference from Preceding Period		135.28%	15.85%	10.14%

We tested this settlement and subsistence model with data from the central and southern coastal counties of South Carolina. Site location data were obtained from the Archsite website. We used 50 km^2 quadrats to follow Thompson and Turck's (2009) study. We present the results of this study in Figures 11-14 and Table 6. What is immediately apparent in the results is the dramatic increase in Early Woodland sites along the southern and central South Carolina coast. This 135 percent increase in sites is the opposite of the dramatic 46.5 percent decrease observed by Thompson and Turck (2009:Table 4; see Table 6). The site increases are seen in two clusters – one around Port Royal Sound and the other in Bull's Bay. While the increase in the number of sites is drastically different, there are two explanations that can accommodate this difference. First, it is possible that the increase in Early Woodland sites observed in South Carolina is the result of the abandonment of coastal Georgia identified by Thompson and Turk (2009). Second, an increase in the frequency of archaeological sites could equally be viewed as a reflection of increased mobility rather than increased population. The maximum geographic extent of high density settlement occurs during the Middle Woodland, when we have good data that groups are pursuing a highly mobile lifestyle. During this period, settlement along the southern coast and near Bull's Bay expands significantly and a new cluster of high-density occupation emerges at the mouth of the Wando River, while the number of sites increases a modest 15 percent (Figure 12). During the Late Woodland, we have a continued increase in sites, on the order of 10 percent, but the density maps signal a contraction of settlement areas along both the southern and central coasts (see Figure 13). We believe this contraction is most likely tied to an increase in sedentisim during the Late Woodland period.

What do these changes in settlement have to do with identity and pottery? We follow Thompson and Turck (2009) and Crothers and Bernbeck (2004), who argue that the formalization of localized identity is directly tied to sedentism and the need to mark corporate property. Crothers and Bernbeck (2004:Table 17-1) argue that highly mobile hunting and gathering groups are typified by social fluidity, open access to resources, flexible social relations, and wide regional sharing of knowledge. Thinking about pottery as a materialization of identity, we make the case that the wide ranging social connectivity of highly mobile groups will likely result in stylistic homogeneity over large areas. This is the case during the Middle Woodland period, when Deptford-series pottery is found across most of the South Carolina and northern Georgia coasts westward to the northern Gulf coast of Florida. The opposite should be true of more sedentary groups, who have less fluid social groups, controlled access to resources, prescribed social relations, and circumscribed highly localized sharing of knowledge. In these groups, one would expect to see localized potting styles that reflect the establishment of real social and territorial boundaries.

Returning to the ceramic seriation earlier in the essay, we argue that the branching of the ceramic chronologies into distinct central and southern coast divisions is a material correlate of a shift from a highly mobile settlement and subsistence strategy employed during the Early and Middle Woodland periods to a more sedentary settlement and subsistence strategy during the Late Woodland period. The biplot shows a region-wide distribution of Refuge- and Deptford-series pottery during the Early and Middle Woodland periods, which also are the periods with the greatest geographic extent of settlement. The regionalization of potting traditions into the grog-tempered southern coast tradition and the sand- and limestone-tempered traditions of the central coast occurs simultaneously with the concentration of sites into what probably were three defined ethnic territories – one on the western shores of Port Royal Sound, one in Bull's Bay, and one at the mouth of the Wando River.

The debate outlined at the beginning of this essay focuses on the continued ability of coastal shell midden sites to contribute significant information to our understanding of past lifeways. Our work at the Wando-Welch site and the analysis presented in this essay support the argument that these cultural resources continue to add significant information to our interpretations when researchers apply new perspectives and analytical techniques. Indeed, the data recovery excavations resulted in an improved definition of the highly diagnostic limestone-tempered pottery that is known as the Wando-series. Furthermore, the empirical methods we introduced for estimating group size and occupation duration, as well as the application of index measures of sedentariness, can be used in future projects to test and refine the interpretations we present here. While we understand that the financial costs associated with protecting or mitigating these apparently "redundant" cultural resources is great, we believe that the cost is justified when one considers that the data they contain continues to improve our understanding of variability in prehistoric coastal settlement and subsistence – a challenge that is far from fully met.

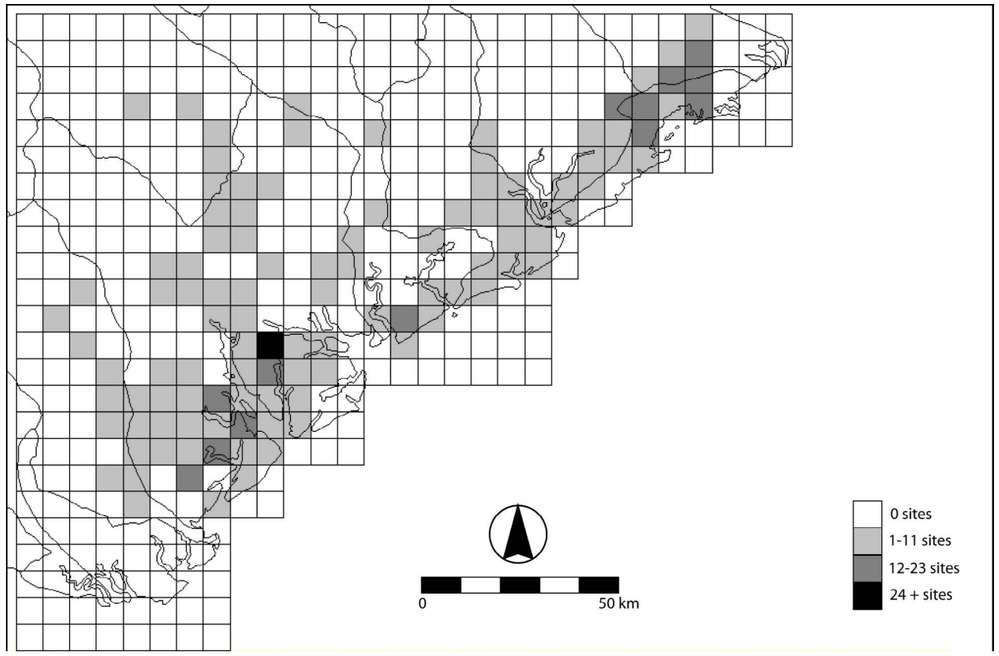

Figure 11. Late Archaic Site Density Maps of Central and Southern Coast of South Carolina.

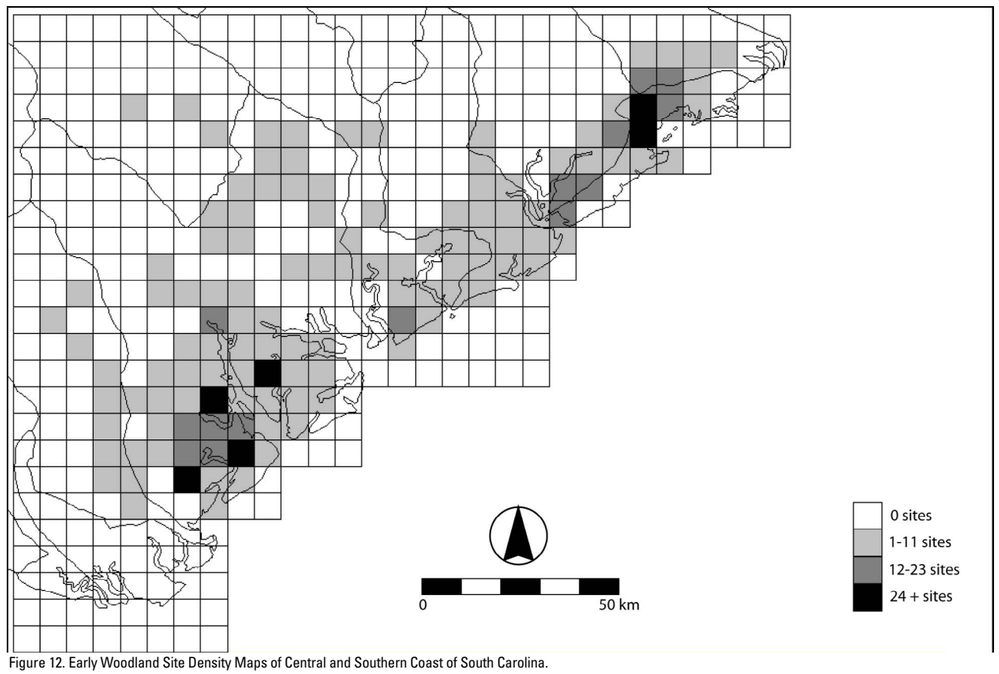

Figure 12. Early Woodland Site Density Maps of Central and Southern Coast of South Carolina.

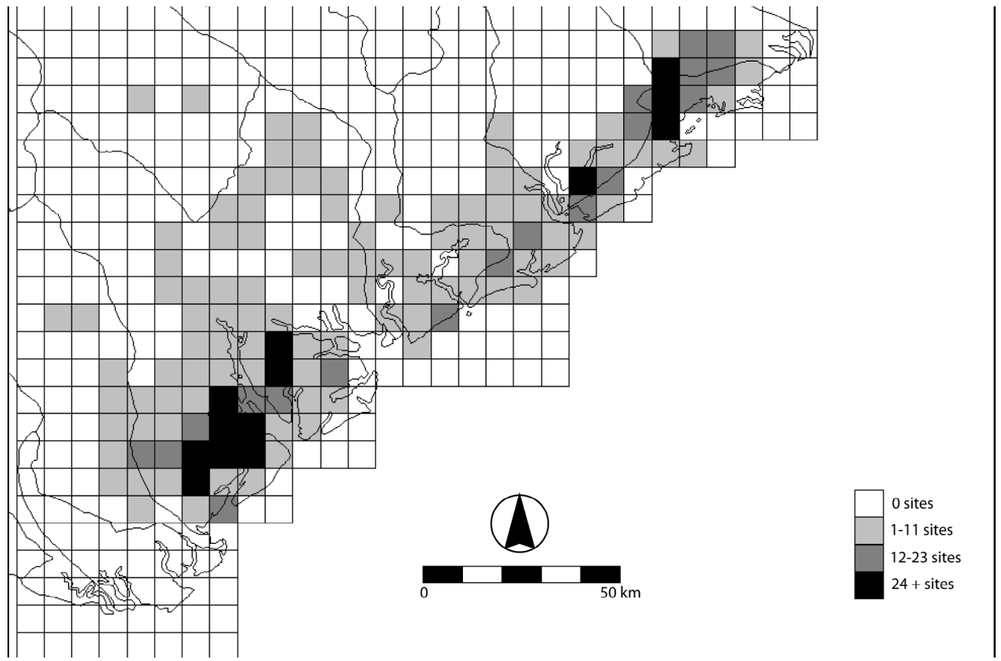

Figure 13. Middle Woodland Site Density Maps of Central and Southern Coast of South Carolina.

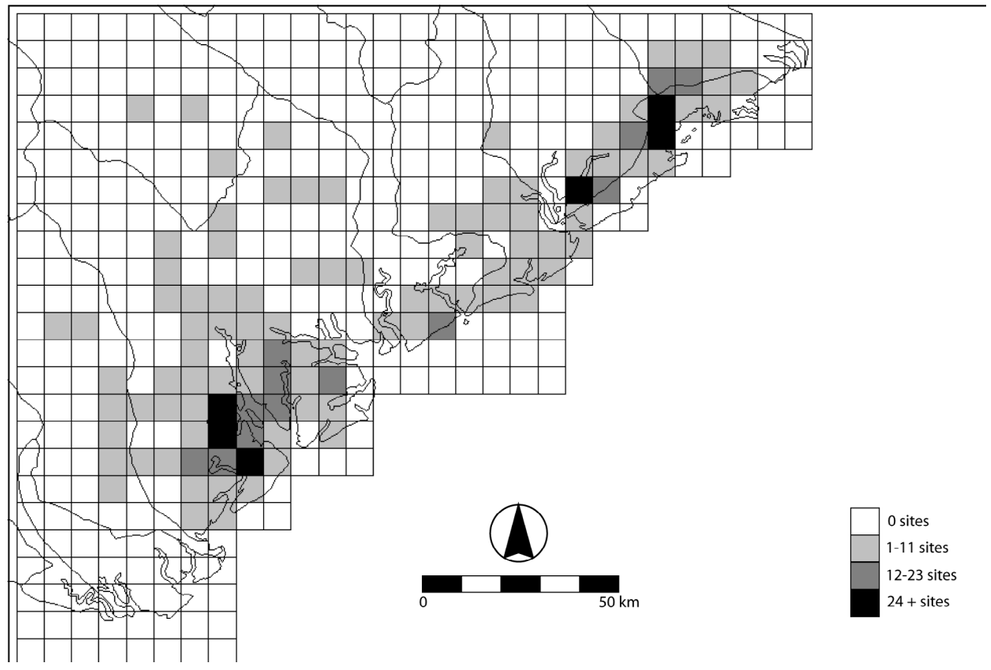

Figure 14. Late Woodland Site Density Maps of Central and Southern Coast of South Carolina.

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A Re-Examination of a Belmont Neck Phase Ceramic Assemblage from the Belmont Neck Site (38KE6) in Kershaw County

Jeremy A. Vanier

Over the last two decades literature exploring the application of foodways data to archaeological interpretation has exponentially increased (e.g. Dietler 1996, 2001; Dietler and Hayden 2001; Hastorf and Johannessen 1994; Hayden 1996, 2001; Johannessen 1993; Twiss 2007; Wiessner 1996a, 1996b) and was often built on the works of Douglas (1972) and Goody (1982) who were pioneers in foodways analyses within the areas of sociology and cultural anthropology. These myriad studies, among many others, have led me to question the utility of using archaeologically recovered foodways evidence to ascertain the social identities of pre-Columbian populations in central South Carolina. To help shed light onto this query, I endeavored to complete a ceramic vessel function analysis of sherds recovered from elite and commoner contexts within an early Mississippian community. Specifically, I conducted a vessel function analysis of ceramic sherds recovered from the Belmont Neck site (38KE6) in Kershaw county.

A result of this study was a re-examination of the definition of a Belmont Neck phase ceramic assemblage which separated vessel attributes between elite and commoner contexts. This essay presents the methodology employed in the vessel function analysis of sherds recovered from the Belmont Neck Mississippian single mound town and the subsequent re-examination of the Belmont Neck phase ceramic assemblage initially described by DePratter and Judge (1990). I begin with an overview of the Belmont Neck site including a history of archaeological investigations followed by my methods of analysis, results, broad definition of a Belmont Neck phase ceramic assemblage, and concluding remarks.

The Belmont Neck Site (38KE6)

The Belmont Neck site is multicomponent with Middle to Late Woodland, Mississippian, and historic occupations. Based on the relatively few Middle and Late Woodland ceramic sherds, Belmont Neck's Middle and Late Woodland components likely were short-term encampments (Cable et al. 1999:50). The Mississippian component of the Belmont Neck site consists of a single-mound town with mound and village precincts dating to A.D. 900-1300. The historic occupation at the Belmont Neck site dates from the late 18th century to today. In the late 1700s, an overseer's house was built on the mound with associated slave cabins constructed directly to the northeast (Cable et al. 1999).

The Belmont Neck site is located on top of an ancient alluvial first terrace within the geomorphic floodplain on the south side of the Wateree River within what is today an 801-acre bend (Bartley 2006) (Figure 1). The site dimensions are 275 x 420 m, covering an area of 20.41 acres (Cable et al. 1999:29). The town, which is roughly six meters above the typical low-water level of the river, is thought to consist of two residential areas located on either side of the mound and separated by a plaza (Cable 2000) (Figure 2). Three buried swales representing an ancient course of the Wateree parallel the bend in the river and lie to the north, east, and west of the mound (Bartley 2006:30).

The earliest Mississippian occupation at the Belmont Neck site resulted in a sheet midden consisting of dark brown silty loam that ranged from 15 to 30 cm in thickness. This sheet midden covers much of the highest portion of the terrace (Cable et al. 1999:31). Evidence from geomorphological investigations along with the excavation of a 1 x 2 m unit through the mound by Gail Wagner in 2004 suggest the mound was constructed in two stages on top of this midden, reaching no more than 2 m in height with a probable base angle of 38 degrees (Bartley 2006:52-53; Wagner 2005). The first mound stage, which is composed of sandy midden consisting of very dark brown loam, extends 48 m east to west, 39 m north to south, and presently lies 60-80 cm below the ground surface (bgs)

Figure 1. Location of the Belmont Neck Site (38KE6).

Archaeological Investigations

Initial archaeological testing at the Belmont Neck site consisted of a surface collection by DePratter and Judge in 1985 when the area was a plowed field (Cable 2000; Cable et al. 1999; Wagner 2005). In 1998, after the area had been planted in pine and with the goal of ascertaining the boundaries and components of the site, 77 gridded shovel test pits (STPs) were excavated. The topography of the site was mapped and a single 1 x 2 m test unit was excavated to 77 cm bgs on the terrace northeast of the mound in one of the site's village precincts (Bartley 2006; Cable et al. 1999). In 2001, another 1 x 2 m unit was excavated to just below the plow zone (30 cm bgs) on the highest part of the mound (Wagner 2001). This last excavation revealed that the second mound stage was constructed with three different basket-laid soil colors. Excavation of this 1 x 2 m unit was completed through the mound by Wagner in 2004, along with the excavation of two additional 1 x 2 m units over looter holes on the south end of the mound (Wagner 2005). To investigate the geomorphology of the Belmont Neck site, the source of the mound fill, and the nature and extent of natural and cultural processes that have altered the site's Mississippian component, in 2004 and 2005 Bartley excavated four backhoe trenches and a series of 66 Giddings cores (Bartley 2006:1; Wagner 2005).

In 2008, the University of South Carolina archaeological field school, directed by Gail Wagner, returned to the Belmont Neck site to examine the site's village component. Twenty-three STPs were excavated with the goal of locating midden-rich areas in the Mississippian village that were not also overlain by significant historic deposits. Two 2 x 2 m excavation units inside the boundaries of the western swale approximately 100 m west of the mound were excavated to sterile subsoil.

Seriation of the assemblages of ceramic sherds suggests the village at Belmont Neck was occupied contemporaneously with the mound precinct. In both locations, most of the sherds are Etowah or Savannah complicated stamped Belmont Neck phase sherds, which date to the Middle Mississippian period, and few sherds show Late Woodland affiliation.

(Bartley 2006:33). Mound Stage 2, presently 15-60 cm bgs, is composed of basket-loaded sterile black, gray, and yellow fine, silty clay loam that was brought in from off-site locations in low areas of the floodplain (Bartley 2006:35-36). Today, the top of the mound consists of a yellowish brown silty loam plowzone that extends from 0-15 cm bgs (Bartley 2006; Cable et al. 1999). If Cable's (2000) reconstruction of the layout of the Belmont Neck town under the South Appalachian regional Mississippian model is correct, the village precinct (marked by the presence of midden) of the site was located both northeast and west of the mound. The plaza should be located directly northwest of the mound, flanked by the two residential areas of the village (Cable 2000:14–15).

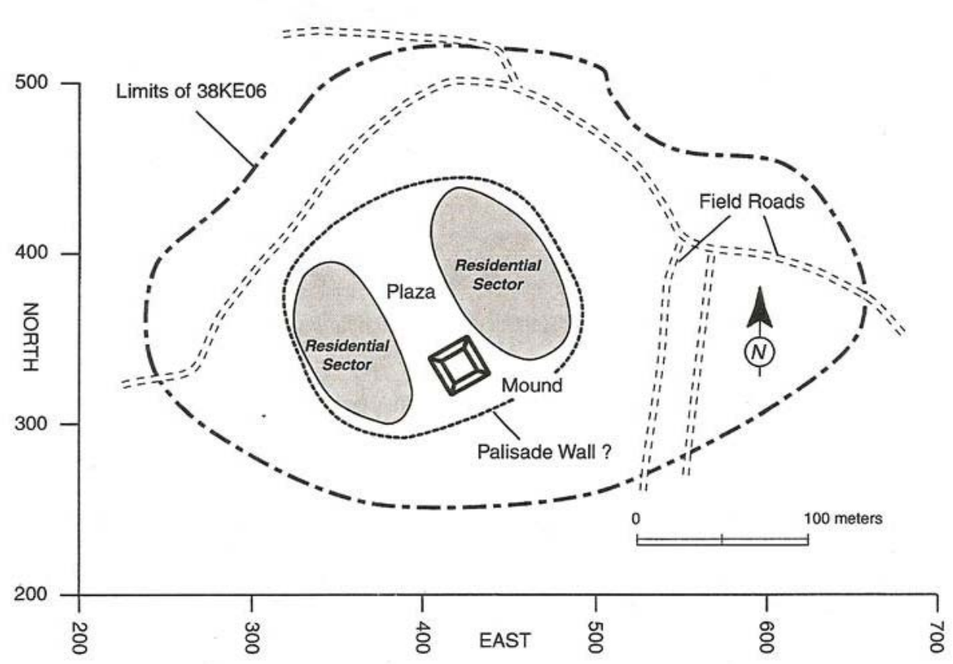

Figure 2. Model of the possible organization of the Belmont Neck Site (Cable 2000:17).

Methodology and Results

Ceramic sherds ≥ 2 cm in diameter recovered from the Belmont Neck site were analyzed for exterior and interior surface finish, inclusion size, mean thickness, weight and paste hardness. All rim sherds, regardless of size, were examined for the same attributes as body sherds, as well as the additional attributes of vessel form, lip form, lip treatment, rim orientation, rim decoration, orifice diameter, percent of rim present, and inclusion density. Body sherds < 2 cm in diameter were counted, but not analyzed.

The exterior surface finishes present at the Belmont Neck site include brushed, burnished, burnished plain, plain, check stamped, complicated stamped, herringbone, simple stamped, cordmarked, fabric impressed, and net impressed (Table 1). The mound precinct has a much higher frequency of complicated stamped to plain pottery than the village, whereas the majority of the village sherds have a plain surface finish rather than a complicated stamped one. Occurrences of Etowah to Savannah complicated stamped sherds are similar between the mound precinct and village at Belmont Neck (Figures 3).

Similar to the difference between the mound precinct and village for frequencies of complicated stamped to plain exterior surface finish, the village and mound also differ with regard to interior surface finish. Whereas the vast majority of sherds from the mound precinct demonstrate interior burnishing, nearly every sherd from the village has a plain interior (Table 2). Interior burnished ceramic sherds from the mound precinct at Belmont Neck are overwhelmingly associated with complicated stamped exteriors (Table 3). Sherds with plain interiors, however, demonstrate almost equal frequencies of cordmarked and plain exteriors. Although the Belmont Neck village ceramic assemblage consists of markedly fewer burnished interiors than the mound precinct, both assemblages are similar in that many sherds with burnished interiors from the village have complicated stamped exterior surface finishes. Unlike the mound precinct, however, the majority of sherds with plain interiors from the village have plain exteriors.

The majority of lips from Belmont Neck vessels are round, and roughly 30 percent are flat at both the mound precinct and village. All together 82 percent of the lips

Table 1. Frequency of Belmont Neck exterior surface finishes. ※

	---- Percent ----	
	Mount Precinct	**Village**
Exterior surface finish	(n=970)	(n=1322)
Brushed	*	*
Burnished	9	2
Burnished Plain	*	1
Plain	9	43
Check Stamped	1	1
Complicated Stamped	42	29
Herringbone	0	*
Simple Stamped	10	6
Cord Marked	20	15
Fabric Impressed	7	3
Net Impressed	2	*
※ All ≥ 2.0 cm body sherds and all lip/rim sherds regardless of size		
* Less than 1 percent.		

Table 2. Frequency of interior surface finishes from Belmont Neck sherds. ※

	--- Percent ---	
	Mound Precinct	**Village**
Interior Surface Finish	(n=1013)	(n=1343)
Burnished	74	6
Plain Burnished	*	2
Plain	26	92
※ All ≥ 2.0 cm body sherds and all lip/rim sherds regardless of size.		
* Less than 1 percent.		

Figure 3. Savannah Complicated Stamped (a) and Etowah Complicated Stamped (b) sherds.

are undecorated at both the mound precinct and village at the Belmont Neck site. Lip decorations that do occur in small frequencies are notched, cordmarked, and punctated. Of the lesser occurring lip decorations at the Belmont Neck site, notched and cordmarked lips occur with similar frequencies at the mound. The majority of decorated lips from the village are notched (82%) with few occurrences of punctated (18%).

The vast majority of rims from Belmont Neck are undecorated. The only rim decoration present at the Belmont Neck mound precinct consists of cordmarking, which does not occur with any specific exterior or interior surface finish. Unlike the mound, the village assemblage includes a few occurrences of cordmarked and notched rims, but like the mound rim decorations do not seem to be linked to specific exterior or interior surface finishes. One percent of rims from the village have added rosettes.

With one exception (a single shell-tempered body sherd from the village precinct), all analyzed sherds exhibit sand inclusions ranging from fine to coarse in size. The occurrence of sand inclusions in all but one sherd make it difficult, if not impossible, to ascertain whether or not sand was deliberately added to the clay in the production of Belmont Neck vessels.

Although the paste recipes between the Belmont Neck mound and villages seem to be similar, they do differ in terms of paste hardness. Although all of the sherds analyzed exhibit paste hardnesses across the range of friable, compact, and vitrified, sherds from the mound precinct exhibit a much higher frequency of vitrified sherds than does the village.

Table 3. Frequencies of Belmont Neck surface exterior finishes associated with burnished and plain interiors. ※

	Mound Precinct		**Village**	
	Burnished	**Plain**	**Burnished**	**Plain**
Exterior surface finish	(n=710)	(n=256)	(n=91)	(n=1223)
Complicated Stamped	49	16	34	28
Cord Marked	17	23	13	15
Burnished	13	1	25	*
Simple Stamped	9	18	8	7
Plain	4	23	16	45
Fabric Impressed	4	17	3	3
Net Impressed	2	1	0	*
Check Stamped	1	1	0	1
Brushed	1	0	0	*
Herringbone	0	0	0	*
※ All ≥ 2.0 cm body sherds and all lip/rim sherds regardless of size				
* Less than 1 percent.				

Re-Examining a Belmont Neck Phase Ceramic Assemblage

The Belmont Neck phase assemblage, named for the Belmont Neck site, was first described by Chester DePratter and Chris Judge (1990:56). Their description was based on a surface collection completed in 1985. They placed the dates for the Belmont Neck phase from A.D. 1200-1250 and generally described the assemblage as complicated stamped vessels with mostly plain or some notched lips. According to DePratter and Judge (1990), Belmont Neck phase vessels are predominately stamped (43%), followed by plain (31%), and burnished (9%). The majority of complicated stamped motifs consist of concentric circles and undefined concentric curvilinear forms. A few complicated stamped sherds possess motifs defined as Etowah complicated stamped consisting of cross-bar diamond motifs (DePratter and Judge 1990). Undecorated lips occur the most frequently (86%), followed by notched lips (7%). Reed punctates also occur on Belmont Neck phase vessel rims, but in very low frequencies. DePratter and Judge (1990) found most ceramic sherds were tempered with fine to medium sand, but a few occurrences of coarse sand and fine grit were present.

Following the 1998 survey and testing project, which consisted of 77 gridded STPs and a single test unit, the description of the Belmont Neck phase assemblage was reevaluated and broadened (Cable et al. 1999). Many sherds with ladder-base diamond motifs, which are included in the Etowah complicated stamped tradition, were recovered. Whereas the initial interpretation of the Belmont Neck phase assemblage implied a limited occupation during the early Savannah period, the recovery of Etowah complicated stamped sherds implied a much lengthier occupation that likely began with the early Etowah period (A.D. 1000-1200).

According to Cable and co-authors (1999), complicated stamped sherds constitute 58 percent of the Belmont Neck phase ceramic assemblage followed by plain (28.3%) and burnished plain (4.9%). Polished plain, cob impressed, incised, burnished incised, and comb incised are present, but rare. Of the complicated stamped sherds, 11 percent have burnished interiors. Much like the initial description, the majority of lips are plain (85%) and six percent are notched. Rosettes and reed punctates are present as rim decorations but are rare. Lip forms are mostly round (54%) followed by flattened (16%) (Cable et al. 1999:46). Although this description of the Belmont Neck phase assemblage agrees with the initial one in that most sherds are tempered with fine to medium sand, this description acknowledges that Savannah complicated stamped vessels tend to have coarser pastes than those described by Depratter and Judge (1990). Approximately 85 percent of Etowah complicated stamped and 70 percent of Savannah complicated stamped sherds exhibited fine to medium sand tempers (Cable et al. 1999:48).

My description of the Belmont Neck phase assemblage, which builds on previous interpretations by DePratter and Judge (1990) and Cable and co-authors (1999), is based on ceramic sherds recovered from a 1 x 2 m unit completed in 2004 (N332 E428 E1/2) and from two 2 x 2 m units (N332 E332 and N294 E326) excavated in 2008. Unlike previous descriptions, I differentiate the Belmont Neck assemblage by elite contexts from the mound and commoner contexts from the village precinct. The date range for the Belmont Neck phase assemblage is A.D. 1000-1250.

In the most general sense, I would describe the Belmont Neck phase assemblage as dominated by complicated stamped sherds with mostly undecorated or some notched lips and everted rims. Moving beyond this general description of Belmont Neck phase vessels, noticeable differences exist between the mound precinct and village assemblages at Belmont Neck. Belmont Neck site mound precinct vessels generally have burnished interiors (74%) with complicated stamped (42%) followed by cordmarked (20%) or simple stamped (10%) exteriors. The assemblage of village sherds, on the other hand, is mostly plain (43%) followed by complicated stamped (29%) and cordmarked (15%). The majority of interiors from the village are plain (92%). Lip form, lip decoration, and rim orientation are

similar between the mound and village assemblages. Rim decoration, however, is different. Rims from the mound precinct are decorated with cordmarking 16 percent of the time, whereas cordmarked rims at the village are rare (1%). Although the majority of sherds from the mound (73%) and village (58%) seem to be tempered with medium to coarse sand, coarse sand is present at a much higher frequency at the village (38%). Coarse sand constitutes only 7% of temper in the mound precinct assemblage. Ceramic paste from the mound precinct assemblage also tends to be harder than the village.

For the most part my description of the Belmont Neck phase ceramic assemblage agrees with Cable and co-authors (1999). However, some differences exist. Where prior descriptions of the Belmont Neck phase assemblage posit ceramic sherds are tempered with fine to medium sand, I posit the majority of sherds are tempered with medium to coarse sand and note the relatively high frequency of coarse sand (38%) from the Belmont Neck village. Cable and co-authors (1990) and I are in agreement in that the dates for the Belmont Neck phase come before those of the Adamson phase and range from A.D. 1000-1250 with a principle occupation during the early Savannah period.

Discussion

Assuming foodways practices at the Belmont Neck mound precinct and village were conducted with similar motivations as other Mississippians (e.g. Blitz 1993; Johannessen 1993; Maxham 2000; Pauketat et al. 2002; Welch and Scarry 1995), I expect to see differences between the two contexts. Indeed, vessels from the Belmont Neck mound precinct are more well made and demonstrate a much higher display value than vessels from the village (Table 4). The higher frequency of vessels with harder pastes from the mound suggest they were fired longer and at higher temperatures than those from the village. Mound vessels also have finer inclusions and frequently burnished interiors. In terms of display value, mound vessels have a much higher frequency of complicated stamping (42%) than village vessels (29%), which predominately have plain exteriors (43%) and interiors (92%). The majority of bowls from the mound have burnished exteriors (67%) and all have burnished interiors. Conversely, village bowls are characterized by plain exteriors (72%) and interiors (68%). Exterior surface finishes from mound jars (n=12) are equally represented by complicated stamped, cordmarked, and burnished (25% each), and tend to have burnished interiors (81%). Jars from the Belmont Neck village (n=18) exhibit a relatively high frequency of complicated stamped exteriors (41%) with plain interiors (59%).

Table 4. Comparison of Belmont Neck mound and village ceramic assemblages.

	Precinct	
	Mound	**Village**
Construction cost (a)	High	Low
Display value (b)	High	Low
Vessel shape (c)	Same	Same
Bowls	Smaller	Larger
Jars	Larger	Smaller
(a) Based on paste hardness and inclusion size (harder pastes and smaller inclusions imply high cost; softer paste and larger inclusions imply low cost).		
(b) Based on exterior or interior surface finish and lip and rim decoration.		
(c) Based on vessels identifiable as bowls or jars.		

Although construction costs and display value differ, vessel shape/size classes from the mound and village are similar. All bowls from the mound (n=12) are simple rounded bowls with everted (67%) or vertical (33%) rims with a mean orifice diameter of 16 cm. Similarly, village bowls (n=8) are simple rounded bowls with everted (91%) or inverted (9%) rims and a mean orifice diameter of 20 cm. Jars from the mound (75%) and village (89%) predominantly exhibit flaring rims. Mound jars, however, are larger with a mean orifice diameter of 28 cm (n=12), compared to village jars with a mean orifice diameter of 18 cm (n=18).

Disparities in shape/size classes for vessels from the Belmont Neck mound and village suggest the size of group consumption events may have varied between the two precincts. Larger jars from the mound imply larger amounts of food were served and stored at that location. The harder pastes and finer inclusion sizes for mound vessels, however, imply vessels from the mound cost more to produce. The higher frequency of decorative motifs from mound vessels, implies higher importance was placed on display at the mound precinct than at the village.

In re-examining DePratter and Judge's definition of a Belmont Neck phase ceramic assemblage, I did not alter it as much as I made it a bit more complex. I acknowledged that those attributes which make up phase descriptions were created and maintained within imposed Mississippian heterarchies and social structures. Among and between various realms of use, display, and disposal, Belmont Neck phase ceramic vessels undoubtedly differed. Vessels used in elite contexts within mound precincts had burnished interiors and were finished with complicated stamped motifs. Belmont Neck commoners, however, used ceramic vessels that looked noticeably different from those of their elite counterparts. Theirs were plain inside and out and lacked the highly decorative complicated stamping present on the vessels of their elite neighbors.

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The St. Paul's Parsonage House and the Social Functions of South Carolina Anglican Parsonages

Kimberly Pyszka

In 1706, the South Carolina General Assembly ratified the Church Act, establishing the Church of England as the official church of the colony. Nine parishes were defined and construction began on a number of parish churches, including St. Paul's Parish Church. At the same time the church was under construction, a parsonage house was built nearby. The sites of both St. Paul's Parish Church (38CH2270) and its parsonage (38CH2292) have been identified archaeologically. The sites are located approximately 15 miles west of downtown Charleston, along the Stono River, on property today known as Dixie Plantation which is owned by the College of Charleston Foundation (Figures 1 and 2).

St. Paul's Parish Church was completed in the latter half of 1707 (Dun 1707). Excerpts from letters written by South Carolina missionaries to the Society for the Propagation of the Gospel in Foreign Parts, or the SPG, in London provide some information regarding the church. When first completed, the church was a 25'x35' rectangular brick structure (St. Paul's Vestry 1715). In the 1720s, St. Paul's Church was enlarged to accommodate the parish's growing population (Bull 1722, 1723; Leslie 1732; Standish 1726). Unfortunately, there is no documentation of the size or shape of the enlarged church, but GPR testing has shown that the addition transformed the rectangular church into a cruciform (Pyszka et al. 2010). The only description of the St. Paul's parsonage house is that it was "a small but convenient dwelling house of Brick… with a Small out Kitchen & Some few other necessary timber buildings" (St. Paul's Vestry 1715). The parsonage house was only occupied for eight years as it was burned during the 1715 Yamasee Indian War (Bull 1715; Bull 1716; Le Jau 1715). Archaeological investigations at the St. Paul's sites have produced thousands of early-18th century artifacts and architectural information regarding both structures. It has also provided an opportunity to study the larger, and often unseen, social roles of the Anglican Church in colonial life, especially in the developing frontier areas.

Settlers to early colonial South Carolina came from many European countries including France, Germany, Scotland, Ireland, and Switzerland (Joseph and Zierden 2002:1). However, the vast majority of colonists were English, either having arrived directly from England or through the English island of Barbados. Especially for those settlers newly-arrived from England, South Carolina was unlike anything they had seen back home. The environment and landscape were completely foreign to them. Early colonists had to learn to navigate the tidal waters, experiment with different crops, and deal with alligators and other animals not seen back home. People used to the village or urban lifestyles of England, now found themselves living several miles from their nearest neighbors and a day's trip into town. The climate posed new problems as well, especially adjusting to the semi-tropical area and the hot, humid conditions and diseases it brought.

The people of the colony also looked and sounded different. Not only did other Europeans settle in South Carolina, but many Native Americans still made their homes there, and over time, enslaved West Africans by the tens of thousands were brought into the colony. For the first time in many of their lives, English people comprised a minority of the population. They were surrounded by people who had different cultural practices and who spoke many different languages. Even for a dissenter, someone who did not profess their faith to the Church of England, walking into an Anglican church and being surrounded by English practices and traditions and people who wore familiar clothing and spoke a familiar language must have provided them with a sense of home, a way to maintain and express their English identity, and in some way made their adjustment to their new home easier (Hawkins 1983; Linder 2000; Woolverton 1984). At their local parish churches, Europeans and

Figure 1. Dixie Plantation in relation to Charleston..

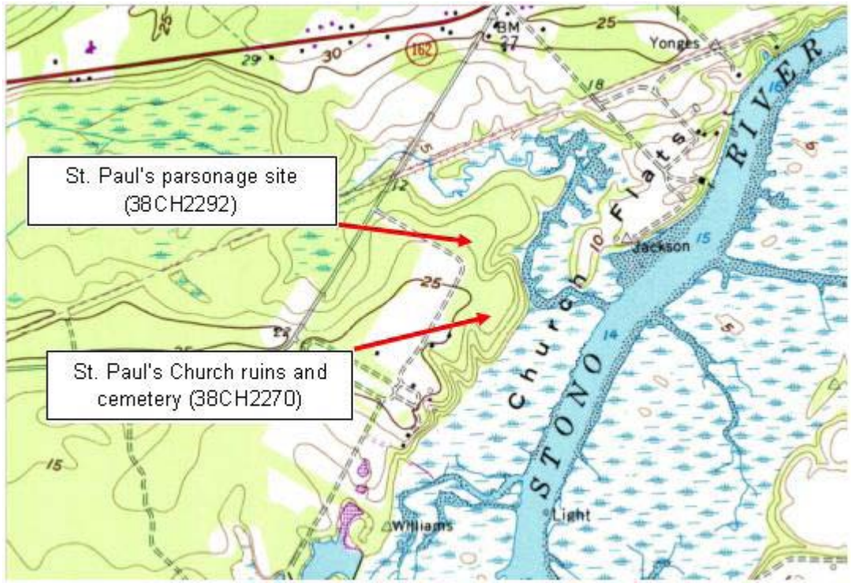

Figure 2. Detail of USGS quad map (Wadmalaw). Map shows northeastern portion of Dixie Plantation and indicates specific locations of the St. Paul's church ruins and parsonage site.

European Americans came together to worship, regardless of their religious background. Here I present findings from archaeological investigations at the St. Paul's Parish parsonage house and present evidence of its function as a social gathering area. Similar to the Anglican churches, I believe that the parsonage houses also served as important public meeting places to South Carolinians, whether Anglican or dissenter.

The St. Paul's Parsonage House – Residence or Tavern?

Excavations at the parsonage house took place during the 2010 College of Charleston archaeological field school and continued throughout the following school year with student volunteers. During this time period, 20 5 x 5 feet and three 2.5 x 5 feet test units were excavated resulting in the recovery of 4,955 artifacts in addition to a large amount of brick and mortar debris. Recovered ceramics all date to the late-17th to early-18th century (Figure 3) and a minimum vessel count (MVC) was calculated (Table 1). While not discussed here, recovered artifacts from the parsonage site provide insight into the activities, namely those associated with food storage, preparation, and consumption, conducted there on a daily basis of the missionary and enslaved people (Pyszka 2012). In addition to the artifacts associated with daily life, the artifact assemblage suggests that socializing was a common and important activity at the parsonage. Although the St. Paul's parsonage served as a residence for the missionary and his enslaved people, the assemblage contains a large number of drinking vessels (tankards and cups), tobacco pipe fragments, and glass bottles (Figure 4) in relation to food preparation and storage vessels. High frequencies of artifacts such as these are often indicative of a colonial tavern.

Figure 3. Examples of parsonage site ceramics. 1: Staffordshire slipwares, 2: manganese mottled ware, 3: sgraffito slipware, 4: Nottingham-type earthenware, 5: Westerwald stoneware, 6: tin-glazed earthenware, 7: British Brown stoneware, 8: French green-glazed earthenware (Photo by the author).

Table 1. Minimum Vessel Count of historic ceramics recovered from the parsonage site.

Ceramic Type	Count	Vessel Type(s)
Astbury refined earthenware	1	hollow ware
British Brown salt-glazed stoneware	5	2 jug/jar, 2 tankard, 1 crock
Buckley coarse earthenware	2	large hollow vessel
Chinese porcelain	5	1 plate/platter, 3 saucer, 1 large bowl
Colonoware (including Historic Indian)	10	large bowls
French green-glazed earthenware	1	milk pan
Manganese mottled earthenware	3	tankard
North Devon gravel-tempered earthenware	3	2 milk pan, 1 jug/jar
North Devon sgraffito	2	1 hollow ware, 1 flatware
Nottingham-type stoneware	3	tankard
Redware (coarse)	1	hollow ware
Rhenish (Westerwald) stoneware	2	1 jug/jar, 1 tankard
Staffordshire slipwares	5	1 plate/platter, 4 cup
Tin-glazed earthenwares	6	3 small bowl, 2 saucer, 1 jar
White salt-glazed stoneware (slip-dipped)	2	1 tankard, 1 chamber pot
Total	51	

Taverns, or ordinaries as they were commonly called prior to the mid-18th century, served many functions, but generally they were places that offered food, drink, and entertainment to guests and overnight accommodations for travelers (Lounsbury 1994:369). However, 18th-century taverns served a number of additional functions, resulting in a variety of activities taking place within them. They were places

Figure 3. Mended example of glass onion bottle recovered from the parsonage cellar (Photo by the author).

where community members came together to socialize with one another, to share the latest news of the area, and to discuss the most recent gossip. Business and political meetings were also commonplace at taverns, especially in rural areas where public buildings were few and far between (Rockman and Rothschild 1984; Thorp 1996:662). Taverns served as post offices, auction galleries, union halls, lecture and concert halls, sporting venues, gambling halls, and gaming rooms (Conroy 1995:55; Lounsbury 1994:369; Rockman and Rothschild 1984; Thorp 1996:662).

Archaeologically, it may be difficult to distinguish a tavern from a domestic site because many taverns actually served as residences for the owner and his or her family. In her 1981 study, Kathleen Bragdon used probate records and artifact assemblages to compare the assemblages of a known 18th-century tavern and the residence of a yeoman farmer. She concluded that tavern and domestic assemblages have unique characteristics that allow them to be distinguished. Bragdon (1981:35) stated tavern assemblages should include a large number of vessels, wine glasses, and tobacco pipe stems (in the thousands), specialized glassware, and a high percentage of ceramic drinking vessels. In contrast, domestic assemblages should contain more locally-made coarse earthenwares, a greater number of ceramic vessels used for food preparation and storage rather than drinking, a smaller number of tobacco pipe stems (in the hundreds), and a small number of wine glasses (Bragdon 1981:35-36). In particular, she states that a large number of tobacco pipe stems, specialized glassware, and higher percentage of ceramic drinking vessels are the best indicators of a tavern site (Bragdon 1981:36).

Comparison to Bragdon's Characteristics and Residences

To test the idea that the St. Paul's parsonage house may have functioned as a social meeting place similar to a tavern, I compared its artifact assemblage to Bragdon's characteristics of taverns and domestic sites. One difficulty with Bragdon's traits is her use of relative terms such as "largest percentage" and "large number of vessels." At the parsonage site, we recovered a minimum of 68 vessels – the MVC of ceramics seen in Table 1 plus the minimum number of glass bottles (n=18) that were also recovered. When the flatware pieces (plates and saucers) and the chamber pot were removed from consideration, there were 60 hollow ware vessels (88%) that would have been used in the serving and consumption of food and beverages. The result indicates that there is a high percentage of vessels at the parsonage site.

The next step was to compare the total number of drinking vessels (tankards and cups) in relation to the total ceramic assemblage. Of the 892 total ceramic sherds, 233 of them (26.1%) were from drinking vessels, while 14 of the 51 of the total ceramic MVC (27.5%) were drinking vessels. In comparison, 407 of the 892 ceramic sherds (45.6%) were from food preparation and storage vessels or 29 of the 51 MVC (56.9%). These figures are much higher percentages of the overall ceramic assemblage, suggesting here that the parsonage functioned more as a domestic site than a tavern.

Also related to ceramic drinking vessels is Bragdon's (1981) third characteristic of taverns – a larger percentage of ceramic types associated with drinking vessels. I used the same ceramics types Bragdon included in her study (manganese mottled wares, British Brown stonewares, slip-dipped white salt-glazed stonewares, Staffordshire slipwares, and Rhenish stonewares) with the addition of Nottingham-type wares that were identified as being from tankards. Sherds from these ceramic types totaled 272, or 30.49 percent, of the total 892 ceramic sherds, or 37.3 percent of the MVC (19 of 51). These numbers and percentages are high enough to suggest more tavern-related activities.

In addition to her tavern site traits, Bragdon (1981) also stated that a domestic site should have a high number of locally made coarse redwares. From the parsonage site, I included colonowares and Historic Indian pottery into the calculations as they were locally-produced earthenwares. These sherds represented 297 of the 892 sherds (33.3%). When the MVC is considered, the percentage drops to 19.6 percent, or 10 out of 51 vessels. Bragdon (1981) also suggested a tavern should have a relatively high amount of wine glasses and specialized glassware. This was not the case at the parsonage site, as only six sherds of a wine glass (MVC = 1) were recovered.

Per Bragdon (1981), taverns should also have pipe fragments numbering in the thousands versus a domestic site with pipe fragments numbered in the hundreds. At the parsonage site, we recovered 319 pipe stems, a number that would place it in the domestic site category. However, I believe the number of pipe fragments is low because of the short eight-year occupation of the parsonage site. When the average number of pipe fragments is divided by the eight years of occupation, the result is an average of 40 pipe fragments deposited per year. I then conducted the same calculations with the known colonial tavern sites of the Jamestown Tavern (Cotter 1958, cited in Rockman and Rothschild 1984), John Earthy's Tavern (Camp 1975, cited in Rockman and Rothschild 1984), Lovelace Tavern (Rockman and Rothschild 1984), Shields Tavern (Brown et al. 1990), and Wellfleet Tavern (Ekholm and Deetz 1971, cited in Rockman and Rothschild 1984). Although the data between sites is not standardized to the amount of soil excavated, such a comparison should provide a general idea about the number of pipe stems deposited per year at each site. The result indicates that the number of pipes deposited per year at the St. Paul's parsonage house is much higher than the Jamestown Tavern and is similar to Shields Tavern (Table 2). These results indicate that even though the number of pipe fragments recovered at the parsonage site is in the hundreds, it actually is comparable to known tavern sites when the number of years of occupation is taken into consideration.

Overall, the artifact assemblage of the St. Paul's parsonage slightly favors Bragdon's (1981:36) tavern assemblage (Table 3). However, of the three traits that she indicated were particularly diagnostic of tavern assemblages – a higher percentage of vessels, a larger number of pipes, and specialized glassware – only the large number of pipes was found at the parsonage. The reason why this analysis is not completely decisive lies in the fact that the parsonage house was not a tavern per se. First and fore-

Table 2. Comparison of number of St. Paul's parsonage pipe fragments to known tavern locations.

Tavern	Dates of Occupation	# of Years Occupation	# of Pipe Fragments	Pipe Fragments Deposited/Year
Jamestown Tavern	1670-1700	30	543	18.10
John Earthy's Tavern	c.1675-1700	25	2863	114.52
Lovelace Tavern	1760-1706	46	4220	91.74
St. Paul's Parsonage	1707-1715	8	319	39.88
Shields Tavern (Early Period)	1708-1738	30	1333	44.43
Wellfleet Tavern	c.1680-1740	60	9090	151.50

Table 3. Results of parsonage comparison to Bragdon's tavern and domestic assemblage characteristics.

Bragdon's Characteristics	St. Paul's Parsonage
Large numbers of vessels in relation to ceramic assemblage (based on MVC)	66.7% Tavern
Large % of drinking vessels in relation to ceramic assemblage (based on MVC)	28.9% Domestic
Large % of ceramic types associated with drinking vessels in relation to ceramic assemblage	40.0% Tavern
Large numbers of wine glasses and specialized glassware (in fragments)	6 Domestic
Large numbers of pipe stems (in fragments)	319 Tavern
Local redwares, predominantly coarse, in relation to ceramic assemblage	8.9% Tavern

most, the parsonage was the residence of the missionaries to St. Paul's and their enslaved peoples. While socializing appears to be an important function of the parsonage, it was not the main one. Rather, the daily activities associated with the running of a household and a small farmstead were the primary activities that took place there. In this particular case, the parsonage site does not fall neatly into either the functional pattern of a tavern or a domestic site, because it functioned as both. This result is very similar to that found by Zierden and Rietz (2005) in their analysis of the artifacts from the Charleston Beef Market site (1692-1796), where the authors had noted the relative abundance of tobacco pipes, drinking glasses, and cooking vessels (Zierden and Rietz 2005:239-240). Comparing their data to the same five colonial taverns cited above, Zierden and Reitz (2005:243) concluded that even though it was not a tavern, the Beef Market shared many activities with a tavern such as socializing, food and beverage consumption, and the selling or purchasing of goods.

Therefore, much like the Charles Towne Beef Market, the St. Paul's parsonage house was a public meeting place where a number of activities likely took place, similar to a tavern. In addition to the daily activities associated with life at the parsonage, the St. Paul's missionaries, visitors, vestrymen, and parish residents would congregate there to socialize, share the latest news and gossip, and strike business deals while enjoying food, beverages, and tobacco. As Anglican churches were often reserved only for church services, other church-related activities such as vestry meetings may have taken place at the parsonage, especially since the parsonage and church were only separated by approximately 200 yards.

Comparisons with other 18th-century South Carolina Parsonages and Residences

But was the social function of St. Paul's parsonage unique to that parish or was it a common occurrence that South Carolina parsonages acted as social gathering places? Unfortunately, no other early-18th century parsonage sites have been studied archaeologically against which the St. Paul's parsonage can be compared. However, archaeological investigations have occurred at two mid-to-late-18th century parsonages in the area and these sites provide some basis for comparison, although they date over 50 years later than the St. Paul's parsonage.

The first comparable site is the parsonage house for the Willtown Presbyterian Church which has undergone extensive archaeological testing by Zierden and Anthony (2010). Willtown, a frontier town within St. Paul's Parish, was the home of many dissenters, especially Presbyterians (Zierden and Anthony 2010:9). Archaeological and documentary evidence suggest a mid-18th century construction date for this parsonage. The second site is located in Christ Church Parish, in present-day Mount Pleasant. Here Wayne and Dickinson (1996) excavated what they determined to be the third Christ Church parsonage house, constructed around 1769.

A comparison of these three parsonage sites is difficult because of the lack of standardized reporting of artifact data. The Christ Church parsonage data includes the minimum number of vessels, but not individual sherd counts, while the Willtown parsonage report does the opposite – sherd counts, but not vessel form. However, it is possible to make some generalizations based on the available information. When the Willtown and Christ Church parsonages artifact assemblages are compared to Bragdon's tavern and domestic assemblage characteristics and the results from St. Paul's parsonage, a number of differences are seen (Table 4).

Table 4. Results of analysis of Bragdon's tavern assemblage characteristics to St. Paul's Parsonage, Willtown Parsonage, and Christ Church Parsonage assemblages (based on MVC unless otherwise noted).

Bragdon's Characteristics	St. Paul's Parsonage	Willtown Parsonage*	Christ Church Parsonage
Large numbers of vessels, in relation to ceramic assemblage (based on MVC)	66.7% Tavern	N/A	76.0% Tavern
Large % of drinking vessels, in relation to ceramic assemblage (based on MVC)	28.9% Domestic	N/A	11.6% Domestic
Large % of ceramic types associated with drinking vessels, in relation to ceramic assemblage	40.0% Tavern	15.4% Domestic	5.8% Domestic
Large numbers of wine glasses and specialized glassware (in fragments)	6 Domestic	50 Tavern	5 Domestic
Large numbers of pipe stems (in fragments)	319 Tavern	332 Domestic	76 Domestic
Local redwares, predominantly coarse, in relation to ceramic assemblage	8.9% Tavern	63.6% Domestic	28.5% Domestic
*All data based on sherd count.			

The Christ Church parsonage has far fewer drinking vessels in relation to the total ceramic assemblage, fewer ceramic types associated with drinking vessels, a smaller quantity of pipe fragments, and a larger percentage of coarse earthenwares. Except for the high number of vessels, the Christ Church parsonage appears to have functioned as a true domestic residence. At the Willtown parsonage, the percentages for the first two traits cannot be calculated due to vessel form not being determined. However, the percentage of ceramic types most often associated with drinking vessels and the percentage of coarse earthenwares is significantly lower than seen at the St. Paul's parsonage house. While the number of pipe fragments is similar, it is important to remember the difference in occupation lengths – eight years at St. Paul's versus approximately 40 years at Willtown. The only apparent tavern-like characteristic seen at the Willtown parsonage is in the number of wine glass fragments. This number may be somewhat misleading as it is the number of fragments, not a minimum number of vessels. Also, Bragdon (1981) was not clear on what constitutes a "large number of wine glasses." Overall, while the artifact assemblage from the St. Paul's parsonage appears to be more tavern-like, meaning it served as a social-gathering place, the assemblages from the Willtown and Christ Church parsonages indicate that both sites functioned more as domestic residences.

One possible reason for the apparently different activities from the three parsonages is the time periods represented. In the early-18th century, St. Paul's Parish was very rural and especially before the 1715 Yamasee War, was considered to be the southern frontier. During the mid-to-late 18th century, Willtown and Christ Church Parish were still very rural, but they were far more settled than St. Paul's Parish during the early-18th century. Small towns and settlements were more widely scattered throughout the rural areas and there would more likely be public gathering areas, rather than the parish parsonage house. Also, as South Carolina was firmly entrenched in the plantation economy by the mid-18th century, the Willtown and Christ Church parsonages and glebe lands probably functioned more as true plantations. In their final report on the Willtown parsonage house, Zierden and Anthony (2010) questioned if the parsonage functioned as a residence for the minister or a residence of a wealthy planter. Based on the variety and types of ceramics recovered and documentary evidence that indicates at least seven enslaved people working at the parsonage, they concluded that the parsonage functioned more as an income-producing plantation (Zierden and Anthony 2010:95). There likely were more appropriate places to socialize than a busy "plantation house."

To test the idea that the social function of the parsonage is related to the time period rather than it being a parsonage, a similar analysis was conducted with two early-18th century sites in the area – the Thomas Lynch Plantation House (Poplin and Huddleston 1998) and Schieveling Plantation (Poplin et al. 2004). Once again there were difficulties in determining what should be considered a "large number" or a "large percentage" of the assemblage as well as differences in the way individual archaeologists identify vessel type. For example, at the Thomas Lynch House the MVC was 387; however, the vessel forms of 260 of them were classified as "unknown." The number of unidentified vessels is likely the cause for the low percentage of vessels to the overall ceramic assemblage of the site.

When the Lynch House and Schieveling Plantation are added to the information from Table 4, the St. Paul's parsonage is the only one out of the five sites that the assemblage appears to be more like a colonial tavern than a domestic site (Table 5). With the exception of the first characteristic, a large number of vessels compared to the overall ceramic assemblage, the other sites fit Bragdon's (1981) characteristic of a domestic site. Only the pipe stems recovered from the Lynch House are abundant enough to be classified as more tavern-like. Based on the

Table 5. Results of analysis of Bragdon's tavern assemblage characteristics to St. Paul's Parsonage, Thomas Lynch House, and Schieveling Plantation (based on MVC unless otherwise noted).

Bragdon's Characteristics	St. Paul's Parsonage	Willtown Parsonage*	Christ Church Parsonage	Thomas Lynch House	Schieveling Plantation
Large numbers of vessels, in relation to ceramic assemblage (based on MVC)	66.7% Tavern	N/A	76.0% Tavern	30.2% Domestic	89.2% Tavern
Large % of drinking vessels, in relation to ceramic assemblage (based on MVC)	28.9% Tavern	N/A	11.6% Domestic	4.1% Domestic	6.5% Domestic
Large % of ceramic types associated with drinking vessels, in relation to ceramic assemblage(based on MVC)	40.0% Tavern	15.4% Domestic	5.8% Domestic	17.8% Domestic	23.8% Domestic
Large numbers of wine glasses and specialized glassware (in fragments)	6 Domestic	50 Tavern	5 Domestic	76 Tavern	22 Domestic
Large numbers of pipe stems (in fragments)	319 Tavern	332 Domestic	76 Domestic	684 Tavern	477 Domestic
Local redwares, predominantly coarse, in relation to ceramic assemblage (based on MVC)	8.9% Tavern	63.6% Domestic	28.5% Domestic	32.3% Domestic	21.3% Domestic
*All data based on sherd count					

estimated 30 year occupation of the Lynch House, approximately 22.8 pipe fragments were deposited per year of occupation. This figure is relatively small compared to most of the known tavern sites (see Table 2); however, since that is a higher number than found at the Jamestown Tavern, it was classified as "tavern." This comparison also indicates that the percentage of drinking vessels in relation to the overall ceramic assemblage is significantly higher at the parsonage site (28.9%). Although I originally classified the parsonage as a "domestic" site in this category, I believe there is enough of a difference between the parsonage and the other four sites to warrant changing the classification to a "tavern" based on the "large percentage" of drinking vessels. Based on this comparison, the St. Paul's parsonage house appears to have served a social function different from contemporary plantation houses and later parsonage houses.

Discussion and Conclusions

Based on this evidence, it appears that the parsonage house at St. Paul's also served an important social role to parishioners. The artifact assemblage from the parsonage more closely resembles that of a tavern or other social meeting place, than a domestic residence. The use of the parsonage as the center of the community would have been familiar to both the priests and their parishioners, as in England parsonages traditionally served as social gathering places for the community where parishioners often received medical treatment and furthered their education (Bax 1964:3). Continuing in that tradition, it is likely that St. Paul's missionaries often hosted parishioners at their homes where they would share the latest news and gossip, and strike business deals, while enjoying food, beverages, and tobacco. The proximity of the parsonage to the church (less than 200 yards) made it an ideal place for members of the congregation to visit with each other after services, especially for those people who had to wait for the tide to change.

It is also likely that St. Paul's missionaries occasionally would accommodate overnight guests. While there is no reference to this practice from St. Paul's missionaries in their letters to the SPG, Reverend Pouderous, a missionary from St. James', Santee Parish in the northernmost part of the South Carolina colony, wrote that he had to put up guests quite often at his parsonage house, as there were no taverns or inns in his parish (Pouderous 1723). Considering the remoteness of St. Paul's Parish, and the dependence on tidal rivers for transportation, it would not be surprising if its missionaries often accommodated overnight guests. An overnight guest from Charles Towne or another parish would likely have attracted nearby parishioners in order to catch up on the latest news from elsewhere around the colony. Other church-related activities may have also taken place at the parsonage, especially since Anglican churches were often reserved only for church services. As there is no mention of a vestry house in the documentary record nor has any archaeological evidence of one been found, vestry meetings may have taken place at the nearby parsonage. The various socializing opportunities at the parsonage would have strengthened the community ties between parishioners and kept them informed with the latest news and events from Charles Towne in regards to political, economic, social, and religious issues.

In conclusion, the South Carolina Anglican Church and its individual parish churches and parsonages were unifying forces within the developing colony. They were common places for white settlers, both Anglican and dissenter, to congregate together in worship and to socialize. Churches and parsonages became the "hearts" of the parishes and were places where white settlers mitigated their various religious, cultural, or ethnic differences, and ultimately forged a new South Carolina identity.

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Archaeology of the Gullah Past: A Community Scale of Analysis

Jodi A. Barnes and Carl Steen

For archaeologists, the individual site is the predominate scale of analysis. Yet sites connected with the postbellum African American past are under-studied and under-valued because the people associated with them were poorer, had fewer material goods and less substantial housing, and they left more ephemeral archaeological remains (Barile 2004; Palmer 2011). The community scale of analysis provides a framework for valuing and interpreting the material remains of African American sites, particularly sites associated with the Gullah.

As a scale of analysis, community is situated between household and regional studies. It is particularly beneficial, because it can provide unique insight into identity and group membership, social organization, and socioeconomic integration. This essay provides a framework for a community scale analysis. It is not an outline for an archaeology of Gullah communities, rather it is a challenge to archaeologists working in the Lowcountry to look beyond the site to consider the ways in which Gullah people created and recreated communities over time.

What Is a Community?

Today, community is an important aspect of research in regards to doing "community-based archaeology" or working with descendants and other interested groups in archaeological research (e.g., Agbe-Davies 2010; Derry and Malloy 2003; Marshall 2002; McDavid and Babson 1997; Shackel and Chambers 2004). Communities have beeen studied by archaeologists, anthropologists and sociologists (e.g., Amit 2002; Anderson 1991; Brown 1994; Canuto and Yaeger 2000; Cusick 1995; Kolb and Snead 1997; McDowell 1999; Rawick 1973). Yet like the concept of "place," community tends to be a taken for granted term (Rodman 1992:640). It is usually, although not always, used to designate a small-scale and spatially bounded area inhabited by a population, or part of it, that has certain characteristics in common that tie it together (McDowell 1999:100).

Archaeologists and anthropologists have defined community in four main ways: structural/functionalist, historical development, ideational, and interaction. From the structural/functionalist perspective, communities have key functions, such as social reproduction, subsistence production, and self-identification/social recognition (e.g., Murdock 1949; Redfield 1955). Archaeologists have contributed to our understanding of households (e.g., Barile and Brandon 2004); yet community studies have tended to focus on the functions that a community serves within a social structure (e.g., Brown and Cooper 1990; Kolb and Snead 1997). From this perspective, "the community is a co-residential collection of individuals or households characterized by day-to-day interaction, shared experiences, and common cultures" (Murdock 1949, as cited in Yaeger and Canuto 2000:2). This view of community tends to depict it as natural and synonymous with the site or the settlement system, since common culture is often considered a shared architecture or artifact assemblage (Yaeger and Canuto 2000).

Anthropologists have also examined the historical development of communities (e.g., Mintz 1956; Wolf 1956). These studies emphasize origins but tend to ignore the role external forces play on local structures and social relationships. An ideational approach to communities is another way anthropologists and archaeologists have utilized in order to understand shared identities (Anderson 1991). From this perspective, "identities, including community membership, are based in part on qualities that people see themselves as sharing with others, as well as criteria they perceive as distinguishing themselves from others" (Yaeger and Canuto 2000:2). Communities are differentiated by ethnicity, gender, class and other social experiences (DuBois 1995:235; Yaeger and Canuto 2000). People hold multiple roles and identities that they access at different times

for different purposes; therefore, one cannot assume that because we can see evidence of supra-household activities that everyone's interactions were directed towards social integration. For African Americans, "community" is generally defined as a diversified set of interrelated structures and aggregates of people held together by the heritage of slavery and the forces of racism (Blackwell 1975). Yet "African American communities" are not homogeneous. W.E.B. DuBois (1995[1898]) noted that an examination of community life demonstrates the differentiation of class even in small communities. For the archaeology of the African diaspora it is important to consider how communities emerged as the outcome of individuals negotiating their interests against preexisting historically constituted social structures (Preucel 2000:60), such as racism and poverty (Barnes 2011a).

The fourth way that communities are examined is through interaction, or daily practice (e.g., Bourdieu 1977; Giddens 1984). This approach requires a balance between the emphasis on individual practice and social institutions. Archaeologically, the community can be seen as consisting of a number of traits—of values, languages, material practices, ecological adaptations, marriage patterns, and the like. do not just exist; the co-residential collection of individuals and households are created through day-to-day interaction and shared experiences.

Historical archaeologist have demonstrated the potential of a community level approach (e.g., Brown 1994; Brown and Cooper 1990; Cusick 1995; Deagan 1983; Geismar 1982; Milne 2002; Kowal 2006; Thomas 1998). As we differ between a house and a household, we need questions that examine a cluster of house sites as community. This requires a middle-level of analysis that bridges the epistemological and empirical gaps between the household and the regional settlement. Yaeger and Canuto (2000) identified three indices for a community scale of analysis. These indices include: spatial analysis that looks at intra and inter unit spacing, access patterns, and boundary maintenance; techno material studies, analysis of artifact styles, exotic goods, and labor investment; and demographic studies of settlement patterning, ecological adaptation, site number and nucleation/disper sion. Using these archaeological indices, we can assess conditions that structured interaction, such as residential proximity, nature of private/public spheres, internal social stratification, socioeconomic disparity, communal activity, population size, and subsistence technology. Since the archaeological record represents diverse layers of material outcomes and interactions whose contemporaneity cannot be assumed, historical research, genealogy, and oral history are necessary to provide a more textured understanding of the interaction creating communities within a specific time and place.

As we differ between a house and a household, a community scale of analysis requires a middle-level of analysis that bridges the epistemological and empirical gaps between the household and the regional settlement. It requires a larger social context and the collection of data with the resolution necessary to address the internal workings of individual communities. With the house forming the general basis of analysis, robust sampling, should point a view of the compositional heterogeneity of the community and shed light on the range of practices that help constitute the community.

Who Are the Gullah?

In 2006, Congress designated a corridor that extends from Wilmington, North Carolina to Jacksonville, Florida as the Gullah/Geechee Cultural Heritage Corridor (Figure 1). In the National Park Service's (2005) study, it is noted that many Gullah archaeological sites have not been documented, despite the fact that archaeology is a rich resource. Ray Crook (2008, 2001) and Theresa Singleton (2010) have used the term, Gullah/Geechee, to refer to archaeology in Georgia, but in South Carolina, many African American sites have been excavated with only the slightest consideration of Gullah culture (for an exception, see Ferguson 2007). This is particularly important as the landscape of coastal South Carolina changes due to development and tourism and sites – family cemeteries, fishing grounds, stores, churches, schools, and houses – or Gullah communities, face destruction (National Park Service 2005).

Carl Steen and I have been working on a context for the archaeology of Gullah people (Barnes and Steen 2012; Steen and Barnes 2010). We believe that primary sources, archaeological research and the body of literature on the Gullah can provide an 'archaeological' view of the Gullah past. In developing a context, we have separated this discussion into five periods (Table 1). As with any periodization there are a number of overlaps. These five periods represent the genesis, development, growth, maturation, demise, and rebirth of Gullah culture. In this essay, I focus on the transition from the plantation economy with an emphasis emancipation to demonstrate the ways in which a community approach can be useful.

Although the Spanish had African slaves with them during their brief stays in the 16th century, the permanent settlement of the colony by the British in 1670 spurred the beginning of Gullah culture. A distinct demographic was developing under frontier conditions in the Lowcountry between 1670 and 1708. Among its first settlers were planters from Barbados, who brought with them enslaved Africans and more importantly, the mindset that allowed and encouraged plantation slavery (e.g., Cassidy 1994; Donnan 1928; Stoner 2006; Thomas 1930; Wood 1974).

Figure 1. The Gullah Geechie Heritage Corridor. Courtesy of the Gullah Geechie Heritage Corridor Commission.

Table 1. Periodization for an Archaeology of the Gullah	
Colonial Encounters & the Slave Trade	1670-1808
Plantation Slavery	1730-1865
Freedom: Reconstruction and Jim Crow	1865-1930
Decline	1930-1980±
Reclaiming a Social Identity	1980±- present

After 1708, Africans or African Americans comprised the majority of the population and were held in bondage. Before 1808, slaves were brought directly from Africa, constantly replenishing facets of African cultures, linguistics, and ideas. Direct legal importation ended in 1808. Between 1808 and emancipation in 1865, two to three generations of almost purely African-American people were born and acculturated. During this period, distinct regional African-American cultures - Gullah cultures - developed in response to an assortment of factors including the patterns of introduction of Africans from various regions over time, the clustering of various African, Native American, and colonial ethnicities (Hall 2005), labor systems (Crook 2001), and types of plantations.

The plantation economy in the Lowcountry shaped slavery and the creation of Gullah communities. Slavery in the Lowcountry was organized around the task system, which differed significantly from the dawn-to-dark gang system practiced in other colonies (Crook 2001; Hargis and Horan 1997; Joseph 1987; Morgan 1982). The task system provided the organizational structure for the slave labor required for the maintenance of viable plantations and also allowed for the development of a distinctive internal slave economy (Isenbarger 2006). Although this does not

negate the oppressive labor conditions in which enslaved people were subjected (Edelson 2006), Ray Crook (2001:26) concludes that the Gullah constructed their Creole cultural system and its traditions "on their own time" as a result. They were able to merge various African linguistic features with plantation English to form a Creole language that served not only their need for in-group communication and cultural transmission, but also effectively excluded non-Gullah speakers from their discourse (Turner 1949).

The relative degree of autonomy afforded by the task system aided in the creation of distinctive Gullah religious beliefs, folktales, crafts, and music (Blassingame 1979:10). Their internal subsistence economy, aside from the items provisioned by the plantation owners, established distinctive work patterns and culinary traditions (Crook 2001; Hess 1992; Isenbarger 2006; Joyner 1984:73) as well as religious meetings and ceremonies (Blassingame 1979:106). With the isolation and relative freedom, a local culture developed that was an amalgamation of diverse African cultures, maintained against a background of a British colonial system that impacted them all.

Families formed and local communities developed (Blassingame 1979; Genovese 1972; Levine 1977). Families and households were the foundation of communities. Families raised children and taught them their culture. Even though plantation families fissioned as children came of age and inherited shares of their families' wealth, moving off to new lands, the developing, shared Gullah culture was carried with them. Therefore, for archaeologists, studies of colonoware, foodways, rice cultivation, resistance, or the organization of labor could contribute to our understanding of the ways in which Gullah communities were created, maintained, and redefined in the plantation economy.

Emancipation: Building Gullah Communities

When the Civil War brought freedom to previously enslaved peoples, the task of re-organizing communities was only one element of the larger need to create new lives—to reunite families, to find jobs, to establish churches, and to gain education (Barnes 2011, 2011a; Barnes and Steen 2012). Emancipation brought freedom, but it also brought poverty, homelessness, and increasingly over the years, institutional racism and forced segregation. For many living on the Sea Islands, emancipation also led to residential isolation, which allowed local variations to emerge.

Many Gullah peoples stayed on the Sea Islands and when they were able to purchase land they tended to buy on their home plantations (Dabbs 1983:176; Steen 2010. In 1863, as part of the Port Royal Experiment, plantations on St. Helena and Hilton Head Island were broken up and sold to former slaves for $1.50 an acre (Dabbs 1983; Rose 1964; Steen 2010). These were usually 10 to 15 acre tracts, but some buyers pooled their money and purchased larger tracts (Campbell 2010; Steen 2010). Small settlements, often beginning as intergenerational family compounds, sprang up (Cross 2008). The small communities, bound together by family ties, helped families persevere through the extreme poverty in the immediate aftermath of the war.

The town of Mitchelville is a clear manifestation of the Port Royal Experiment and a good example of a postbellum community. Michael Trinkley (1986, 1987) and others (Butler and Roberts 2012; Espenshade and Grunden 1990; Esphenshade et al. 1991) have excavated at Mitchelville, which was developed by the Union army as a town with neatly arranged streets, 1/4-acre lots, a town supervisor and councilman elected by the African American residents, laws regulating sanitation and community behavior, and a compulsory education law. People built their own houses, within the established town plan. Families established garden plots behind the houses, stores and shops were opened, a cotton gin, cotton house (for storing the cotton), and steam powered grist mill were built and public buildings, such as churches, were established.

Archaeology at Mitchelville showed that African Americans were introduced to the market economy and used material culture to form new social identities. The archaeological record at Mitchelville, and other postbellum sites, indicates that freed men and women distanced themselves from some enslaved practices, such as the production of colonowares, and kept others alive. For example, Trinkley (1987) found evidence of basket making, which provide continuity with traditions brought from Africa. The process of basket-making is a form of everyday interaction that builds community. It is a skill that is passed down through the generations (Rosengarten 1986, 1994). The process of learning how to weave, choosing the form and the design for a specific task, gathering the sweetgrass, bulrush, brown marsh grass, pine needles and palmetto leaves are form of social reproduction that can be seen spatially on the landscape. Mitchelville is a very obvious example of a Gullah community since it has a documented record of its formation. It provides a space to examine the features such as houses, refuse areas, access ways, agricultural fields, and boundary features that reflect human practice and provide material constraints to past interaction.

There is a stark contrast between the spatial representation employed to plan the development of Mitchelville and its ultimate use. The freedmen at Mitchelville were in a somewhat unique position, which confuses and complicates the archaeology of the town. The first houses constructed in Mitchelville were likely formal and rigid according to military planning and discipline. However, the army left soon after the initial establishment/planning of the town,

Figure 2. Plan of Mitchelville. 1863 Civil War Map. Courtesy of the National Archives, Washington, DC.

and as more freedmen came into the town to live, there were more opportunities for differing house sizes, styles, layouts, and construction. In addition, the village laid out by General Mitchel was on too contracted a scale. The plot of ground assigned to each cottage, quarter acre lots, was not large enough for the gardens and yards the owners desired. An article in the *New York Times* (1862), notes that the women and children in every "lot," were planting sweet potatoes, and preparing the ground for corn.

From the outset, then, the Port Royal Experiment found itself caught between African Americans' desires to own their homelands, on which they expected to operate a sustainable subsistence economy, and Northern capitalists' visions of freed people's cheap wage labor on white-controlled commercial plantations, with the prospects of trickle-down prosperity and education for citizenship. After 1867 there is evidence that the town continued relatively unaltered and intact into the 1870s. In April 1875, the land on which Mitchelville was located was returned to the heirs of its former owner, with the federal government deed failing to provide any protection for Mitchelville. The heirs, however, were not interested in planting the lands and began to sell it off to anyone interested in making purchases - including many freedmen. It was during the last quarter of the 19th century that most, if not all, of Mitchelville was purchased by an African American man, March Gardner. The economy of its inhabitants, however, turned away from the declining wage labor opportunities and returned to an agrarian base -- the inhabitants entering the sizable "black yeomanry" class. After the devastating hurricane of 1883, Mitchelville ceased being a town and became a small, kinship-based community.

Too often archaeological research focuses on individual tenant houses or sites rather than the larger framework of Gullah communities. By examining census records, church records, cemetery data, and letters, archaeology provides a lens through which to examine how African Americans mobilized limited resources and built community institutions such as churches (e.g., Cabak et al. 1995; Jones 2009), schools (e.g., Agbe-Davies 2001; Comer 1996; Sprinkle 1994), lodges (e.g., Jones 2009; Mullins 1999), and women's groups (e.g., Agbe-Davies 2011). The turn of the 20th century brought a growing interest in the Sea Islands in general (Johnson 1930; Kiser 1931; Rowe 1900) and Gullah belief systems more specifically (Bascom 1941; Puckett 1926). Articles on conjuring and conjure doctors appeared in the *Journal of American Folklore* (Bacon 1896; Mitchell 1850; Steiner 1901), the *Southern Workman* (Bacon 1895; Herron 1895), and other popular publications (Hawkins 1907). There was an interest in mortuary customs (Bolton 1891; Ingersoll 1892; *Journal of American Folklore* 1894; Waring 1894), spirituals (Smythe 1931), songs, and shouts (Ballanta 1925; Christensen 1891). These studies of the Gullah played a significant role in externally defining Gullah identity and could be important resources for archaeological studies of Gullah communities.

These chroniclers were documenting the reclamation of traditional African beliefs afforded by freedom. Ken Brown (2011) notes that the turn of the 20th century resulted in an ethnogenic bricolage (Fennell 2007) of

spiritual beliefs as African traditional beliefs were brought back into practice and joined with Christian ones. For example, Brown (2011) discusses the Bakongo cosmogram and the Christian cross across plantations in the southeast to understand how African and North American traditions evolved within African-American communities. The church was and continues to be a significant African-American institution. As W. E. B. DuBois (1899) points out, "The social life of the Negro centres in his church." By critically examining these documents, archaeologists have the potential to provide new insight into the ways Gullah people redefined their social identity by reclaiming African beliefs and practices as well as the role of the church in community building.

Despite the hardships, African Americans living during the periods of Reconstruction and Jim Crow did more than just survive. They lived their lives, had families, maintained communities and sought civil rights (Campbell 2010; Frazier 2005). In the 1890s, South Carolina began to provide schools for African-American children, and during the first half of the 20th century more students were educated. Education, along with influences from the outside brought via radio, print media, and stories from friends and family that had moved to nearby cities or the North to seek jobs and opportunity, led to the denunciation of Gullah culture by the 1960s (Campbell 2010). Yet recognizing the loss, some Gullah people and interested outsiders sought to chronicle the old ways, and keep them alive, resulting in a rebirth of the Gullah communities we see today.

An Archaeology of Gullah Communities

Gullah culture and heritage is composed of diverse peoples with varying social and historical experiences. Today, many people are re-claiming their Gullah identity, while many others are reluctant to claim it. Archaeological and anthropological research can provide insight into the tangible and intangible manifestations of Gullah culture and communities in local contexts. There are plethora of sites that are dismissed, without a consideration of the larger context in which they existed. Historical research, oral history, and archaeology can provide insight into the ways in which communities were created and recreated over time.

Community is a concept that allows comparisons between small groups of people with others in the same area and beyond the region. Further research should examine how historical legacies, institutions, structures, and individuals work interactively to distribute material and symbolic advantage and disadvantage along racial lines and the role these advantages and disadvantages played in community building between 1865 and 1930. African-American identity, and thus Gullah identity, had its genesis below decks on those slaving ships involved in the Atlantic slave trade, even before making landfall in the Americas. Upon landing, even more African cultures, languages, and beliefs came together with those of Europe and Native America to form what would later crystallize as African-American (Mintz and Price 1992) and, more specifically, the Gullah heritage within Carolinian culture. Primary sources, archaeological research, and the body of literature on the Gullah provide an "archaeological" view of the Gullah past that shows the stratification and layering of Gullah communities.

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NOTES FROM THE FIELD

Reports on Archaeology Projects

Change and Continuity in Social Roles Represented Within Two Contact-Era Indigenous Burial Populations in the North Carolina Piedmont

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The pace of change among American Indian societies during the early Colonial-Era in the Carolinas (roughly 1670-1717) was accelerated due to the introduction of the lucrative deerskin and Indian slave trades across the southeast. During this time American Indian people creatively found ways to incorporate both Indigenous and European produced artifacts into their cultural expressions. They did so in ways that were meant to embody their contextually situated identities and social roles within an increasingly polyethnic world. Over the past year, Dr. Jane Eastman of Western Carolina University, and James Nyman, a PhD student at the University of North Carolina at Chapel Hill, have been undertaking a re-analysis of two Contact-Era Native American cemeteries in North Carolina in an attempt to better understand how the European trade affected social roles and their material expressions among Indigenous communities. Because the ways in which individuals are treated in burial are representative of their social personality, or their role occupied in the community as characterized by the context of the interment (Binford 1971), these burial populations allow us to make inferences about how social roles were expressed during the lives of individuals, and what changes occurred because of the acceleration of the European trade.

The cemeteries included in this study represent the historic Occaneechi and Sara Indigenous populations during the height of the fur and slave trades during the late 17th and early 18th centuries. Much of this research is based on Eastman's (1999) mortuary analysis concerning changes within Indigenous society in the Dan River drainage in the piedmont of North Carolina. Included in Eastman's analysis were data recovered from graves excavated in the 1970's by archaeologists from the Research Laboratory of Archaeology (RLA) at the University of North Carolina. One Burial population in this analysis, from the Upper Saratown site (31Sk1), was particularly interesting not only because it contained a large burial population (111 individuals), but it also represents the Sara occupation through the Contact-Era. Most evocatively, Eastman (1999:263) found that over half of the mortuary items in the Sara burials had gender specific distributions – meaning half occurred exclusively in male or female burials but not both. This has interesting implications regarding how material culture was being used to mark or define the roles individuals were playing within Sara Indian society along the lines of the age, status, and/or sex of a particular individual within the community.

Eastman's exploration of the Upper Saratown burial populations provided us with a starting place from which to make comparisons to other Native American burial populations and their corresponding grave goods from the same time period in North Carolina. One site in particular, the Fredericks Site (31Or231) located on the Eno River in North Carolina, was a prime candidate for providing the ability to make such a comparison. The Fredericks site is the location of an Occaneechi Indian occupation from the late 17 and early 18th centuries (Driscoll et al. 2001). The Occaneechi were prominent traders, particularly in the important deerskin trade, and came to dominate this part of the southeast, using their reputation and control as middlemen along key trading paths to their advantage (see Bowne 2005).

Excavated in the 1980's by researchers at the RLA, archaeologists uncovered 17 graves distributed between two cemeteries. The Occaneechi burials have provided

Eastman and myself with a similar burial population with which to compare the population at Saratown. Using these data we have begun to better understand how materials were being applied towards the construction of social roles among these communities, as well as how these social roles and their corresponding material expressions changed (or persisted) due to participation in trade with the European colonists.

The initial steps in our analysis included dividing the Saratown burial population into two periods, the Middle (c. 1650-1670) and Late (c. 1670-1690) Contact Era's based on ceramic seriation among domestic clusters and associated burials within the community. These periods represent the earliest years of Sara interaction with the European trade through their apex. Temporally, the Occaneechi cemeteries roughly correspond to the late Contact –Era Saratown interments. Next, the burial populations between both groups were sub-divided into age categories. These categories were created by Eastman (1999) and are based on meaningful lifecycle developments among Indigenous societies. Such developments correspond to certain roles expected of an individual at these different stages. This included caring for the young, learning subsistence skills, the ability to achieve social recognition, when one reaches the height of their sexual or physical capacities, or conversely, when these capacities decline. Finally, all burial goods were organized using Sherratt diagrams (Figure 1.) to chart the distribution of materials in each individual burial within age categories, each grave represented by a single cell (see Sherratt 1982). The presence of each grave good interred with every individual is illustrated within the cells of the diagram using symbols. Sherratt diagrams allow for a quick and easy way to organize data in a way that allows for the identification of meaningful clustered relationships that stand out upon initial observation.

While our analysis is ongoing, initial observations have led us to identify several compelling trends in the distribution of certain artifacts. During the prehistoric period, among Dan River Drainage burial populations, artifacts present only in female burials include shell and bone earpins, as well as shell gorgets (Eastman 1999). Likewise, it has been observed that shell gorgets and pendants occur exclusively among young adult females aged 16-25 - prime childbearing years (Eastman 1999; Nyman 2012). The preponderance of shell artifacts associated with women, it is thought, relates symbolically to their ability to reproduce

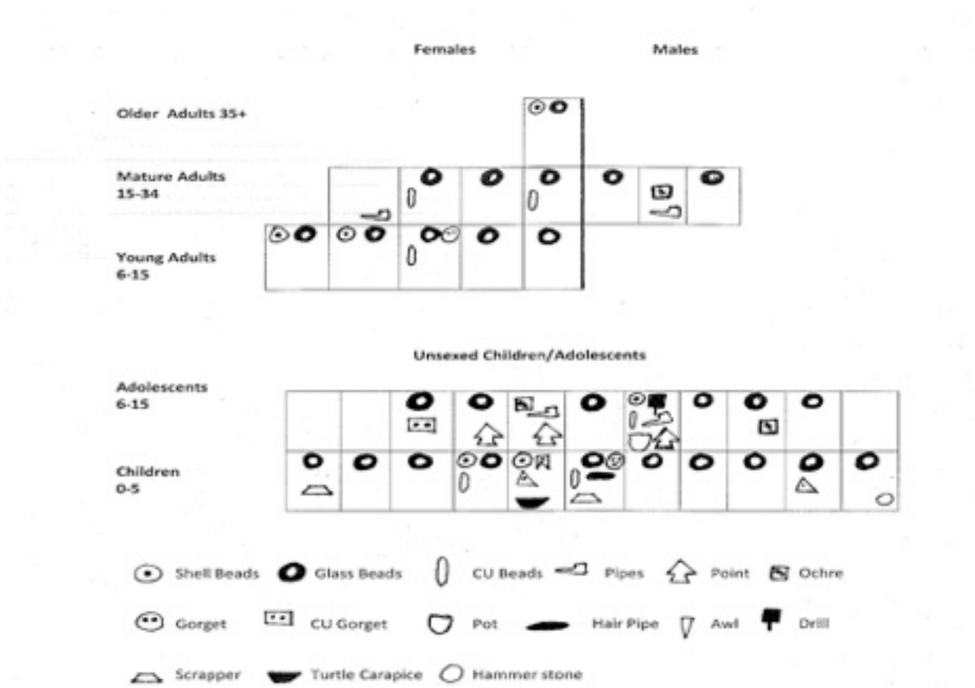

Figure 1. Example of a Sherratt Diagram Used in the Analysis to Organize Grave Good Distributions Within the Middle Contact-Era Upper Saratown Burial Population.

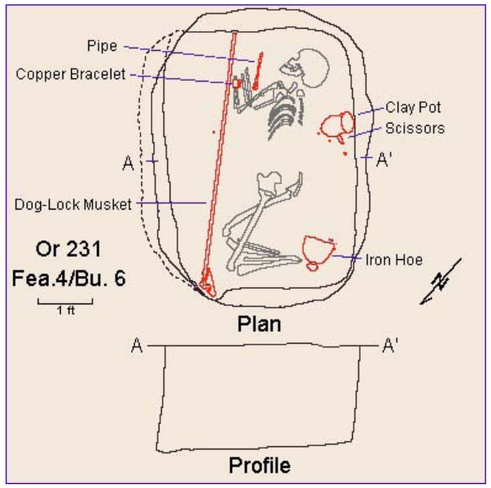

Figure 2. Young Adult Female Occaneechi Burial Containing a European Musket and Pewter Pipe. (Courtesy of the Research Laboratories Of Archaeology, The University of North Carolina at Chapel Hill.

life, as it does today among some eastern Native groups (Eastman 1999). Likewise, the high frequency of shell objects among individual children's burials may relate to their position as continuers of life.

At Saratown, from the earliest years of interaction with European traders (1650-1670), shell beads and gorgets persist among young adult females and children only. Generally, what can be inferred from this distribution is that some artifacts appear to have sex-specific behavioral association that may relate to gendered social roles that continued into the Contact-Era despite the introduction of some European produced materials such as glass beads. That shell beads remain among specific age and sex groups hints at the continuity of meaning behind the practice. In the late Contact-Era (1670-1690), among young and mature females, as well as children, copper gorgets replaced shell gorgets. Since these artifacts occur only within these groups, it provides strong evidence for the continuity of meaning behind gorgets in these categories and their relationship to fertility and the future, but through the use of a new material acquired through trade.

Of similar interest is the distribution of pipes. Prehistorically, among eastern Native groups, smoking tobacco was a sex-specific activity associated with ritual behavior among adult males (see Nassaney 2004). The presence of tobacco pipes in the burials of females and children in the Upper Saratown burial population after the arrival of Europeans indicates that a shift in behavior occurred. Michael Nassaney (2004:356) proposed that as smoking became more commonplace among the indigenous in the northeast, the use of tobacco by women and children was a way for them to mitigate shifts in the social order as increased trade and relations with Europeans became more frequent. Smoking tobacco may have allowed them to challenge subordination as status and gender inequalities became more pronounced through differential access to trade, and as subsistence practices were altered to accommodate the European trade system. I propose something similar among the indigenous in North Carolina (Nyman 2012).

Among the Occaneechi burials, within both the group of children and of females, are four pipes, including pewter pipes interred with a young adult female and that of a child. The majority of pewter pipes, to date, have been found on Native American sites, particularly in the northern states (Veit and Bello 2004:188) and most from the burials of adult males. Pewter pipes were more durable and so desirable by hunters and travelers (Veit and Bello 2004:186). Following Nassaney (2004), it is quite possible that pipes among this population of females and children in Occaneechi society indicates greater inequality among this group from this period unlike the contemporaneous Sara. The presence of a pewter pipe as well as a European musket with the young adult female (Figure 2) suggests a shifting in social roles whereby females may have sought to achieve higher status through their participation in the European trade.

What our analysis is beginning to reveal is how certain materials were being used in Indigenous society to define particular social roles based on one's age, sex, or status within their communities. We are also not only seeing diachronic change and continuity of cultural practices relating to the embodiment of social roles – but also that during the period of European expansion changes within communities in regards to social roles were not consistent across Native societies, even within a small region such as the Piedmont of North Carolina. This may relate specifically to how much access particular groups, and particular gender or social classes within communities had to direct trade with Europeans. Whether it was through smoking rituals or expressing fertility and the continuity of life through shell and then copper gorgets – Native people from the Carolina Piedmont were creatively mitigating the consequences of colonialism, which in-part contributed to the persistence of Native people in North Carolina today.

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Hampton Plantation Volunteer Dig: Recent Excavations at Hampton Plantation State Historic Site (38CH241)

Stacey L. Young, Independent Researcher;
Rebecca Shepherd, Charles Town Landing Historic Site; and
David Jones, South Carolina Department of Parks, Recreation and Tourism

South Carolina Department of Parks, Recreation and Tourism (SCPRT) hosted volunteer excavations at Hampton Plantation located in Charleston County, South Carolina from November 6-13, 2011. The excavations were focused on identifying the full dimensions of a brick foundation associated with a possible slave house. The brick feature was initially identified during 2010 investigations by New South Associates (see *South Carolina Antiquities*, Volume 42, p. 48) and is likely the remains of a building shown on an 1809 plat map of the plantation.

Thirty-four volunteers consisting of State Park archaeologists and staff, professors and students from the College of Charleston, members of the Charleston Chapter of the Archaeological Society of South Carolina (ASSC), South Carolina archaeologists, and various members from nearby

Figure 1. David Jones supervises volunteers during excavations.

Figure 2. Volunteers excavating and screening.

communities devoted their time and efforts to the excavations (Figures 1-2). Eleven 5x5 foot units were completed during the volunteer excavations, exposing at least three corners of the foundation and recovering over 4,000 artifacts. Based on the work, the building measures at least 20x30 feet with a chimney base present on the east and west ends (Figure 3). It is likely that a central wall is present in the center of the building and housed at least two families of enslaved workers. Additionally, the subsurface pit feature identified during the excavations by New South Associates was fully exposed and excavated. The pit is located seven feet outside of the south wall of the house, likely in a yard area. The circular pit measures 3.0x2.8 feet and is .70 feet in depth and excavated into the clay subsoil. A small portion of a second brick feature believed to be remains associated with a second, and possibly earlier structure was also identified. The feature consists of a row of brick and rubble and is located approximately four feet

Figure 3. Eastern wall of foundation and chimney base.

from the northern wall of the initial brick foundation.

Additional volunteer excavations were performed on May 5 and 6, 2012 and 24 volunteers dedicated their time. The excavations were hosted by the Charleston Chapter of the ASSC in conjunction with SCPRT. Four additional 5x5 foot units were excavated. The units were placed in the center of the house to explore possibilities for a central wall, and in an area to the north of the house where a possible second structure was previously identified. No evidence of a central wall was encountered; however, a midden deposit with several large fragments of wine bottle necks and bases, large-sized ceramic sherds, and a key were among the artifacts recovered. Several postholes and a burned area possibly associated with a hearth were identified in the area investigated north of the house.

In addition to the excavations, the units and other landscape features of Hampton were mapped using a total station. The map will be cross referenced with historic maps and a map created during archaeological investigations conducted near the mansion house in 1979 to gain a better understanding of the spatial data.

Artifacts recovered from the excavations include 18th and 19th century ceramic artifacts, and architectural remains such as brick, mortar, nails, slate, and a few pieces of window glass. Fishing weights, lead shot, buttons, and glass beads are among the activities related and personal artifacts recovered. Volunteers have assisted in the washing and sorting of artifacts under the supervision of Rebecca Shepherd in the lab at Charles Town Landing, and detailed analysis of the artifacts is currently underway. Results of these excavations will provide additional information useful to park staff interpreting the lifeways of those living and working at Hampton Plantation.

Pottersville: Site Interpretation and Early Artifact Analysis

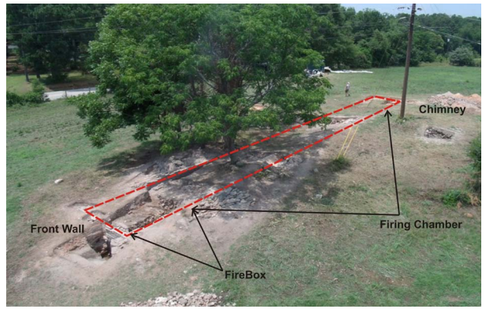
George Calfas, University of Illinois, Urbana-Champaign

Archaeological investigations took place from May 23 through July 1, 2011. Research was led by the University of Illinois at Urbana-Champaign (UIUC), which hosted a summer field school for undergraduate and graduate students. UIUC collaborated with Diachronic Research, the South Carolina Department of Natural Resources, and the University of South Carolina in conducting this archaeological field school. Advice and guidance on methods for investigating kiln remains were also provided by Timothy Scarlett, J.W. Joseph, Linda Carnes-McNaughten, and Christopher Espenshade.

Learning objectives for the field school included the historical background of the Edgefield District, discussion of the Pottersville landscape, and an overview of kiln technology. Specific goals of the project were to locate and identify several key kiln architectural features:

- Ware chamber: the linear space within the kiln where objects are situated during the firing process;
- Firebox: the entry into the kiln and location where the firing process is initiated;
- Chimney: the rear of the kiln where heat and smoke are expelled from the kiln;
- Bagwall: the connection point between the firebox and ware chamber; protects the first vessels from flames in the firebox; and
- Exterior walls: the perimeter of the kiln.

Feature 1: Pottersville Kiln. Feature 1 is an analytic label employed to describe the exposed outlines of the entire Pottersville kiln. During the course of excavation, the field crew uncovered architectural elements which display the important hallmarks of kiln technology which has allowed for a better understanding of architectural elements utilized in early 19th century Edgefield kiln technology. Feature 1 was identified during the excavations and encompasses the front wall, flue, fire box, ware chamber, and chimney. The Pottersville Kiln, Feature 1, is 105 feet long and 12 feet wide. The ware chamber was identified through the examination of 19 excavation units and measured 90 feet in length. The fire box is situated at the base of a hillside and the chimney is location 100 feet away on the uphill slope. Feature 1 lowest floor elevation is located in the fire box at 137.3544m amsl (above mean sea level) and the highest floor elevation is 141.2544m amsl or a difference of 3.9m, making the slope of the floor of the Pottersville kiln is 8.21 degrees. Feature 1 is constructed with 1ft x 1ft x 4in refractory bricks. Refractory bricks are a mix of kaolin clay



and sand. Approximately 7,500 refractory bricks went into the construction of the Pottersville kiln.

Stoneware Artifact Analysis. During the 2011 field season at the Pottersville kiln site, 13,090 stoneware sherds were recovered. Due to site formational processes only a portion of these 4,377 stoneware fragments situated in the firebox were deemed mendable. Vessels failure during firing is a common event at any kiln site and these broken vessels are most often discarded in the waster pile. The waster pile is often located an undetermined distance from the kiln site. This ensures that the area of operation around the kiln can be kept accessible. Failed vessel are loaded into a wheel barrow or some other apparatus and relocated at the waster pile. By the fact that sherds were recovered from the space around the kiln, it is assumed that not every broken object made it to the waster pile. Small objects most likely either fell from the wheel barrow or were tossed alongside the kiln during clean up operations. Of the 8,713 sherds not located within the firebox, approximately 90 percent or more are 10cm in diameter or smaller. These 8,713 sherds have a wide range in color and vessel typology and led to zero mends during the laboratory process.

Of the 13,090 stoneware objects, 4,377 were situated within the kiln's firebox, Feature 4. Failed vessels discovered in Feature 4 enable an understanding of the Pottersville kiln's final firing and vessels forms being created. The firebox became an impromptu waster pile due to the hypothesized catastrophic collapse of a portion of the kiln. Laboratory work yielded the profile of two storage vessels, two storage jugs, and 10 bowls; additional vessels were also reconstructed but none that included a full profile.

The storage vessels recovered are approximately 50cm in height and 25cm in diameter. The vessel bodies are 2cm thick at the base and .5cm thick at the shoulder. The base diameter is 25cm in diameter and the rim opening is 13cm. The vessels have two 10cm wide lug handles located 2cm beneath the top of the rim. These storage vessels are not what are thought to be the typical vessel form of the period. Edgefield storage vessels are most commonly discovered with bodies which curve outward and the vessels within Feature 4 are straight walled in form. The shift in design could be based upon market needs or potter aesthetics; both of which can not be determined from the available material.

Conversely, the storage jugs within Feature 4 do resemble a typical regional form with the widest part of the body curving outward from the base and back inward near the shoulder. Storage jugs are approximately 20cm wide at the base, 25cm wide and the widest point in the body, 20cm wide at the shoulder, and a 3cm wide spout opening. The spout is a double collar and the vessel has one strap handle which is connected on the shoulder 2cm beneath the spout. The double collar spout was thought to be a common design of the Pottersville kiln however during laboratory work single collar spouts (n=7) were discovered.

Stoneware bowls situated within Feature 4 provide insight on how vessels were being stacked within the kiln ware chamber. Alkaline glaze adheres to all surfaces which it comes into contact. During laboratory work 10 bowl profiles were able to be mended. The bowls are approximately 15cm wide at the base and 30cm wide at the rim. Rims of the bowls remained unglazed which allowed vessels to be stacked mouth to mouth and then base to base. Two pairs of vessels were mended in which the one, or both, of the vessels failed during firing causing the top bowl to slump inside of the bottom bowl fusing them together.

My dissertation planned for May 2013 and additional writings to follow discuss Edgefield kiln technology and the inferred connections to Asia and Europe. From what I have discovered, I interpret that the Pottersville kiln may have been inspired by Asian designs but built with European construction techniques. The visual similarities between Pottersville and Asian Dragon kilns, which utilized alkaline glaze, are striking. For Abner Landrum's, founder of Pottersville, stoneware kiln plans to be effective it would have been advantageous to construct a kiln which was known to be effective in producing pottery utilizing such alkaline glazing techniques. At this point, we are still searching for evidence which links Abner and Asia. It might be a text, a person with Dragon kiln technical knowledge residing in 19th century South Carolina, or some other informant which has gone undiscovered.

Special thanks to my wife Bridget for supporting me through this research; Carl Steen for being a terrific mentor; Chris Fennell for the Pottersville kiln sized dissertation edits, and the Field and Laboratory Students. Please view our South Carolina Humanities Council funded documentary at http://vimeopro.com/storylinemedia/pottersvilledoc

The Not So Merry Potters of Trenton

Mark M. Newell, The Georgia Archaeological Institute

Life in the late 19th century Old Edgefield District had to have been hard. Former slaves competed with poor whites for a living in the face of virulent racism. All but the very rich among the white population suffered the results of economic collapse following the Civil War. They all coped as best they could, and it seems that liquor had an important role in the coping process.

The basic necessities of life still had to be met. Among these, pottery of every kind, including storage jars, syrup bottles, preserve jars, bowls – and liquor jugs, was a basic staple. The stoneware potteries of the Edgefield and Trenton areas of South Carolina worked hard to meet this need and prices were often little better than a nickel a gallon for a handsome ash-glazed stoneware jug.

In 1996, the Georgia Archaeological Institute (GAI) began to excavate the Miles kiln at 38ED221. The site is the location of at least three potteries starting with the long famous Lewis Miles and his even more famous literate black potter, David Drake.

The initial excavation revealed a large number of patent medicine bottles, along with South Carolina Dispensary Bottles and imported European 'health water' bottles including one surprising Hunyadi Janos. All but the Hunyadi Janos contained copious amounts of alcohol.

In the spring of 2011, excavation of an area near a sluice below one of the pottery structures produced the base of a large ceramic vessel with a clay coil wrapped around it (Figure 1). Closer examination revealed that it was a fragment of a liquor still that had broken, most likely during the firing process. Subsequent consultation with various experts led to the conclusion that the item was unique in the history of southern ceramics and that only one other example of a ceramic still was known from a collection in Virginia (Robert Hunter, personal communication, July 2011).

Figure 1. Side of still showing the glazing inside the applied coil and the cooling water outlet at base.

The still was found in four fragments, the base of the vessel and three sections of the clay tubing from the outer surface. The original vessel was formed from an open top tubular pot 10 inches in diameter. The remaining fragment has a maximum height of 12.75 inches and was clearly higher than this in its finished form. The ceramic tube wrapping around the outer surface was made from a half-cylinder cross section of curved clay that was applied to the outer surface with its edges being worked into the surface of the vessel to form a strong attachment. It appears that the Albany slip was poured into the tubing after the vessel had dried, in keeping with normal glazing procedure (Figure 2). The slip runs over the 'attachment edges' of the tubing in some places, indicating that the tubing may not have been well applied.

Figure 2. Side of still showing the successfully applied coil and the distillate outlet.

A conical device was used to create a drain hole in the side of the vessel approximately 0.5 inches above the base. The outer diameter of the hole is 0.5 inches, the inside diameter is 0.35 inches. The tubing ends at the base of the vessel where it is formed into a cylindrical spout with an outside diameter of 1.75 inches. The inside diameter of the spout is 0.75 inches.

The condition of the fragment would indicate that it is in fact a waster, not the remains of a still that was in use by the potters at the site. The high kaolin content body and tubing clay had a high shrinkage rate. As a result, the tubing separated from the main body in several places and also cracked due to shrinkage in three other places.

The wall thickness of the body was approximately 0.5 inches at the base (12mm). At 12 inches above the base, the wall thickness was a little over 0.25 inches (7mm) . If the walls were not a uniform thickness above this height they would have provided a fragile base for the ceramic tubing (Figure 3).

Figure 3. Illustration of the still showing cross section of the coil and the application method to the side of the cooling vessel.

The find raises questions concerning the range of products sold by the Baynham pottery or, alternatively, the role of liquor in the daily activities of the potters themselves. While only a small portion of 38ED221 has been excavated, no evidence of additional stills has been found in waster material. That is not say they will not be found during future work. It is significant that no intact ceramic stills of any kind have emerged into collections to date. While such stills may have been secretively owned in the past, there is no evidence that such stills are producing moonshine in Edgefield basements today.

The large number of patent medicine and SC Dispensary bottles found on the Miles kiln site clearly indicates that alcohol was consumed by the potters as they worked. The Miles kiln, one of the first built on the site prior to 1867, collapsed during a burn and was abandoned. No attempt was made to repair the kiln or to recover its contents that consisted of a large number of two-gallon Albany slip stacker jugs. These are attributed to W. F. Hahn. Hahn who appears to have used the site some time after 1872 when Joseph G. Bayham acquired the property (Newell 1997:17-18). After that date, Hahn, and his son W. L. Hahn, both appear to have worked for Baynham, producing vessels with the "JGB" stamp and without it prior to moving to North Augusta where W. F. opened a pottery on Bluff Lane (*Augusta City Directory* 1902) and T.L worked for the Southern Pottery Company (*Augusta City Directory* 1899; Newell and Nichols 1998:16).

After the collapse of the kiln, the area may have been used as a garbage dump. Certainly the empty liquor and medicine bottles were thrown onto the roof area of the collapsed kiln where they were later recorded and recovered during the 1997 GAI excavation.

The assemblage included two "Johnson's Chill & Fever Tonic" bottles by A. S. Giradeau of Savannah, Georgia; two "United States Medicine Company" bottles of New York, one "Groves Tasteless Chill and Tonic" bottle by Paris Medicine Company of St. Louis, Missouri, one "Bradfield's Female Regulator" from Atlanta, Georgia, one South Carolina Dispensary Jo-Jo flask and one dispensary 1 quart liquor bottle. It also included a bottle of Hunyadi Janos mineral water. Thanks to a Supreme Court case in 1900 (Saxlehner v. Eisner & Mendelson Co.), we know a great deal about this mineral water from evidence submitted in the case in the form of a book by the owner of the company (Saxlehner 1898), and from a more recent medical text (Sándor 1980). The Hunyadi Janos water is specifically recommended for pregnant women. Coupled with the Bradfield's Female Regulator, the two raise the question as to what role women may have played in the daily work of the pottery. Certainly many of the palm and fingerprints found in fired slip on jug handles and bases leads to the conclusion that either women or children were glazing most of the green wares at the pottery in a latter decades of the 19th century. More than one thousand jugs have been recovered from this period at the site, providing an excellent database of palm and fingerprints to work from.

Could the 'Baynham still' have worked? Certainly the basic concept is a practical one. Water would have been poured into the top of the still at a rate matched to the outflow from the small hole at the bottom. The water would also have permeated the unglazed body of the still. Subsequent evaporation would have reduced the temperature of the water and the coils around the vessel, resulting in condensation of the distillate from the boiler.

This is, of course theory, and the only practical way to test the device would be to make an intact reproduction and

then test it under working conditions. Work has begun on this process and will be the subject of a later paper.

38ED221 today is a mile wide, mile and half long archaeological site thickly covered with trees, scrub and low ground cover. In 1872, it would have been a barren sandy hillside scattered with mounds of waster material, fire pit ash, scrap wood and the buildings needed to operate a vital and productive pottery operation. There is little doubt that in the summer heat it would have been a miserable place to work. It could only have been worse in the winter. It is not surprising then that the pottery workers would have resorted to patent medicines, dispensary liquor, and their home made brews to make each day tolerable.

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Public Education at the Kolb Site (2012)

Christopher Judge, University of South Carolina, Lancaster

The 2012 season at the Kolb site saw an increase in public education efforts on a number of fronts. For the first time, three home school students and one home school mom spent an entire week excavating with us. Thirteen year old Josiah Vice plans to be an archaeologist and worked under the tutelage of Chris Young in Unit "D" a 2x2 meter square. Ever since the March field season, Josiah and his mom have been traveling from Charleston to work in the lab with us from 4–7pm every Monday. He has been concentrating his study on a pot bust-- a large concentration of fabric impressed Hanover sherds discovered in level 7. He washed the artifacts from the unit and with the help of Ashley McIntyre (USC Anthropology 2009), one of our lab regulars, pieced back together several large fragments (Figure 1). Another lab project from late 2011 early 2012 was conducted by Dreher high school student Erin Dodge who compared a modern flintknappers debitage to the Early Archaic floor in our Kolb site block excavation. She determined that the Early Archaic debitage was indicative of stone tool resharpening as opposed to stone tool manufacture. Her project and a poster she created received an award at the USC science fair (see cover photo).

Figure 1. Josiah Vice and Ashley McIntyre in the lab

We expanded our historic demonstrators for our Kolb site Public Day held on March 10, 2012 to include a couple who teach post Civil War African American farmsteading. We were very pleased that Jason Melius, after many years, returned to depict 18th century Native American lifeways (Figure 2). Over 200 people joined us for the public day. Several groups of Boy Scouts excavated a half dozen 50 cm squares on the western end of the site supervised by undergraduates Joe Wilkinson, Danny Stanford and Thomas Ridgeway. The cadets from the Camden Military Academy's archaeology club also returned and excavated a half dozen 50cm squares on the north end of the site.

Figure 2. Jason Smith and Jason Melius depict 18th century lifeways.

Every moment of everyday is an opportunity for education at the Kolb site. A dozen USC undergraduates and a handful of graduate students joined us this season to hone their excavation skills. A group of non-archaeological employees of the US Army Corps of Engineers who are involved in the regulatory process that includes protecting archaeological resources spent a day seeing how archaeology works. Mr. Richard Eckstrom, Comptroller General of the State of South Carolina, who has visited quite a number of archaeological sites this year, also dropped by and spent the large part of the day with us. A school bus full of Florence County school children also made the trip into the swamp to find us at the Kolb site. The students from Pamplico toured the site, learned earth skills such as atlatl spear throwing with Sean Taylor, and talked to site excavators at each of our excavation units (Figure 3). Our 2013 Field Season will run from March 11-22nd and our Public Day will be held on Saturday March 16th. See 38DA75.com for details.

Figure 3. Florence school children visit the Kolb site

Fort Congaree 2011-2012

James Stewart, University of South Carolina

The Archaeological Society of South Carolina played a significant role in the relocation of this historically significant site. During the 1970s and 1980s, society members participated in reconnaissance and survey activities led by archaeologists from the South Carolina Institute of Archaeology and Anthropology. In spring 1989, James Michie located two early 18th century moat-like features near the confluence of Congaree Creek and Congaree River. In the fall of 1989, volunteers assisted Michie in excavation of several sections of these features. A number of artifacts were recovered from these units. They included gun parts, Qualla phase Cherokee pottery, and early forms of European pottery, confirming Michie's initial interpretation of the site as Fort Congaree.

Fort Congaree played a significant role in the expansion of South Carolina. Although only occupied for a short time, this trading factory and military outpost was a linchpin in Carolina-Cherokee diplomacy. It was erected in the wake of the Yemassee War during a period of turmoil and Native American unrest as part of an experimental government deerskin trade monopoly. Cherokee and other Native Americans could exchange deerskins with the trading factory for trade goods at rates set by a marital and economic treaty. The site was also significant for the defense of the Carolina colony. Beginning in 1716, parties of colonial rangers patrolled the backcountry between Fort Moore on the Savannah River and Fort Congaree. The Congaree garrison provisioned the militia and monitored Native Americans passing through the frontier. Tensions between Native American groups and European settlers abated by 1722 and the deerskin trade reopened to private merchants. The outpost, razed and abandoned, fulfilled a penultimate role as landmark when the township of Saxe-Gotha was laid out in the 1730s. Ten years later, a second Fort Congaree was erected to protect this settlement from French-allied Iroquois raids. This fortification closed in 1754 when the garrison joined Colonel George Washington's campaign against Fort Duquesne.

Last year, I began analyzing artifacts collected during James Michie's 1989 excavations for a Master's Thesis in Anthropology at the University of South Carolina. After several months research, further excavations were necessary to identify activity and disposal patterns within the site. The landowner and regulatory parties consented to multi-layered fieldwork strategy incorporating a variety of data collection methods. Remote-sensing identified several anomalies for exploration. Shovel-testing at 5-meter intervals collected information for interpreting intra-site artifact

densities. Excavation units were placed in areas of high artifact densities and midden deposits.

One hundred and four shovel-tests and six excavation units were opened at Fort Congaree. These provided important information regarding soil stratigraphy and depositional processes. In addition, it was possible to determine that artifact densities were highest in the vicinity of the eastern dry moat. This area, fronting a back channel slough of the Congaree River, was used more heavily for trading activities. Excavations on the opposite dry moat revealed a high quantity of animal bones and artifacts related to food preparation and storage.

Three features were identified during excavation. The western dry moat was found buried by a sheet midden and two feet of alluvium. The second feature excavated is likely part of a late 18th to early 19th century domestic structure. A final feature of indeterminate form or function was located during the last days of testing in January. Additional work will be required to interpret this feature.

Treasures from Trash: Insights Gleaned from Analysis of Lithic Debitage and Collectors' Lithic Rejects

Robert C. Costello, University of South Carolina, Sumter
Kenneth E. Steffy, Independent Researcher

Lithic artifact collections often reflect the personal bias of the collector as well as those of the professional surveyor documenting said collections. "Biface bias"-- a strong preference for points and knives that impress and bedazzle viewers -- is one of the most pervasive of these prejudices and can be well observed at artifact shows and in other viewing venues. Unless the provenance data of these artifacts has been properly documented and maintained, the informational value of these selected pieces is greatly diminished and becomes limited to diagnostic projectile points and lithic raw material selection. This process excludes numerous artifact and material classifications capable of providing valuable additional sources of data. Often-ignored artifacts include, but are not necessarily limited to, formalized and expedient tools and tool fragments, broken projectile points, projectile point preforms and fragments, and artifacts perceived as being manufactured of lower quality materials such as Santee Orthoquartzite, Black Mingo Chert, and Wyboo Chert (Costello and Steffy 2012).

This essay presents an overview of information gleaned during a re-analysis of Dr. Costello's collection from four sites along the shores of an unnamed island, sometimes referred to as "Little Persanti," located on the northeastern shore of Lake Marion in Clarendon County, South Carolina. For SCIAA's Sport Diver Archaeology Management Program reporting purposes, these sites were designated L2, L3, L4, and L5 with GIS data recorded for each. Each site's initial analysis had been completed prior to our analysis of the Lake Marion chert tool assemblage (Costello 2011; Costello and Steffy 2010). The analysis of the chert tool assemblage led to the recognition of the importance of re-examining collections for possible overlooked artifacts and documenting them.

The re-examination data from sites L2-L5 are presented in Table 1 and summarized in Table 2. The authors re-examined 534 items, with 276 (51.7%) identified as tools or point fragments. Of the 276 recovered items, 167 (60.5%) were manufactured from Santee Orthoquartzite (OQ), 44 (15.9 %) from Black Mingo Chert (BMC), 33 (12.0%) from Quartz (var. unspecified), 19 (6.9%) from Miscellaneous Cherts, and 13 (4.7%) from other lithic raw materials. Interestingly, Allendale/Brier Creek Chert, often referred to as a "preferred" lithic raw material, comprised only 11 (4.0%) of the total items recovered. Specific recovered items of note

Table 1. Principal utilized lithic types.

L2 MATERIAL	TOOLS REC	%		L4 MATERIAL	TOOLS REC	%
OQ	58	70.7		OQ	28	57.1
BMC	7	8.5		BMC	10	20.4
Quartz	7	8.5		Quartz	6	12.2
Misc Cherts	6	7.3		Misc Cherts	3	6.1
Other	4	4.9		Other	2	4.1
SAMPLE SIZE = 137	82/59.9%	99.9		SAMPLE SIZE = 112	49/43.8%	99.9
L3 MATERIAL	**TOOLS REC**	**%**		**L5 MATERIAL**	**TOOLS REC**	**%**
OQ	28	53.8		OQ	53	57.0
Quartz	10	19.2		BMC	18	19.4
BMC	9	17.3		Quartz	10	10.8
Misc Cherts	3	5.7		Misc Cherts	7	7.5
Other	2	3.8		Other	5	5.5
SAMPLE SIZE = 104	52/50.0%	99.9		SAMPLE SIZE = 181	93/51.4%	100.2

from this investigation include a Santee Orthoquartzite multi-tool (Figure 1), a Santee Orthoquartzite Clovis preform proximal (Figure. 2), and a high-domed, Black Mingo Chert denticulated scraper (Figure 3; Table 3: TOOLS REC).

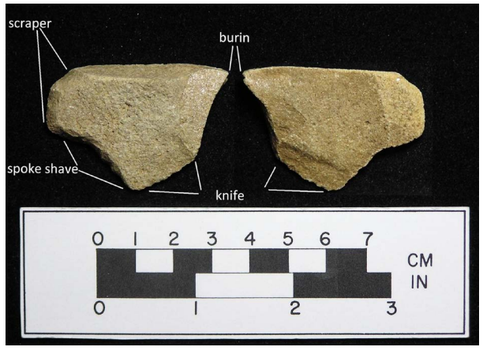

Figure 1. Orthoquartzite multifunctional tool

Figure 2. Orthoquartzite Clovis projectile point preform proximal

Table 2. Summary.

MATERIAL	TOOLS REC	%
OQ	167	60.5
BMC	44	15.9
Quartz	33	12.0
Misc Cherts	19	6.9
Other	13	4.7
SAMPLE SIZE = 534	276/51.7%	100.0

Figure 3. Black Mingo chert high-domed denticulated scraper.

The vast number of identifiable artifacts manufactured from Santee Orthoquartzite suggested a heavy dependence upon it as a local lithic resource dating as far back as Clovis in prehistory and provided the impetus for this study. This study's limited preliminary findings, previous personal observations (Costello 2007; Costello and Steffy, 2011), and the SCIAA Paleo Database strongly support this hypothesis. While Black Mingo Chert may appear to be a less suitable lithic raw material, its utilization, like that of

Santee Orthoquartzite, can be documented throughout the prehistory of the study area.

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An *In-situ* Clovis Assemblage from a Carolina Bay Sand Rim, Aiken County, South Carolina

Christopher R. Moore, SRARP-SCIAA; and
Mark J. Brooks, SRARP-SCIAA

38AK469 is located on the eastern sand rim of Flamingo Bay, a Carolina bay on the U.S. Department of Energy's (DOE) Savannah River Site (SRS) in the Upper Coastal Plain of South Carolina. Carolina bays are oriented, upland ponds on the Atlantic Coastal Plain from Northeast Florida to New Jersey, with their greatest numbers occurring in the Carolinas and Georgia (Walker and Coleman 1987). Recent excavations at 38AK469 by the Savannah River Archaeological Research Program (SRARP) have focused on understanding the nature of site burial and taphonomic processes within Carolina bay sand rims through an analysis of archaeological stratigraphy, geophysics, analysis of sediments, and through the development of an optically stimulated luminescence (OSL) and radiocarbon (14C) geochronology (Moore et al. 2011).

In the spring of 2010, block excavations at 38AK469 produced a single Clovis base made from an exotic green vitric tuff (Figure 1: A). More recent excavations, contiguous to the Clovis find, produced additional, stratigraphically discrete artifacts that are likely part of an isolated, low-density (probably single occupation) Clovis assemblage (Figure 1: B-I). These include a second Clovis base (apparently the result of a production failure during retooling activities), two unifacial tools with multiple graver spurs, an expedient spokeshave, a retouched orthoquarzite blade, a small unifacial tool with a graver spur and spokeshave, a utilized flake, and a unifacially retouched flake. All but the above mentioned vitric tuff Clovis and orthoquartzite blade are made from locally available Coastal Plain Chert. Together, the presence of a broken exotic Clovis base, a Clovis production failure made from local chert, along with gravers and expedient spokeshave tools, indicate activities normally associated with Clovis retooling (e.g., Keeley 1982).

These tools appear to be part of an *in-situ* Clovis tool assemblage. The somewhat diminutive size of the artifacts probably reflect the activities being performed, and is likely typical of Clovis assemblage characteristics away from quarry sources (e.g., the nearby Topper Site). The discard of a broken, exotic raw material Clovis implies long-distance mobility or exchange (i.e., closest known source of similar material is from central North Carolina >300 km away).

Additionally, systematic shovel testing several years earlier at 38AK469 produced two isolated Coastal Plains Chert backed blades with virtually identical patterns of unifacial retouch (Figure 2: A-B) (Brooks and Groover

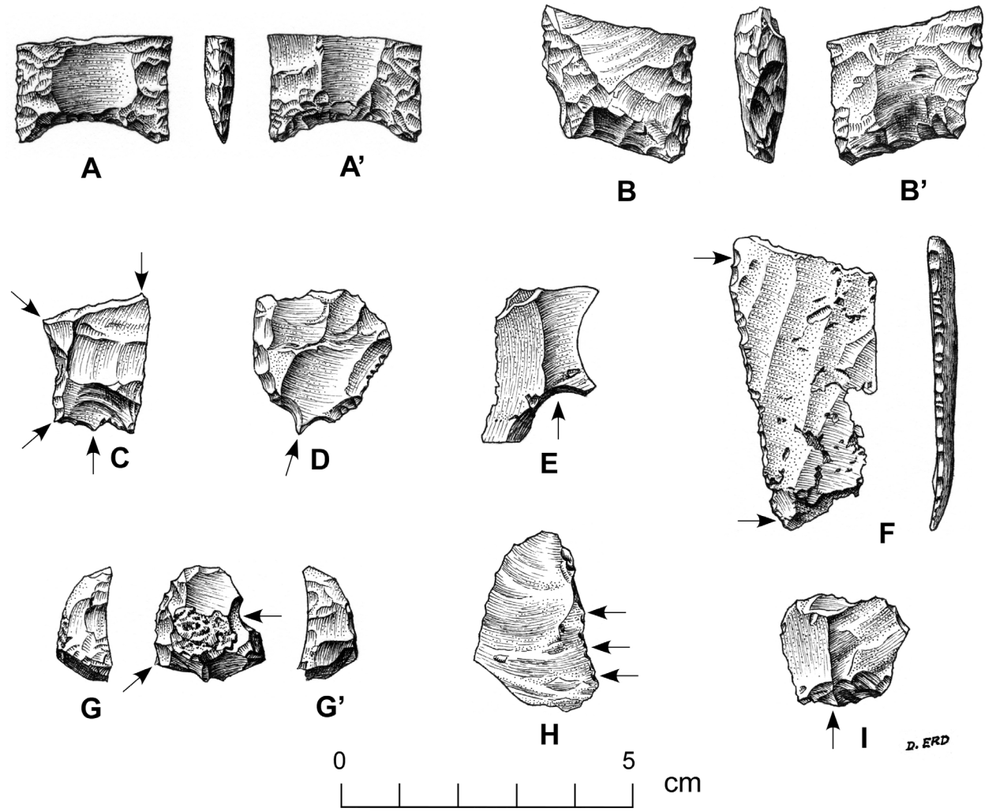

Figure 1. Recovered Clovis assemblage from Flamingo Bay (38AK469): (A) exotic green vitric tuff Clovis base; (B) Coastal Plain Chert Clovis base (i.e., production failure); (C and D) unifacial tools with fine retouch and graver spurs, (E) expedient spokeshave on a flake, (F) retouched orthoquarztite blade, (G) unifacial flake tool with graver spur and spokeshave; (H) utilized flake; and (I) retouched flake.

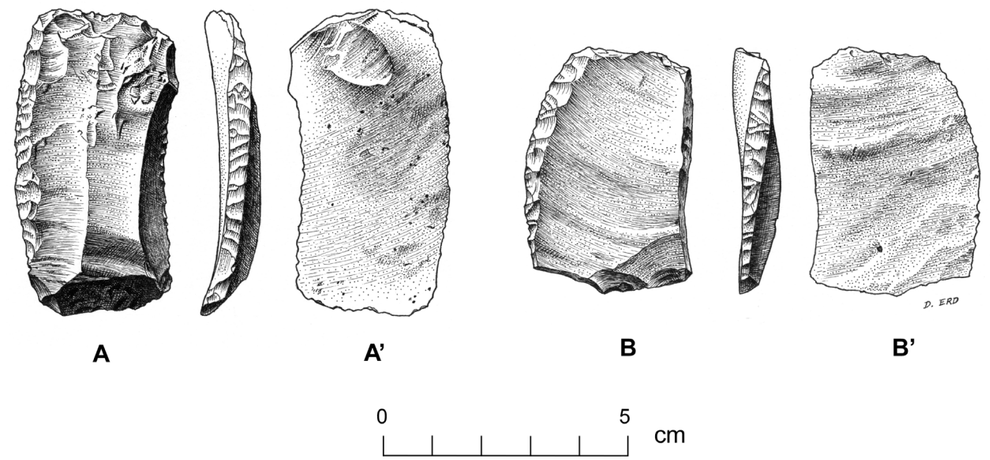

Figure 2. Large Coastal Plain Chert backed blades recovered from earlier close-interval shovel testing at Flamingo Bay (38AK469): (A) Provenience 29 (N330 E300); (B) Provenience 31 (N300 E320).

2002). These tools were found 30 meters north (Figure 2: A) and 20 meters further east (Figure 2: B) of the current excavation block. Given recent data on Clovis blade technology and the subsequent lack of true blades for the Early Archaic (Bradbury and Carr 2010), these tools provide complementary evidence for additional Clovis occupations of the bay sand rim at 38AK469. The large size of these unifaces suggest activities unrelated to the retooling activities indicated by the Clovis assemblage in Figure 1, and may instead indicate spatially and functionally distinct occupations.

This discovery constitutes one of the few documented Clovis assemblages recovered in buried context in the Southeast. Small carbonized nutshell fragments were also recovered from levels associated with these tools and will be submitted for 14C dating in the near future. Analysis of isotopic geochemistry of the vitric tuff Clovis is also underway and may provide clues to the source of this stone type, exotic to the Central Savannah River Area (e.g., Goodyear et al. 2009; Steponaitis et al. 2006). Together, these data have implications for the scale of Paleoindian mobility and interaction spheres in the Carolinas and beyond (e.g., Anderson and Hanson 1988; Daniel 1998; Speth et al. 2010), as well as for settlement organization and use of upland travel corridors—particularly with regard to Carolina bays (Brooks et al. 2010; Eberhard et al. 1994; Moore and Irwin 2011).

Acknowledgements

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Archaeology at the Robertson Farm Site Number 2 - 38PN35

Carl Steen, Diachronic Research Foundation; and
Terry Ferguson, Wofford College

38PN35 (Robertson Farm Site 2) is located at the confluence of the Oolenoy and South Saluda Rivers in Pickens County, South Carolina. This site has been under investigation by the Piedmont Archaeological Studies Trust (PAST) since 2009 and prior to that by the Upstate Archaeological Research Group since 2004. In December of 2011 and April of 2012, the Diachronic Research Foundation helped to complete the excavation of a five by eight meter block to a depth of over two meters below surface (Figure 1).

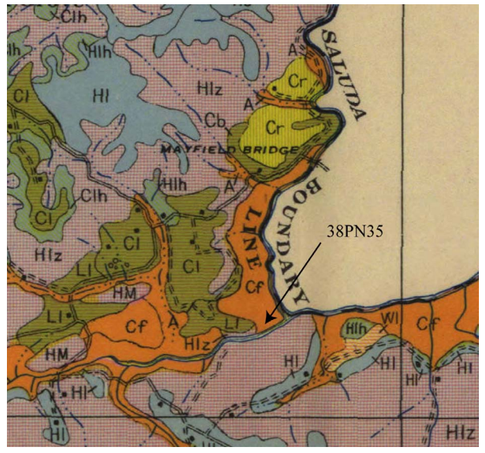

Figure 1. Site location on the 1937 USDA Soil Survey.

This highly significant site is unique in many ways. First, it is deep and well stratified, containing 20 distinct strata extending from the surface to 275 cm below surface. The plowzone and sub-plowzone contain evidence of a Late Woodland/Mississippian and Middle Woodland occupations. Features intruding into the subsoil indicate the presence of villages during these periods, with a palisade (Figure 2) associated with the Late Woodland Mississippian and storage pits and an earthoven associated with the Middle Woodland. The subsoil beneath the plowzone from approximately 25 cm below surface to a depth of around 60 cm below surface dates to the Late Archaic. This zone contains diagnostic-stemmed projectile points and pit features. Extending from 60 to around 120 cm below surface is a Middle Archaic occupation, again containing diagnostic projectile points and pits (Figure 3 and 4). A sterile zone extends from around 120 cm to around 160 cm below surface. Around 160 cm below surface and extending to

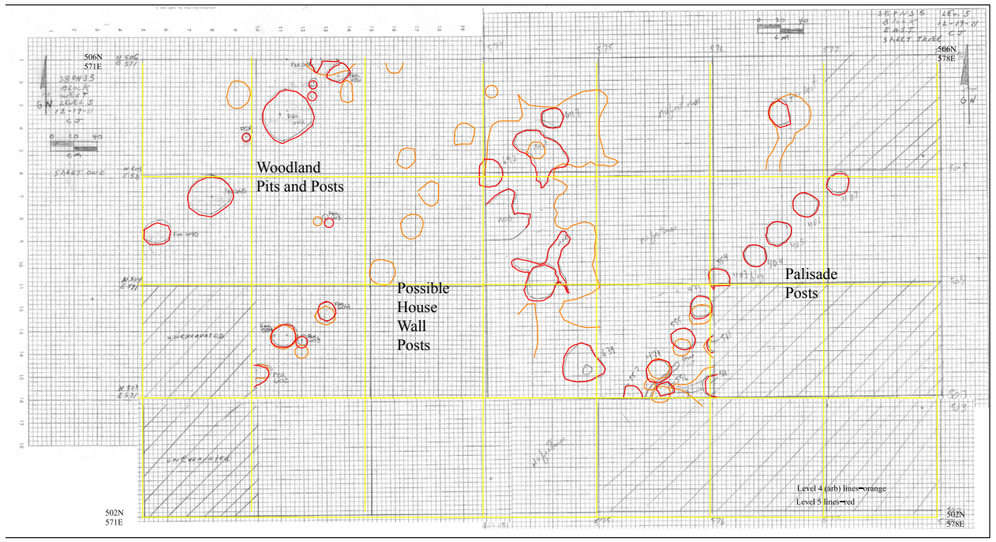

Figure 2. Plan in Level 4-5, base of plowzone, showing palisade, possible Woodland - Mississippian house wall and pits.

Figure 3. Woodland, Middle Archaic, and Late Archaic diagnostics.

around two meters below surface (Figure 5) is evidence of Early Archaic/Late Paleo-Indian occupations, in the form of distinctive pit features, but unfortunately no diagnostic artifacts have been recovered.

Second, the site is well dated with 35 radiocarbon dates (Table 1) documenting all of the occupations and ranging from 500 to 12,500 (calibrated) years before present. All C-14 dates were run at Beta Analytic. These confirm dates obtained elsewhere and refine our knowledge of culture chronology in South Carolina, particularly the Piedmont.

Finally, the continuing investigations of this site are multidisciplinary involving several investigators. OSL dating has been conducted by Dr. James Feathers of the University of Washington. Enthnobotanical studies are being conducted by Dr. Gary Crites of the University of Tennessee and Andrea Shea Bishop. Geoarchaeological investigations have been conducted by Dr. Andrew Iverster of West Georgia University, Drs. Chris Moore and Mark Brooks of SCIAA-SRARP, and Dr Terry Ferguson of Wofford College. Dr. Ferguson has also been conducting geophysical remote sensing including ground penetrating radar, magnetometer, and magnetic susceptibility investigations. Lithic analysis is being conducted by Dr. Ferguson and Tommy Charles. Contributions to the ceramic analyses have involved Dr. David Moore of Warren Wilson College, Francis Knight, and Cameron Howell.

Feature 151 (Posthole)	500 +/- 40 BP*
Feature 56 (Palisade Posthole)	580 +/- 40 BP
Feature 38 (Pit with Maize	1020 +/- 50 BP
EU 4 - Level 3	3630 +/- 50 BP
Feature 52 (Rock Filled Plt)	4850 +/_ 60 BP
Feature 71 (Rock Filled Pit)	8870 +/- 70 BP
EU 4 - Level 17	9160 +/- 70 BP
* Conventional Radiocarbon Ages	

Table 1. Selected C-14 Dates* for 38PN35.

Figure 4. Middle Archaic features.

Figure 5. West profile. Rocks in wall at right are in the feature illustrated in Figure 4.

Labwork and analyses are ongoing. A full report on the project is expected to take a few years to complete, but articles on the dating, stratigraphy, and site formation processes and the cultural implications of site's ceramic assemblages should be out in the coming year.

Excavations at the Graniteville, SC Textile Mill Town

Keith Stephenson, SRARP-SCIAA; and
George Wingard, SRARP-SCIAA

This year we initiated archaeological research in Graniteville primarily focusing on its industrial beginnings during the antebellum period. Our project involves a community-oriented outreach plan designed to include interested citizens of the Graniteville Historic District (Figure 1). We actively encourage residents to participate directly in the fieldwork and discovery of their own early mill town heritage. The general archaeological objective is to gain a better understanding of the cultural landscape of the mill workers' house-yards by identifying specific locations of out-buildings, wells, and subsistence garden-plots. Our specific agenda is to illustrate the welfare of each house's inhabitants during the 19th century on the basis of artifact types recovered from individual household middens.

Figure 1. Maggie Needham, along with Graniteville residents Kayleigh Ludwig and Gabbee Fee, excavating Shovel Tests at House Lot No. 15.

In the beginning, the South Carolina state legislature granted a corporate charter to industrialist William Gregg for the Graniteville Manufacturing Company on December 15, 1845. During March 1846, his textile company bought almost 8,000 acres in the Sand Hills physiographic province of Horse Creek Valley (then the Edgefield District, now Aiken County). Here, on the banks of Horse Creek, Gregg designed a model "mill village" centered on a two-and-one-half storied textile mill some 350 by 50 feet in dimension with two front towers each enclosing a staircase. Atop the northernmost tower still hangs a large brass-bell that when sounded during the 19th century regimented the daily progression of labor activity. Gregg himself seems to have designed the mill after the fashion of those in New England, and had it constructed of locally quarried blue granite. When completed in 1849, the mill was fronted by

a large commons consisting of a courtyard lawn with trees, shrubs, flowers, and trimmed gravel sidewalks all centered on a spouting, spring-fed water fountain. In his 1849 President's Report to the stockholders, Gregg stated that the village consisted of an Academy, one Hotel, two Churches (Methodist and Baptist denominations), several Stores, eleven Boarding Houses, eleven Supervisors' Houses, and forty Workers' cottages. All buildings were constructed of native long-leaf pine in the Gothic Revival style especially popular during this era in rural settings. Each worker's cottage featured architectural symmetry with a fireplace serving two central rooms and two attic rooms. Exterior elements included steep gable roofs, vertical board and batten siding, carved vergeboard or bargeboard that decorated the gable and eave roofline, and matching hood-mold trim over the front center window. According to biographer Broadus Mitchell (1966), "William Gregg brought into existence the first typical Southern cotton-mill village." By so doing, Gregg created a pattern that would be emulated by numerous textile mill proprietors of "company towns" throughout the Deep South.

In the early 1900s, a Superintendent of the Graniteville Manufacturing Company, seemingly with intent, destroyed many of the mill's original records, ledgers, and documents. Despite this loss, numerous—and often contradictory—narratives have been published detailing the economic history of Gregg's Graniteville textile enterprise. Conversely, no archaeology has ever been conducted at Graniteville to reveal the contextual record of this mill town. Thus, the material condition of the mill laborers that occupied Graniteville during the 19th century remains undocumented. Our purpose is to recover artifacts and identify cultural features that will chronicle early proletariat existence in one of the Deep South's hallmark working-class communities. Since an obvious gap exists between the destroyed early documentary history and the 19th-century archaeological deposits at Graniteville, our theoretical concern involves the political economy of Graniteville and its influence on working-class domestic life there.

Twenty-three operatives' cottages still stand along Gregg Street, otherwise known as Blue Row (Figure 2). Originally, these structures were painted with a decorative slate-blue wash presumably to match the blue-colored granite of the mill. According to an 1850 letter by Gregg, each worker's cottage had "from an acre to an acre and a half of ground attached to it." Currently, each house lot is about one quarter acre in extent. Apparently, during the mid-20th century, the back portion of each original lot was sub-divided for housing development. Other than the construction of a concrete sidewalk and curb lined with oak trees, the proposed subdivision never materialized. Our archaeological efforts thus far have focused on testing

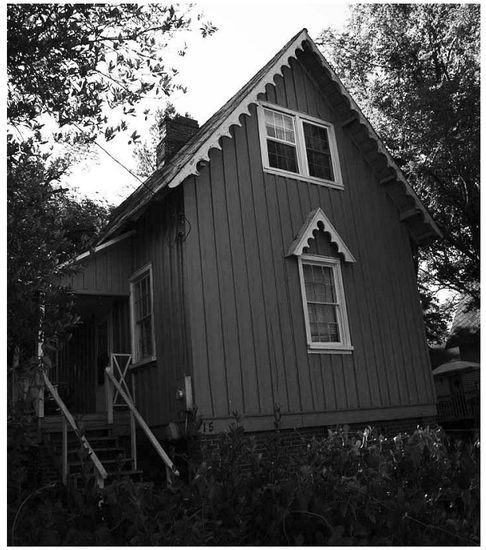

Figure 2. Gothic Revival Style Cottage constructed ca. 1846 at House Lot No. 15.

the immediate yard around houses. Eventually, we plan to expand sampling to include those undeveloped lots that were part of the original household landscape.

William Gregg was meticulous in designing his mill town and personally managed all aspects of its construction. All workers' cottages were built according to identical specifications in dimension and each precisely spaced apart from one another. So we expect—based on this consistency in architecture and arrangement—that the array of out-buildings, privies, wells, gardens, and animal pens will be exactly the same for each house-yard. This landscape patterning should prove evident through cultural feature locations and non-random artifact distributions. While excavation at each individual worker's row house offers the opportunity to study single families over time, testing at multiple house-yards holds the promise of being able to make comparisons among households. In turn, this will allow us to characterize any diversity throughout the entire neighborhood for the latter 19th century.

To date, we have surveyed four house lots excavating a total of 124 50x50 cm-shovel test pits on 5-m grids (Figure 3). About 25 potential cultural features have been encountered, with most being possible post molds (Figure 4). We have tentatively scheduled at least three house lots for further survey during the remainder of this year. Presently, we are engaged in the inventory and classification of recovered items. This information will allow us to generate data analyses of specific artifact patterns for each yard. These archaeological signatures, coupled with the location

Figure 3. Maggie Needham and George Wingard excavating a Shovel Test at House Lot No. 17.

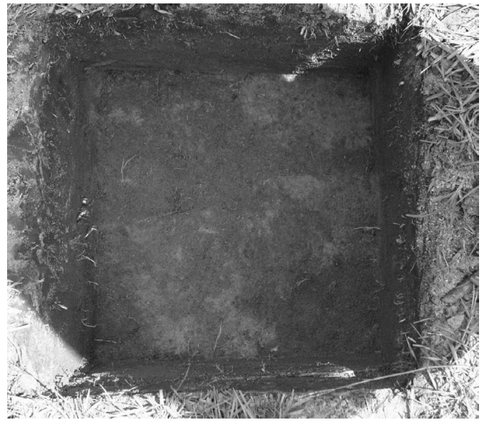

Figure 4. Postmold in bottom right corner of Shovel Test at House Lot No. 11.

of recorded culture features, will be employed to guide further testing and eventually the location of large block excavations.

At this point, we note that the bulk of recovered 19th-century materials primarily include personal items, architectural hardware and tools, food storage and serving-ware containers, and home-heating/cooking fuel resources such as coal. Especially evident are children's toys, school items (fragments of writing slate and slate pencils), personal adornment items, patent medicine bottles, plus stoneware and refined earthenware vessels. These objects are associated with a personal use of space in the immediate yard area. Eventually, as we excavate the back portions of each original house yard, we expect to detect more generalized trash middens as well as the location of privies, garden plots, and animal pens.

Ultimately, our research will expand to include the yards of boarding houses and particularly those of mill supervisors. The variety of artifact types recovered will point to any differences in affluence between the households of operatives and supervisors residing there. Through this socio-anthropological study, we will attain a deeper understanding of the social relations between the mill operatives and their supervisors. Visit our Graniteville Archaeological Project page on Facebook for further details and updates on this research.

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BOOK REVIEWS

Geoffrey Blundell, Christopher Chippindale and Benjamin Smith, Editors. *Seeing and Knowing: Understanding Rock Art with and without Ethnography*. 2010. Left Coast Press, Walnut Creek, CA. ISBN: 978-1-61132-048-0.

Seeing and Knowing: Understanding Rock Art with and without Ethnography begins with a dedication to David Lewis-Williams. Williams' studies of the San religious beliefs, practices, and their role in the creation and interpretation of much of South Africa's rock art serve as a cornerstone on which the current worldwide shamanistic/religious approach to understanding rock art has blossomed. The book consists of 17 scholarly essays, revised and expanded from their original form as conference essays in 2000 to celebrate the retirement of Lewis-Williams. The essays reflect the influence of Lewis-Williams' book *Believing and Seeing*, and his subsequent research philosophies on the individual authors, as well as his impact in the field of rock art research in general. While acknowledging that ethnography does not provide unequivocal answers to the myriad problems of extracting meaning and purposes from all rock art, particularly that of antiquity far beyond the reach of present day informants, the authors' support for Lewis-Williams' approach to interpreting rock art with and without pertinent ethnography is persuasively argued. Their essays discuss this common thread within rock art research on the diverse landscapes of Africa, Europe, Australia and North America.

Overall the book is presented well with regional studies and/or cultural themes tying neighboring chapters together, well referenced through detailed bibliographies, acknowledgements and notes from each author, and for the most part the volume is very readable. It is unfortunate that all of the photographs within this volume are not accompanied by drawings to better demonstrate their detail. It is also disappointing that these photographs are not published in color, as many of the authors reference the vibrant or fading pigments of the rock art. Several rock art panels whose motifs are relevant to the text are difficult or impossible to distinguish.

A select number of chapters within the volume, rather than the volume in its entirety would be best suited for a general anthropology classroom. Students and those interested in art history and visual culture studies might also find the volume an interesting read. Chapter nine, "Layer by layer: Precision and accuracy in rock art recording and dating" by Johannes Loubser, and chapter twelve, "Thinking strings: On theory, shifts and conceptual issues in the study of Paleolithic art" by Margaret W. Conkey, are particularly enjoyable. Loubser's rock art recording and dating procedures at the 'Great Murals' within Cueva de El Ratón, central Baja California, north-western Mexico, are exemplar, and they demonstrate the irreplaceable value of scientifically collected and defensible data. Loubser begins the chapter by quoting Chippindale and Tacon's (1998) *The Archaeology of Rock Art* in that, "neither informed use of ethnography nor formal archaeological recording can, done in isolation, give an adequate picture of prehistoric rock art". Acquiring these irrefutable data in support of ethnographical accounts is perhaps the only way to exorcise the ghosts that accompany informative data. Conkey's essay is refreshing. While firmly supporting the value and need for an informative approach to rock art research, Conkey also stresses the need to maintain an open mind for inclusiveness of the many other avenues of rock art research through a methodology she refers to as "thinking strings".

Chapter sixteen, "Oral tradition, ethnography, and the practice of North American archaeology" by Julie E. Francis and Lawrence L. Loendorf would be most useful in an anthropology classroom in the U.S.. Francis and Loendorf examine the move away from a traditional four-fields ap-

proach, and a move toward subfield specialization. Through this shift from a holistic approach to anthropology, the authors argue that the incorporation of ethnographic, archaeological, and other forms of anthropological data within a single study are becoming exceedingly rare. The authors go on to give evidence through studies in the Bighorn and Wind River basins of northwestern Wyoming of why ethnographic sources and oral traditions provide a greater perspective on a variety of rock art images.

Prehistoric rock art is a particularly difficult facet of archaeology that continues to be largely a "riddle, wrapped in a mystery, inside an enigma". *Seeing and Knowing* does not answer all the unknowns so prevalent in the search for rock art 'knowing', nor does it pretend to, what it does offer are fresh and thoughtful perspectives from many authors, on many continents, who approach the questions. Perhaps as David Lewis-Williams, and these authors suggest, the combination of informative data, combined with traditional formative data, will lead to avenues of knowledge previously unknown. *Seeing and Knowing* should be an entertaining read for all persons having serious interest in the study of rock art, and those who want to gain a new perspective on the diverse approaches and applications of ethnography within the field of archaeology and rock art research.

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Tommy Charles, Piedmont Archaeological Studies Trust

Tommy Charles' interest in archaeology began in childhood and, although having no formal training in archaeology, his involvement with archaeology as a hobby led to his employment at the SC Institute of Archaeology and Anthropology (SCIAA) in 1979. Charles subsequently conducted the survey to find and record Native American petroglyphs and pictographs in South Carolina. He chronicles these adventures of exploration and preservation in *Discovering South Carolina's Rock Art,* (University of South Carolina Press, 2010). Retiring from the SCIAA in 2009, Charles continues his research as a partner in the Piedmont Archaeological Studies Trust (P.A.S.T.).

Meg Gaillard, SC Archaeology Public Outreach Division

Meg Gaillard received her B.A. in Journalism and B.A. in Anthropology from the University of South Carolina, and her M.A. in Visual Anthropology from the University of Manchester, England. She co-founded the non-profit SC Archaeology Public Outreach Division, and is an ethnographer/public interpretation specialist for Southeastern Archaeological Research.

Christopher M. Stojanowski. *Bioarchaeology of Ethnogenesis in the Colonial Southeast.* 2010. University Press of Florida, Gainesville. ISBN: 978-0-8130-3464-5.

In a foundational volume in the development of bioarchaeology, Jane Buikstra (1991) lamented that bioarchaeological data—biological evidence derived from skeletons in the archaeological record—from the southeastern United States and other regions was far too often marginalized and consigned to the appendices of regional studies and archaeological reports. Since then, despite bioarchaeology's growing popularity, scope, and influence, many authors have repeated this critique. Bioarchaeological data too often remains tangential to historical and archaeological studies, both in the southeastern US and throughout the rest of the globe. This stands in marked contrast to the insights into the effects of large-scale political, social, economic, demographic, and ecological processes on the health and well-being of past populations that can be gained from it (Perry 2007). Christopher Stojanowski repeats this observation in the introduction to his volume, *Bioarchaeology of Ethnogenesis in the Colonial Southeast*, specifically in regards to archaeological and historical studies of the colonial experience in North America. Stojanowski notes that bioarchaeological data is frequently absent in these studies, and when present, usually only delves into the most obvious of biological subjects, such as mortality, health, or demographic collapse. While he admits to being uncertain of the reason for this persistent scarcity, his volume promises to set a standard that tremendously improves the situation.

Throughout the text, Stojanowski clearly and elegantly demonstrates how bioarchaeological data, specifically metric data on dental morphology, can be used to elucidate otherwise obscured patterns of social identity, cultural change, and the circumstances which drove the formation of ethnic identities, or ethnogenesis, throughout a volatile but poorly documented period of history in the southeastern U.S. He focuses specifically on southeastern indigenous groups from the 16th to 18th centuries and examines how their adaptations to Spanish colonial rule generated a new ethnic identity, the Florida Seminole. Stojanowski incorporates data, perspectives, and methodologies from an unusually diverse range of disciplines and scholarly foci, such as skeletal biology, history, archaeology, genetics, and social theory, including ethnic identity theory, historical ethnographic perspectives on postcolonial ethnogenesis, and critiques of overly adaptationist perspectives in biological anthropology. This builds upon and contributes to an existing body of work on historical and archaeological narratives about indigenous groups within 'La Florida'. For instance, long-running bioarchaeological studies, such as the La Florida Bioarchaeology Project, have documented the impacts of contact and the colonial period upon indigenous community health, focusing on diet, disease, and behavioral adaptations. Stojanowski's approach complements this by examining purely heritable (genetic) traits, which are unaffected by the environment, namely dental metrics, in reference to archaeological and historical models of community relationships and how they transformed during the contact and the colonial period. This approach, known as biodistance analysis, enables the study of microevolutionary trends on the population level using physical data (4). Within this framework, Stojanowski identifies three primary research themes: How were indigenous populations biologically structured in the past and how did this structure change with contact and formation of the Spanish mission system? How were populations biologically integrated across contact and colonial period sociopolitical or linguistic boundaries? How did the effects of global historical trends and processes manifest at the regional and local levels in terms of discourses of identity transformation?

Stojanowski follows his introduction with a highly untraditional strategy; the first chapter presents all of the results from his analyses. He follows this with a detailed history of Spanish colonial Florida, descriptions of pre- and post-contact indigenous groups, and a discussion of established evidence (from other bioarchaeological studies) of declines in indigenous health during the period. He argues, however, that understanding the microevolutionary mechanisms operating within and between mission communities is equally important to the more traditional bioarchaeological focus on changing patterns of health. He states that changes in health must be considered within the context of demographic change, which can be examined using microevolutionary models. The revealed patterns of reproductive behavior can in turn be used to elucidate the nature of social interactions between contemporary indigenous communities.

The following chapters are largely interpretive and analytical. The second chapter contextualizes patterns of genetic drift, related to population size, and mate exchange or migration (gene flow) within documented processes of demographic collapse and declining health during the contact period. He proposes that detected changes (based on dental metrics) in the genetic relatedness of indigenous populations reflect concurrent changes in the social composition of ethnic groups; new ethnic identities were forming in the face of demographic collapse as previously disparate communities fused into a new and unique social identity (i.e., ethnic amalgamation). To do so, he employs Nancy Hickerson's (1996) generalized model of fusion-based ethnogenetic change, or "life cycle transitions", which is based on a three-phase sequence: separation, liminal, reintegration.

Chapter three presents a bridging model for examining relationships between human biology, social identity, and ethnogenesis. While ethnogenesis and studies of identity are standard for much of anthropology, they are still emergent in bioarchaeology, and Stojanowski makes an important contribution to the literature by encouraging identification of the biological signatures of ethnic-group affiliation. He reinforces that different perspectives and modes of identification are required for differentiating between how and why ethnic sentiments develop and recognition of when ethnogenesis is occurring. He proposes that evidence of such ethnogenetic patterns can be detected biologically; patterns of gene flow, intermarriage, or mate exchange between populations passively reflect changing conceptions of ethnic solidarity, such as "self", and "us" vs. "them" (51-52).

The fourth and fifth chapters provide a historical context for these dynamics, and locate and discuss relevant anthropological theory on ethnicity, ethnic identity and solidarity, and ethnogenesis. Chapter six provides a discussion of practice theory on ethnicity, focusing on evidence for agential involvement of indigenous communities in forging new ethnic identities (rather than just the historically documented practices of the Spanish and English colonial powers that encouraged assimilation and ethnic homogenization). Stojanowski cautiously interprets both material evidence (i.e. stylistic homogenization in ceramics) and direct, skeletal evidence of behavior and 'lived experiences' of indigenous communities (i.e. common levels of health and shared burial practices) as suggestive of an intentional production of emergent ethnic unity and shared identity in La Florida during the 17th century. Chapter seven provides a reconsideration of historical documentation on various ethnonyms throughout the colonial southeast. He contests the position that Seminole ethnogenesis occurred in discrete stages cleanly divided into the mission and post-mission periods. This position is based on an assumption or 'myth', that a "primitive isolate" existed: that the populations in La Florida were unrelated to those in what would later become the Creek heartland. Instead, in chapter eight, he provides an alternative model, based on genetic data (derived from dental metrics) suggesting that indigenous communities were actually closely related and integrated and that substantial longitudinal depth exists for biological (reproductive) interactions between populations in the region.

In chapter nine, Stojanowski repeats and summarizes his findings, emphasizing a theme that is becoming central to much of contemporary bioarchaeology; that the study

of human skeletal remains, because it bridges the biological and social sciences, is uniquely positioned to address the biology vs. culture divide. Echoing and building upon Sofaer's (2006) work, Stojanowksi (173) argues that skeletal remains constitute material culture, and bear signatures of both individual level responses to specific environments as well as macro-scale patterns of human behavior and group action at the level of the population. Much of modern bioarchaeology is becoming increasingly cognizant that one of the field's greatest potentials may lie in the study of social identity. When united with social theory, bioarchaeological data can cast unprecedented light into past social identities, highlighting aspects of identity that are altered or wholly invisible in the historical record (Stojanowski and Knudson 2008). Stojanowski provides an exceptional demonstration of this application and the novel insights into past social processes that it can grant. One can only hope that his expectations for the volume, that it "has a wider readership than just skeletal biologists, and that the perspectives set forth…spark new ways of thinking about bioarchaeological datasets within the broader field of anthropology" are fulfilled (xiii).

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Molly Zuckerman, Mississippi State University

Molly Zuckerman (Ph.D., Emory University) is a bioarchaeologist and paleopathologist with research interests in the evolution of disease and tracing human behavior in the past within biocultural, political economic, and evolutionary frameworks through geochemistry, epidemiological transitions, and biosocial determinants of health inequalities.

Jane Eva Baxter. *Archaeological Field Schools: A Guide for Teaching in the Field*. 2009. Left Coast Press, Walnut Creek, CA. ISBN: 978-1-59874-007-3.

This book brings Baxter's extensive experience in teaching and in the field to bear on the often overlooked subject of archaeological field schools. In many ways, teaching a field school is something that is often assumed that we just do, but is often not something that we are, in fact, trained to do. In reality, when we are graduate students we receive little training in how to actually supervise in the field, and when we are suddenly placed in the position of being in charge, it's sink or swim. Therefore, this volume is an outstanding resource for those just beginning to consider creating a field school, or those looking to improve their own field school practices, and should be required reading for any archaeology graduate student looking towards a career in academia.

The book is structured in two parts: pedagogy and practice, and field school logistics. In the first half, Baxter discusses current trends in archaeology, focusing on what we teach and how we teach it. The second half of the volume provides specific guidelines, suggestions, and words of caution for putting together an archaeological field school.

In the first chapter, Baxter makes an outstanding point: that field schools are not merely about training in methods, but that they serve as a "symbolic gateway into the discipline" (12). It is through field schools that archaeologists are tested, tempered, and socialized. We have all seen the field school student who arrived to the site, trowel in hand, assuming that the experience would be exactly like what is on television – picture a ruggedly attractive, clean and dry archaeologist who glances up from brushing off an earth-shattering find to smile at the camera from under an Indiana Jones-style hat brim. Instead, they find themselves, hot, sweaty, and dirty, trying to get excited about an excavation unit containing rusty nails and some broken pieces of whiteware. The experience can be a reality check for some, and that's not a bad thing, but for others, can be the transformative moment that propels them into their chosen career. Baxter emphasizes throughout the volume that a field school provides socialization into the archaeological community and teaches students the skills they need, not just in excavation and analysis, but also in teamwork, camp living, field etiquette, and beyond.

Field schools don't just serve as training for those aspiring towards a career in academia, but provide the basic necessary skills for students seeking entry-level jobs in Cultural Resource Management (CRM) as well. As a result, Baxter notes, field schools should include students in all aspects of research design and implementation, as they may at some point have to perform these very same tasks, either in running a field project of their own or perhaps in directing a CRM project from start to finish. For graduate students, this is exceptionally important in that many may transition quite quickly from field school student or teaching assistant, to field school or project director. Students cannot be seen as simply "warm bodies" in the field, Baxter emphasizes, but will receive better training and a better overall field school experience if they are integrated throughout the research process.

As Baxter moves into chapters three and four, she provides a very useful discussion of the integration of Student Learning Outcomes (SLO) and Experiential Learning (EL) goals as directly applicable to the creation of an archaeological field school. Particularly for new faculty proposing an archaeological field school in institutions where one has not existed previously, being able to articulate the SLOs and EL goals of a field school can be particularly helpful. Personally, as faculty in a primarily undergraduate institution, I find that such course proposals not only help my own institution's accreditation, but also help me justify the support I am requesting. Being able to assess the success of a field school's SLOs through suggested exercises also provided a very helpful guide that, even though I have taught field schools in the U.S. and abroad for more than ten years, I found particularly useful.

Baxter further provides a great example of an experiential learning exercise in which she asks students to map the field camp used for her field school in the Bahamas. Though the exercise appears simple, it provides both an assessment of students' skills and abilities, and an opportunity for real experiential learning prior to the excavation and mapping of a real archaeological site. Such examples, however, were surprisingly rare in this volume. Baxter has extensive experience teaching field schools in the U.S. and the Bahamas, yet concrete models of field exercises, personal experiences, and cautionary tales that could have illustrated this volume with real-world examples were notably lacking.

Yet as the volume moves into the second half, Baxter presents specific suggestions for how to organize and conduct a field school. Though again not often situated within her own examples, these guidelines provide an extremely helpful set of instructions and considerations, particularly for those just beginning to teach an archaeological field school. For example, she outlines the intricate dance of permitting, legal wrangling, and liability that can be exceptionally important when constructing an off-campus project, whether it is located next door to campus or on the other side of the globe.

Other questions often also arise when teaching a field school, including concerns about hiring teaching assistants, and perhaps camp staff, as well as the logistics of housing, food, health and safety, and interpersonal relationships in the field. Baxter does an excellent job of alerting the reader to these issues that perhaps might not be considered otherwise until one is faced with an urgent situation in the field. We all dread the midnight medical emergency, but with proper planning, such situations can be handled quickly and professionally.

Furthermore, as we, as instructors, are entrusted with the well-being of students who often have not traveled widely, we find ourselves in a difficult position of instructor, caregiver, guide, and camp-mate. Baxter provides suggestions for how to navigate this unique issue that sometimes places us a little too close to our students. A summary of the Family Education Rights and Privacy Act (FERPA) is included as an appendix, which can help the field school instructor determine exactly how much information can be shared with parents and family members.

Finally, the book includes several useful appendices, including the text of the Register of Professional Archaeologists' guidelines for archaeological field schools, a sample safety handout and participant information form, and examples of other handouts for field school students.

Baxter's guide for teaching field schools in an outstanding resource for all of us who plan to, or already do, teach field schools in the U.S. and abroad. For graduate students considering a career in academia, or for any who may serve as a teaching assistant for an archaeological field school, this should be required reading. Though I wish Baxter had included more examples from her own extensive experience, this volume was not intended to be a cautionary tale of her exploits in the field, but instead, to help us all do a better job of teaching the next generation of archaeologists how to do what it is that we do every day.

Carolyn Dillian, Coastal Carolina University

Carolyn Dillian (Ph.D., University of California) is an Assistant Professor in the Department of History. She is an archaeologist who researches the way in which people interacted in the past by studying mechanisms of trade and exchange. She teaches courses on human origins, archaeology, Cultural Resources Management, field and laboratory methods, African prehistory, and North American prehistory.

Alistair Paterson. *A Millennium of Cultural Contact*. 2011. Left Coast Press, Walnut Creek, CA. ISBN: 978-1-59874-493-4.

As the title suggests, Australian archaeologist Alistair Paterson's book, *A Millennium of Cultural Contact*, is grand in scope. What might have been overwhelming given the global scale of the research is instead a remarkably focused work regarding historic societies engaged in forms of cross-cultural encounter. Beginning with the colonization of Greenland by the Norse in A.D. 1000, the author takes the reader on a journey across the globe covering European expansion from the Medieval Period through the era of the Industrial Revolution. The focus of his book is directed by the work of historic archaeologists, and engages with the most current research and theorizing concerning the contact between European and Indigenous cultures.

The book is organized around the analytical concept of culture contact. Paterson employs this to talk about "how different cultures meet" (27). Such a concept, he explains, allows archaeologists to describe the moments of contact that occurred between different cultures that previously had no knowledge of each other, and as a consequence were thrust into long-term engagements.

Culture contact has most recently been problematized by archaeologist Stephen Silliman (2005:57), who cautions us to be careful in applying culture contact to all encounters between the Indigenous and Europeans. Silliman argues that its use, which in a sense implies moments of encounter, could mean mislabeling what are the processes of colonialism. The distinction, according to Silliman, is between culture contact as a general term that encompasses a broad span of intercultural encounters, and colonialism that engages with the process of European powers exerting their influence through dominance. At risk is privileging episodes of first encounters and ignoring how even remote Indigenous populations were affected by and responded to the introduction of disease, new technologies, and changing political relations long after contact, and even absent the direct presence of colonists (Silliman 2005:60).

Paterson devotes one of the more engaging chapters at the beginning of his book to addressing the use of 'culture contact' by archaeologists as an analytic concept. The author takes the approach that this term not only describes moments of first encounter but "has also come to describe ongoing interactions over time beyond 'first contact'" (28). In doing so, he positions himself within a framework that is intended to bridge the divide between prehistoric and historic archaeology by taking a long-term perspective. As Silliman warned, one gets the sense that at times Paterson's use of culture contact struggles against his intentions by privileging encounter, as exemplified through many of Paterson's regional case studies, and at the expense of the long-term consequences of engagement that cross regional boundaries and link distant peoples. For example, this appears true in his chapter regarding North American culture contact. However, Paterson is clear that this work is not intended to be an absolute coverage of the entire breadth of cultures in contact. He is honest in what is missing, and so some of the struggle may relate to his aim to "burrow into the 'local' and move beyond the 'global' (12) by emphasizing cultural differences.

The heart of Paterson's book is in providing the reader with an introduction not only to the specific historic backgrounds of the cultures in cross-cultural contact, but also to the archaeological sites and material culture within these contexts that exemplify the historic processes emerging from encounter. The goal of this work is to reveal what happens to cultures in contact, and how the complex and diverse results stemming from the long-term engagement influences the issues relevant to today's descendant communities. As Paterson explains, "understanding culture contact in the past may historicize processes that underlie contemporary communities" (236). Such understanding can be applied widely across cultural contexts.

Each chapter is dedicated to a single geographic region in which the events that transpired following contact by Europeans are framed. These include: the Norse and Thule interaction in Greenland and exploration of North America, Europe and the cross-cultural exchanges during the Crusades, Sub-Saharan Africa and the intensification of trade, the Spanish discovery and colonization of the Americas, the expansion of Europeans and the fur trade in North America, the 'water mediated' contacts through East Asia and Oceania, and finally the colonization of Australia.

Within each chapter, Paterson draws upon a variety of evidence to introduce the reader to how archaeologists make inferences about what emerges from episodes of cross-cultural interaction. These include first-hand accounts, secondary sources, pictorial information, the environmental record, and oral histories. Each geographical example is also complimented by a series of archaeological case studies representing important sites that frame larger issues. A wide range of such sites are covered: from the West African slave trading fort of Savi, to the Spanish Mission Santa Catalina de Guale on St. Catherines Island off the coast of Georgia, to the Maori settlements in the Waihou Valley in New Zealand. These examples, among the many contained within the book, illustrate the complexity and differences between forms of cultural interaction. They also touch upon how archaeologists approach anthropological issues such as the formation of identity - for example through the process of creolization, the meaning assigned by different actors to material objects such as glass beads, and the study of space, households, and the formation of community in pluralistic settings.

Certainly much more detailed information could be found in other volumes dedicated to each specific geographic context or site. Most are only covered in a general sense within this book. However, Paterson's work is particularly significant in his comprehensive history of anthropological approaches to culture contact, and for bringing a wide body of information, current sources, and potentially new research areas to the attention of scholars who otherwise might not have been introduced to them.

Thoroughly readable, generally well illustrated, and with 'useful sources' sections listing resources and references at the end of each chapter - this book should find a niche particularly among students being newly introduced to these concepts within the framework of historical archaeology, or as a useful complement to such works as those by Charles C. Mann (2005, 2011) or Eric Wolf (1982).

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James Nyman received his M.A. in Anthropology from the University of South Carolina. He is currently pursuing a Ph.D. at the University of North Carolina in Chapel Hill. His interests include historical archaeology as it relates to the interaction between Native Americans and European colonizers, and the processes and practices of colonialism. His current research includes the historic Chickasaw Nation in Mississippi.

Robert J. Kapsch. *Historic Canals & Waterways of South Carolina.* 2010. University of South Carolina Press, Columbia. ISBN: 978-1-57003-867-9.

Robert J. Kapsch chronologically captures the years of construction, use, and eventual abandonment of the South Carolina canal system in his book *Historic Canals and Waterways of South Carolina.* Kapsch, a researcher and writer for the Center for Historic Engineering and Architecture and former National Park Service senior scholar in historic architecture and engineering, does not disappoint the reader in this detailed historical account. He begins the book with the establishment of the Santee Canal Company in 1786, formed in order to create inland navigation from the Santee to the Cooper River. Kapsch then goes on to detail the 1787 charters of the Catawba Company and Edisto Company, and the Sampit and St. James Santee Canal Company in 1809. He traces a variety of historical document to detail the plans, financial struggles, disappointments and successes of these companies and their investors. Kapsch traces the decisions that were made during the economic climate of the South Carolina cotton boom (1794 – 1819) and the War of 1812, which spurred individuals to invest in a faster and more reliable means of transportation in the waterways of South Carolina.

This historical account is filled with primary source documents, not only cited within the main body of the text and in an extensive notes and bibliography section, but also inserted as figures along the edges of the pages. Such notices from local newspapers of the time include subjects such as a need for investors, laborers, and passengers on the steamboats that traveled the navigable waterway. Two intriguing notices for male and female slave laborers to work on the Santee Canal are immediately followed by an explanation in the text. Kapsch details that half of the workforce on the Santee Canal consisted of women. The Santee was the only American canal where women were used in large numbers as laborers. Kapsch goes on to provide the reader with a table that breaks down the raw number of laborers into categories. This allows the reader to better understand why a raw number of 700 laborers only allowed for 500 to work on excavation and embankment of the canal. The laborers are divided in his table to indicate how many of the workforce would at any given time account for laborers for the brick yards, tradesmen, sawyers, colliers, butches, cart and wagon boys, cooks, drivers, runaways, and sick. In addition to tables detailing labor, Kapsch also includes many other tables to explain subjects such as tolls allotted to type and breadth of vessel, yearly expenditures, and annual cotton traffic and tolls. Where possible, Kapsch supports the text with an original chart or table. Also included are maps of the canal pathways, drawings of landscapes and daily life, and photographs of ruins. Eight pages in the center of the book include images in full color. Kapsch enhances the body of the text by pulling a variety of primary sources together to detail the lengthy and costly endeavor of canal construction in South Carolina.

An interesting element within the book is the documentation of underlying tensions between chief engineers, investors, and other involved parties including the government during the canal-construction and waterway-improvement program in South Carolina. Kapsch details the tension between John Christian Senf, chief engineer for the Santee Canal Company and Catawba Company, and Henry Dearborn during the construction of the U.S. Military Establishment at Rocky Mount (later known as Mount Dearborn), which resulted in Senf's dismissal from the project. Senf was a former Hessian solider who was captured during the Revolutionary War, and like many of the engineers who worked on waterway projects in South Carolina and northern states during the early years, he was European. It was not until many years later that American engineers began to supervise construction of inland waterway systems.

Kapsch concludes his historical account of the South Carolina canal-construction and waterway-improvement program discussing the abandonment of the canal system prior to the Civil War, its attempted resurrection, and the subsequent construction of the Southern Railroad as the up-and-coming means of transportation. By the end of the canal-construction and waterway-improvement program, the state of South Carolina had spent nearly two million dollars in order to make navigable approximately 2,400 miles of waterways in a short-lived but nevertheless impressive engineering feat. Kapsch ends his last chapter with the following sentences, showing his respect for the undertaking of such an engineering task. "[T]hese canals and waterways were magnificent in their conception and execution. Their few physical remains are a historical monument to the spirit, determination, and innovation of the men who formulated and implemented this system of transportation."

Meg Gaillard, SC Archaeology Public Outreach Division

Meg Gaillard received her B.A. in Journalism and B.A. in Anthropology from the University of South Carolina, and her M.A. in Visual Anthropology from the University of Manchester, England. She co-founded the non-profit SC Archaeology Public Outreach Division, and is an ethnographer/public interpretation specialist for Southeastern Archaeological Research.

Diana DiPaolo Loren. *The Archaeology of Clothing and Bodily Adornment in Colonial America.* 2010. University Press of Florida, Gainesville. ISBN 978-0-8130-3803-2.

In her 'Preface,' Diana DiPaolo Loren writes that her interest in clothing and adornment began with buttons and similar small finds. This book, a short yet subtle analysis, utilizes small items to reveal depths of meaning behind practices of colonial dress and adornment.

The Archaeology of Clothing and Bodily Adornment in Colonial America is organized into five chapters. Throughout, and particularly in her opening chapter, Loren stresses clothing as a symbolic representation of personal and collective identity. Through clothing and adornment choices, one conveyed social standing, gender, occupation, religious beliefs, sexual preference and other cultural associations. Using archaeology, ethnography, history and visual cues, Loren presents a well-researched work grounded in modern American historical archaeology. The book is heavily situated within the framework of social archaeology, which Loren summarizes as the intersection of people and material culture. She gives the people of colonial America a great deal of agency within the boundaries of sumptuary laws and cultural standards.

In the following chapter, Loren discusses categorizing, and argues strongly that classifying artifacts by manufactured purpose or raw materials hinders interpretation. The book successfully contends that dress and adornments could be worn in ways other than their intended purposes, adding levels of possibility to an archaeological interpretation of personal expression. Loren does include caveats to her claims. First, choices of dress and adornment were made within societies filled with laws, rules and cultural ideas of appropriateness. An individual within a colonial society would not have complete freedom of expression, as fabric, fit, color and ornamentation were often regulated. Loren writes that how individuals expressed themselves within and occasionally, as with the mixed assortments of French trappers, outside social norms spoke volumes. Secondly, she does well to points out biases present in her visual sources, as well as in burial finds.

Chapters three and four discuss bodily covering and adornment. Loren uses these chapters to illustrate the mixing of mediums that went on as a result of colonial America's patchwork society. Tattoos and glass beads increasingly appear on people of European descent, representing a gradual ideological shift to an American identity. Loren aptly illustrates the effects of cultural contact through clothing. In chapter five, Loren selects two clothing assemblages and breaks them down to illustrate the cultural significance. Within her analysis of an individual from Dutch New Netherland, she raises a pertinent point for modern historical archaeologists. A native using European items is readily accepted, though when a European possesses native articles, the general perception is that he was curating them. Loren denounces this bias, and calls for archaeologists to except that interchanged material culture might be valued by both colonized and colonizer.

Throughout the book, Loren is acutely aware of the constant interplay of ethnicities during the colonial period. Her book highlights cross-cultural interactions and the fluidity of colonial identities, things she argues were visible to colonial contemporaries and to modern archaeologists though the self expression of dress. She stresses that the mixing of cultures appeared in mixing articles of dress and speaks to the oft-discussed theme of creolization, though never in name.

Loren also argues heavily for multiple levels of artifact interpretation, and promises explanations of the diverse possibilities. This is the book's only shortcoming. Her repeated argument for the multiple meanings behind clothing and adornment choice begged for an extended analysis, and her few examples, though well interpreted, would have flourished as part of a larger work. As she stated, however, Loren sought to write a compact analysis of colonial sartorial expression, and in this she has succeeded.The book is highly readable, carefully researched and ultimately, an excellent glimpse into the realms of colonial identity and material culture. I look forward to any additions she might make to this body of scholarship.

Kary Pardy, University of South Carolina

Kary Pardy is currently pursuing her M.A. in Public History and Certificate in Historical Archaeology from the University of South Carolina.

Brian Fagan. *Writing Archaeology: Telling Stories About the Past*. Second Edition. 2010. Left Coast Press, Walnut Creek. ISBN 978-1-59874-609-9.

While the field is where most archaeologists want to be, there is no denying a major part of the profession is writing. However, while archaeologists are trained in excavation techniques and analytical skills, their education is not usually focused on the art of telling a compelling story. Brian Fagan provides a practical guide for writing in a manner that appeals to those outside the field, as well as academic specialists. His book is broken down into twelve chapters that give a step-by-step process of creating, editing, and publishing works for the general public as well as academic writing. He also looks at the ever growing digital presence – websites, blogs, social networking, and e-books - in publication.

In the first chapter, Fagan introduces his primary rule, echoed throughout the book: Always tell a story.

> I inserted the candle and peered in, Lord Carnarvon, Lady Evelyn and Callender standing anxiously beside me to hear the verdict. At first I could see nothing, the hot air escaping from the chamber causing the candle flame to flicker, but presently, as my eyes grew accustomed to the light, details of the room within emerged slowly from the mist, strange animals, statues, and gold – everywhere the glint of gold. For the moment – an eternity it must have seemed to the others standing by – I was struck dumb with amazement, and when Lord Carnarvon, unable to stand the suspense any longer, inquired anxiously, "Can you see anything?" it was all I could do to get out the words, "Yes, wonderful things" (Carter and Mace 1923:141).

This passage is from *The Tomb of Tut Ankh Amen* written by Howard Carter. In high school, I read this book every year I was a student and even today, the words still give me chills. This type of narrative draws in the reader, sometimes feeling more likes a novel then a piece of nonfiction. The challenge comes from writing a gripping story when the archaeological record is a little more mundane. Fagan offers a few tips to keep in mind when struggling to breathe life into the past: emphasize the fact that archaeology is a result of human behavior. People find it easier to relate to other people rather than stone flakes. When possible, link the past to current events so readers can draw from their own life experiences. Don't get bogged down with lists and tables. These may be important for field notes and lab analysis, but they do not add to a compelling narrative. Finally, when writing, be sure to stick close to the actual facts. Beautiful prose might make for a good story, but don't make the reader sift through your work to tell truth from fiction.

So how does one become a well-versed author? Practice, practice, practice! Fagan de-mystifies the writing process by explaining it is just like any other skill – you need to have the self-discipline to write and revise as much as possible in order to develop your craft. One of the ways to practice writing for a general audience is through newspaper or general-interest articles. Fagan's book provides good advice on different types of articles (op-ed, contemporary issues, travel, archaeological profiles, etc), proposals, and the all-important revision.

The next step is writing a book that appeals to a wide audience. The key to this undertaking is to always write about a subject with which you have a personal passionate interest. One of the most difficult tasks is to come up with an original idea that will not only hold your attention as the author, but will also appeal to the general public. Once you have an interesting and original subject, Fagan walks the reader through the arduous process of forming a proposal, submitting it, outlining and writing the first draft, managing and maintaining relationships with the editor, publisher, and (sometimes) agent, revision, publication and beyond. The procedure seems very daunting, but Fagan does a good job of breaking everything down into manageable sections. He points out tips and tricks the non-writer might not consider, such as how publishers make decisions about the books they will or won't accept or what needs to be done once the final manuscript is submitted.

While writing a textbook is a different endeavor than that of a mass-market book, many of Fagan's key elements are the same, such as his emphasis on passion. The textbook author usually writes about a broad range of subjects outside his or her area of expertise, but without a passion for the subject matter, it will be difficult to set the textbook apart and sell it to the publishers. If the textbook is published and well received, be prepared to do revisions on three- or four-year cycles to keep the information up to date.

The final three chapters are new material included in the second edition of this book. The first two look at the challenges of academic writing and dissertation publication. Dissertation publication can be a difficult process and usually requires a few more years of revision, feedback, and research. Although dissertations and other forms of academic writing – articles, papers, or books – are intended for a specialized audience, Fagan's advice on the writing process is very similar to that in previous chapters. The writer should strive to tell a story, avoid unnecessary jargon, and keep the piece short and to the point. Academic writing may contain more tables, charts, and lists than a general interest piece, but that does not mean it has to be a struggle to read.

Finally, the author touches on the ever-growing digital world. This technology opens the doors for a new form of publication, away from the linear narrative and involving types of multi-media beyond 2D pictures. While most of the same basic rules to good writing still apply, digital writing focuses on communicating information in smaller chunks or sound bites that are linked to each other or further information. Blogs, social networking, and e-books are all examples of digital publishing opportunities.

This book is a great resource for anyone interested in writing about archaeology – academic or otherwise. I realized that not only did Fagan provide good tips for clear and effective writing and publication, but the book itself was an example of the advice he was giving. Fagan does an excellent job on keeping his reader engaged and interested throughout the writing process.

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Erika Shofner, South Carolina Public Outreach Division

Erika Shofner received her M.A .in Anthropology with a focus in archaeology from the University of South Carolina. She is a co-founder and director of the 501(c)(3) the South Carolina Archaeology Public Outreach Division (SCAPOD). Her primary interests are in public outreach, Paleoindian studies, and primitive technology.

Lynne P. Sullivan and Robert C. Mainfort Jr. Editors. *Mississippian Mortuary Practices: Beyond Hierarchy and the Representationist Perspective*. 2010. University Press of Florida, Gainesville. ISBN 978-0-8130-3426-3.

Mississippian Mortuary Practices is a collaboration of multiple authors edited by archaeologists Lynne P. Sullivan and Robert C. Mainfort Jr. This compilation highlights Mississippian mortuary practices throughout the southeast and portions of the midwest and their most recent interpretations. The book's tagline "beyond hierarchy and the representationist perspective" sums up the main focus of the book. The chapters illustrate how researchers are moving away from past constructs, such as Binford-Saxe and ideas of socioevolutionary ranked societies, to offer new perspectives on the Mississippian world. The book is set up so that each chapter discusses a different site or area and how their burial internments have been analyzed by past and current archaeologists. The authors represent some of the most qualified and knowledgeable researchers on Mississippian topics which allows for the discussion of multiple views and methodologies.

The archaeological interpretation of burials has changed significantly since the profession first began. Many of the largest burial excavations to date were done during the early years of archaeological science. Multiple chapters, such as those by Fisher-Carroll and Mainfort, Goldstein, and King, discuss burials along with associated architecture and artifacts that were historically excavated. Although these sites and collections were previously interpreted, current views in archaeological theory have shed new light on mortuary practices. For example, in the chapter "Aztalan Mortuary Practices Revisited" Goldstein discusses how past site interpretations have kept even recent archaeologist from creating new perspectives on sites. Early in Aztalan's history it was concluded that the residents practiced cannibalism based on the distribution of long bones with cut marks at the site. Goldstein reevaluated this idea by illustrating how variation in mortuary practices and use of the landscape play a role in burial placement and treatment. Looking at these aspects, which were earlier ignored, allowed for the development of another explanation for the bones' placement besides cannibalism.

A topic discussed by multiple authors, including Pauketat, Cook, and Marcoux, is the shift from viewing sites in a hierarchical perspective, such as the original chiefdom model. Cook (114) believes that "social typologies (i.e. chiefdoms)… are not useful for examining cultural change." Stepping away from the heavy Mississippian chief-

dom model has allowed Cook to compare Fort Ancient to Mississippian mortuary practices. In Boudreaux's discussion of Town Creek, he explains the site was a heterarchial political group with multiple social groups. He compared Town Creek before and after mound construction as an example of social evolution at a site. Based on the placement and treatments of burials, there was no evidence of an increase in power that led to mound construction. Instead, the development of mounds was the result of an increase in the emphasis of community. The book shows how getting away from the chiefdom thought process has allowed archaeologists to look at mortuary practices in new ways such as better identifying kinship ties.

One of the main theoretical views presented in the book is the concept of identity. In "The Missing Person in Mississippian Mortuaries", Paueketat goes into depth about the concept of identity, personhood, and how it all ties into mortuary practices. Identity relates not only to the dead but the living as well. Changes seen in mortuary practices at sites over time, such as Cahokia, illustrate the evolution of a group's identity. The majority of the time Mississippian burial groups were based on clans. The dead were placed with their clans in designated cemeteries or structures, although placement and arrangement of burial areas vary site to site. The book illustrates how archaeologists have become aware that mortuary practices are based more on the living than the dead. Mortuary practices and rituals are conducted by the living as part of their kin or clan group identities. According to King's discussion, mortuary practices were part of creating sacred space and narratives for the living. Funeral rituals themselves were for the memory of the living.

Mississippian Mortuary Practices is well put together offering readers multiple opinions on mortuary topics. A compilation of such up to date views on this subject makes it a wonderful addition to the Mississippian literature. A range of geographic areas and site types are discussed allowing readers a more holistic view on Mississippian mortuary studies. Villages, mound groups, and even cave settings were discussed.

For the most part the chapters are easy to read. One of the drawbacks of the book is that some chapters dive quickly into heavy archaeological theory. It is easy to get bogged down if the reader does not have a thorough background in the theories being discussed. All of the authors do an excellent job clearly explaining their data and interpretations. Many chapters include an array of charts, maps, tables, and in some cases illustrations to aid the reader.

Although the book does not include a chapter on South Carolina, it is still a useful resource. There are chapters on neighboring states North Carolina and Georgia. The views presented in the book can be applied to any locality since such a wide range of data was presented and concepts like identity are not limited to specific areas. The book was enjoyable and I would recommend it to any archaeologist interested in the subject. Overall the book serves as a great companion for those interested in Mississippian archaeology even for those with little background on mortuary practices.

Sarah Stephens, New South Associates

Sarah Stephens received her M.A. in Anthropology from the University of Mississippi with a concentration in Mississippian period archaeology. She is currently an archaeologist with New South Associates in Columbia.

ABOUT THE CONTRIBUTORS

Jodi A. Barnes received her Ph.D. from American University in Washington, DC. Her research focuses on the archaeology of the African diaspora. She recently published the edited volume, *The Materiality of Freedom: Archaeologies of Postemancipation Life* (University of South Carolina Press, 2011).

Mark Brooks is the director of the Savannah River Archaeological Research Program (SCIAA-SRARP). He is particularly interested in early hunter-gatherers and the geoarchaeology of the southeastern U.S. Coastal Plain.

Tommy Charles is retired from the South Carolina Institute of Archaeology and Anthropology where he served as Collections Coordinator. His research interests are the prehistoric cultures of southeastern North America. Retiring from the SCIAA in 2009, Charles continues his research as a partner in the Piedmont Archaeological Studies Trust (P.A.S.T.).

James K. Feathers is director of the Luminescence Dating Laboratory at the University of Washington. He has done dating work on all seven continents, but has concentrated on dating Paleoindian sites in both North and South American and the dating of anthropogenic structures such as rock alignments, mounds, and adobe buildings.

Jon Bernard Marcoux is an assistant professor of anthropology at Auburn University in Montgomery, Alabama. His current research focus is the archaeology of late prehistoric and protohistoric communities along the central South Carolina coast.

Christopher Moore is the Curator of Public Outreach for the Savannah River Archaeological Research Program (SCIAA-SRARP). His research interests include geoarchaeology, hunter-gatherer archaeology, chipped stone technologies, quarry sourcing, geologic dating, GIS technology, and remote sensing.

Eric C. Poplin is a senior archaeologist with Brockington and Associates in Charleston, South Carolina. Dr. Poplin has conducted numerous field projects at Native American sites in coastal South Carolina including the many Middle and Late Woodland sites in the Charleston Harbor area.

Kimberly Pyszka received her M.A.(2003) and Ph.D. (2012) from the University of Tennessee. Her research interests include colonial South Carolina, landscape archaeology, and frontier studies. She is currently a visiting assistant professor of anthropology at the College of Charleston.

Carl Steen is a native of the South Carolina Lowcountry. He received a Bachelors Degree in Anthropology at the University of South Carolina, and a Masters Degree in Anthropology at the College of William and Mary. He is President of the Diachronic Research Foundation, a non-profit corporation dedicated to research and historic preservation.

Jeremy A. Vanier is currently pursuing a Ph.D. from the University of South Carolina. His research interests include foodways studies and the Late Woodland/Mississippian transition in the southeastern United States.

2011 ARCHAEOLOGICAL SOCIETY OF SOUTH CAROLINA AWARDS

Mr. Lamar Nelson received the **Archaeologist of the Year Award** for Exceptional Volunteer Service to the to the Foothills Chapter of the Archaeological Society of South Carolina.

Mr. Sean Taylor received recognition for Exceptional Service to South Carolina Archaeology as ASSC President.

Mr. Bob Costello received the **Article of the Year Award** for his article, "Macroscopic Analysis of an Allendale Chert Flake Tool Assemblage from Northeastern Lake Marion".

Mr. Walter (B.J.) Clifford IV received a **Graduate Student Grant-In-Aid Award** to conduct research on contact-period, Native American subsistence patterns on Daniel Island.

Ms. Kelly Goldberg received a **Graduate Student Grant-In-Aid Award** to conduct oral history interviews from current landowners and local community members to inform historical archaeological research on James Island.

Mr. Kevin Fogle received a **Graduate Student Grant-In-Aid Award** to conduct zooarchaeological investigations of enslaved foodways focusing on the influences of dietary reforms at Witherspoon Plantation in Darlington County.

Ms. Kimberly Westcott received a **Graduate Student Grant-In-Aid Award** to conduct research on Native American migration and interaction at Savannah Town during the early to middle Colonial period.

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