A PRELIMINARY ARCHAEOLOGICAL CONTEXT FOR GREENVILLE COUNTY, SOUTH CAROLINA

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Introduction

This section presents information about the archaeology that has been done in Greenville County, the archaeological potential of the county, and the management of these archaeological resources. The vast bulk of archaeological investigations in the county consists of survey level studies in areas to be impacted by highway construction (see, for example, Brockington and Morgan 1987; Caballero 1984; Trinkley 1985). In fact, of the archaeological studies completed by 1990, approximately 83% were done as a part of highway widening or construction (see Derting et al. 1990:248-257). An additional 10% were associated with the placement of sewer lines or other utilities (see, for example, Cable and Michie 1977; Drucker 1979). This leaves only about 7% of the work associated with either development tract survey or data recovery.

Unfortunately, unlike areas such as the Savannah River Site, the Richard B. Russell Reservoir, and Sumter National Forest where extensive surveys have taken place, Greenville County has not received similar attention, and very little is known about issues such as changing settlement pattern, patterns in lithic resource use, or prehistoric and historic lifeways. As a result, archaeological and historical research from other portions of the state presently must be used to help make predictions about site locations and frame research issues for the county.

The most intensive archaeological survey associated with Greenville County was performed to assess impacts from the construction of the proposed Laurens-Anderson connector highway from US 276 north of Laurens to US 76 east of Anderson, South Carolina (Goodyear et al. 1979). This study identified a number of historic and prehistoric sites in Anderson, Greenville, and Laurens counties. Drawing from resources including the few local surveys, large surveys and excavations in geographically similar areas such as Spartanburg, Laurens, and McCormick Counties, excavations or other studies dealing with technologically similar or identical sites, and historical resources, we will attempt to provide a basic predictive (or perhaps more accurately, projective)¹ model for settlement during the different prehistoric and historic time periods. We will also provide information on the "archaeological profile" of site types such as a blacksmith's shop or a tavern. In addition, we will identify some of the more basic and important research questions that need to be addressed for each site type.

By reviewing the available data, we can then provide a picture for Greenville County's archaeological potential. There are many aspects of the county's past that some people may not have even considered because they associate an archaeological site with recovering artifacts such as ceramics, buttons, bottle glass, etc. However, there is much more to archaeology than these types of artifacts. Archaeology can also recover information regarding technology or construction that only stains in the soil (rather than the more "eye

¹ A predictive model uses data available in certain portions of an area and makes predictions on the remaining area. A projective model uses data from other areas that are then projected onto the study area to make predictions about site locations. With the projective model, it is presumed that settlement models from other areas will hold true in the study area. Alternatively it can be used as a baseline to help explain why settlement is different in the study area.

		catching" artifacts)		
Date	Period	Piedmont	ural Phase Mountains	can provide and can address questions
1700 1600	Protohistoric	Old Town		such as changing technology. It is
	Mississippian	Pee Dee Lam	ar Pisgah	hoped that this study will help identify these more obscure sources of
1200		Napi Uwharrie	Connestee	tial. This information can then be compared to the rest
A.D. 0 B.C.	Woodland	Cartersvil Yadkin Dunla	Pigeon	of the state or elsewhere to see how Greenville County developed similarly to or differently than
200		Badin	Swannanoa	other parts of the state or nation. It can then help to define
4000	Late Archaic	Savannah River		Greenville County's cultural identity through time, by
	Middle Archaic	Morro	ord/MALA w Mountain Stanly	helping us understand ques- tions such as "What
6000	Early Archaic	Pal	ifurcate mer/Kirk Dalton	was it like to live in Greenville County in 1810, or 1850, or 1880?" or "What was
8000	Paleoindian			living in Greenville County around 1200
Figure 1. Cultur	al sequence for the So	outh Carolina upc	country.	A.D?" However, it should be pointed

out that Greenville County did not exist in a vacuum. This is particularly true for the Native American inhabitants who were much more mobile than the historic people. As a result, questions related to Native American lifeways need to be addressed using a wider regional framework.

The management of these archaeological resources is important and should be approached with everyone having the same goal in mind: to identify important sites and to address important questions about Greenville County's past so that we can form a picture of how different types of people lived through time. It is helpful, then, to organize resources or potential resources in to "study units" to make archaeological resources more manageable. We can then determine which "study unit(s)" best describe(s) the site (since sometimes more than one study unit is represented) and determine whether or not the site is likely to be able to address the important research issues listed.

The prehistoric section of the report is organized entirely differently than the historic section because of the type of information available. For prehistoric archaeology most of what we know is based on the few archaeological surveys performed in the county or by other studies in the Piedmont region of South Carolina. This section is divided into temporal units such as Paleoindian, Early Archaic, and so on because so little is known about the intricacies of prehistoric life in Greenville County or, for that matter, anywhere else in the state (see Figure 1 for an outline of the cultural sequences). The historic section is divided into functional units such as Urban Sites, Gold Mines, Grist Mills, etc. This provides a more complete understanding of questions of importance since we are able to draw on historical documents and identify questions or issues that they fail to address. At the end of each "study unit" presented (e.g. Late Woodland Period or Farms and Plantations) research questions are identified, providing a framework for assessing the importance of a site based on its ability to address these questions. While the questions raised are probably not complete, simply because we did not think of them all, and since new research questions continuously arise as people identify new and fruitful avenues of inquiry, they do at least identify some of the most basic problems appropriate for archaeological study.

Prehistoric Archaeology

In the Carolina Piedmont, lithic scatters are the most common type of prehistoric site encountered. Goodyear et al. (1979:131-145) found that lithic scatter sites located in the inter-riverine Piedmont were geographically extensive and exhibited little artifact diversity. These sites have been interpreted as limited or specialized activity sites, typically associated with hunting, nut gathering, and procuring of lithic raw materials (Canouts and Goodyear 1985). Although the vast majority of these sites are located in eroded areas and exhibit little to no subsurface integrity, Canouts and Goodyear (1985) argue that they have analytical value. This value lies in their horizontal rather than vertical dimensions. They argue that:

[f]uture investigators of upland sites must effect broad-scale spatial analyses comparable to the temporal analyses effected through excavation of deeply stratified sites. Both endeavors are necessary, and neither is sufficient for the total understanding of Piedmont prehistory" (Canouts and Goodyear 1985: 193).

One observation that Canouts and Goodyear (1985) made is that lithic raw material ratios change through time. For instance, at the Gregg Shoals site in Elbert County, Georgia, the Early Archaic assemblage reflects greater use of non-local cryptocrystalline materials and the Late Archaic, greater use of non-quartz local material (see Tippitt and Marquardt 1981). Examination of changing use of lithic resources will help archaeologists better understand issues such as the extent of seasonal rounds, trade networks, and social organization. Clearly, the arguments put forth by Canouts and Goodyear (1985) argue strongly for a higher regard for the "lowly" lithic scatter; a very common occurrence in the Piedmont.

In addition to lithic debris, prehistoric remains can be exhibited through food refuse (e.g. animal bone and phytolithic plant remains), evidence of shelter, cooking, storage, and the presence of pottery (although pottery is only found in later contexts). Typically, in earlier contexts such as the Paleoindian and Archaic Period, there is nothing more than lithic debris; not necessarily because that was all the inhabitants were involved with at the site, but because the inhabitants were few and stayed there for so short a time. This would result in little food bone, and what food bone did exist probably deteriorated since the quantity of bone was so poor that soil conditions could not be set up to preserve the bone. Where bone was deposited more densely at more permanent Woodland settlements, it is possible that the amount of calcium provided by the bone set up a condition where at least some bone could be preserved. Shelter or housing remnants will also probably not be found since the early Indians tended to move frequently, making it unnecessary to have

anything more than an unsubstantial shelter which will not likely produce archaeological features. Usually, these early sites are limited in the types of questions they can address. This does not necessarily mean that they are unimportant sites, it only means that we must focus on those questions that the sites can address and perhaps draw from the negative evidence to answer other questions.

Paleoindian Period

The Paleoindian period, lasting from 12,000 to 8,000 B.C., is evidenced by basally thinned, sidenotched projectile points; fluted, lanceolate projectile points; side scrapers; end scrapers; and drills (Coe 1964; Michie 1977). The Paleoindian occupation, while widespread, does not appear to have been intensive. Points usually associated with this period include the Clovis and several variants, Suwannee, Simpson, and Dalton (Goodyear et al. 1989:36-38).

Unfortunately, little is known about Paleoindian subsistence strategies, settlement systems, or social organization. Generally, archaeologists agree that the Paleoindian groups were at a band level of society, were nomadic, and were both hunters and foragers. While population density, based on the isolated finds, is thought to have been low, Walthall suggests that toward the end of the period, "there was an increase in population density and in territoriality and that a number of new resource areas were beginning to be exploited" (Walthall 1980:30).

Very little work in the state has been able to focus on Paleoindian settlements because of the rarity of the site type. No evidence was found for Paleoindian occupation in the Laurens-Anderson inter-riverine area, which is not surprising since elsewhere in the state these sites are usually found clustered along major drainages and their tributaries which is interpreted by Michie (1977:124) to support the concept of an economy "oriented towards the exploitation of now extinct mega-fauna." According to Goodyear et al. (1989:33) only two Paleoindian projectile points have been found in Greenville County. An additional Paleoindian projectile point was recently reported by Mr. Richard Sawyer from the digging of a pond (Richard Sawyer, personal communication 1995).

A.S. Rowell reported to Laura Bragg that he had recovered artifacts that he believed were "of Paleolithic Age" (letter to Laura M. Bragg from A.S. Rowell, n.d., The Charleston Museum, Charleston, South Carolina). He found the site on the sideslope of a hill adjacent to Hurricane Creek which feeds the Saluda River. He stated that "in following the bank from the camp down to the creek I observed several different stratas or layers, and found specimens in each one of them. In the upper layer were the Neolithic specimens while in the lower most layer I came upon the type of workmanship and evident Antiquity of the specimens sent to you." While his finds may only have represented Archaic material, the letter does suggest the potential for stratigraphic deposits similar to those found by Joffre Coe in the North Carolina piedmont.

One site identified in the Sumter National Forest (Price 1992), in neighboring Laurens County, is believed to have a possible Paleoindian component (38LU317). It is situated on a ridge saddle adjacent to a spring which feeds into the Enoree River, located only about 0.3 miles to the north. This fits well with previous arguments that Paleoindian sites will be located adjacent to major drainages.

Anderson (1992:32) suggests that the comparatively low density of Paleoindian diagnostics in South Carolina may be because the state could have been on the edge of the ranges of groups centered in other areas. He suggests that permanent settlements elsewhere probably occurred later in the Paleoindian period, only when population levels had grown appreciably in these centers. This would help to explain the overlap in stylistic traditions (such as the Clovis, Suwannee, Simpson, and Dalton) observed in South Carolina which

perhaps resulted from populations expanding outwards from these centers.

Since archaeologists know so little about Paleoindian sites, there are a vast number of research questions that need to be addressed. However, at this early stage of knowledge, the primary goal should simply be the identification of Paleoindian sites. Michie (1977) found that Paleoindian sites were more common on the Fall Line and in the Coastal Plain. He noted that "[i]n the majority of cases the Clovis has been found near the intersection of creeks and river valleys, especially on the highest portion of land near those intersections" (Michie 1977:90). He also found that each point was found as a single occurrence and usually the site had low artifact density or was multicomponent with Early Archaic points and tools. Subsequently, Tommy Charles of the South Carolina Institute of Archaeology and Anthropology began a survey of private collections and witnessed some differences from Michie's work. For instance, he found that more specimens manufactured from Piedmont metavolcanic materials than Coastal Plain chert and suggested that there was little difference in density of Paleoindian sites between the Piedmont and the Coastal Plain. Although he examined only two specimens from Greenville County, it is likely that they are representative of the materials that the Paleoindians used. These specimens were manufacture from quartz or "Ridge and Valley" chert. Mr. Sawyer's specimen was manufactured from metavolcanic argyllite, adding to the range of lithic materials known to have been used.

Given this previous research, areas with a higher likelihood of Paleoindian occupation can be identified. For instance, the confluence of the Saluda River and Cooper's Creek or the Reedy River and Laurel Creek fits the description offered by Michie (1977) and Charles (1986). Once these sites have been located, a settlement model for this portion of the state should be made with possible refinements to region models proposed by others (e.g. Anderson 1992; O'Steen et al. 1986). In addition, they should be evaluated for their potential to address research once their condition has been determined. These research questions may be very simplistic since occupation density is believed to have been so low. While ambitious, important questions regarding Paleoindians include:

- What made up the diet of Paleoindians?
- ✤ What types of structures did they build?
- What was their travel range and what resources affected that range?
- Did Paleoindians take advantage of water resources like fish?
- How many people made up a Paleoindian band?

Archaic Period

The Archaic period, which dates from 8000 to as late as 500 B.C. in the Piedmont, does not form a sharp break with the Paleoindian period, but is a slow transition characterized by a modern climate and an increase in the diversity of material culture. Archaic period assemblages, characterized by corner-notched, side-notched, and broad stemmed projectile points, are common in the vicinity, although they rarely are found in good, well-preserved contexts (for a thorough discussion of the Early Archaic, see Anderson et al. 1992, while Anderson and Joseph 1988 offer a review of prehistoric archaeology along the upper Savannah River).

Prehistoric sites in the Piedmont inter-riverine zones are for the most part characterized as "upland



Figure 2. Archaic lithics. A. Palmer Corner-Notched; B, LeCroy; C, Stanly; D, Morrow Mountain ; E. Guilford; F, Savannah River Stemmed; G, fragment of an atlatl weight.

lithic scatters" (House and Wogaman 1978:xii). These sites are shallow deposits without stratigraphic definition, contain a diversity of artifacts, and are commonly disturbed by plowing and/or erosion (Canouts and Goodyear 1985; Trinkley and Caballero 1983:27).

Early Archaic

During the Laurens-Anderson study (Goodyear et al. 1979), four sites with Early Archaic components were identified. Each of these sites contained a single example of Dalton² points or probable Dalton preforms made of indigenous Piedmont quartz. The following Palmer phase was found to be very common in the area and was represented by 28 sites. While most of the specimens were manufactured from the local quartz, some were manufactured from Coastal Plain chert from the Flint River formation located in the lower coastal plain of South Carolina and Georgia. There were also examples of metavolcanic rhyolite from the Carolina Slate Belt and what may be "Ridge and Valley chert" from eastern Tennessee.

At these sites a wide range of tool types were identified including a large number of unifacial and

²Some researchers (see, for instance, Anderson 1992) classify Dalton as Paleoindian while others (Goodyear et al. 1989) classify it as Archaic.

flake tools believed to be associated with the Early Archaic occupation. Goodyear et al. (1979:197) found that while Early Archaic sites with unifaces were found throughout the corridor, sites on ridgetops which were large watershed divides produced higher counts. They believe that the large number of sites producing Palmer points is related to environmental changes at that time. The large diversity in lithic raw material provided information regarding their "mobility patterns and regions of interactions" (Goodyear et al. 1979:198).

Anderson and Hanson's (1988) band/macroband model of Early Archaic settlement was formulated primarily to evaluate data from the Savannah River basin. In the Savannah River Valley, settlement organization of the Early Archaic people was "characterized by the use of a logistically provisioned seasonal base camp or camps during the winter, and a series of short-term foraging camps throughout the remainder of the year" (Anderson 1992:36). During the early spring, the groups are believed to have moved toward the coast, then back into the upper coastal plain and piedmont during the later spring, summer, and early fall. During the winter they returned to their base camp incorporating some side trips to other drainages for aggregation events by groups from two or more different drainages. These aggregation sites are believed to have been located on Fall Line river terraces (Anderson 1989a:36). One example of a postulated base camp is the G.S. Lewis site at the Savannah River Site. This site is located on a ridge adjacent to the confluence of Upper Three Runs Creek and the Savannah River. Given this scenario for the Savannah River basin (which likely applies to other river basins), Early Archaic sites in the Greenville area were likely occupied from summer until fall and don't include aggregation sites. Anderson and Hanson (1988) place the Greenville area in the Saluda/Broad macroband settlement system. At the band level, they proposed "co-residential population aggregates" consisting of 50 to 150 people which occupied and moved primarily within one drainage basin. They projected that individual macroband population was between 500 and 1500 people. They also formulated a spatial model for the distribution of individual bands over the South Atlantic Slope.

Anderson (1989b) notes that data from the Savannah River Site and the Richard B. Russell Reservoir "suggest that a decline in utilization of the Coastal Plain may have occurred at the same time as an increase in utilization of the Piedmont [and] may be a part of a trend noted in the terminal Early Archaic in the general region. Settlement patterning in any given area was thus likely shaped by a range of variables, such as local resource structure, as well as by more regional trends in climate, population density, and these patterns apparently changed appreciably over time" (Anderson 1992:39). Data from the Laurens-Anderson study and the Savannah River project suggests that inter-riverine sites will be found on hills between watershed divides and riverine sites will be located on knolls adjacent to a major confluence.

Like the Paleoindian period, evidence of Early Archaic people usually consists of lithic debitage and finished stone tools. Evidence of other aspects of their lives may be difficult, if not impossible to find. Nonetheless, there are important research questions that need to be addressed, if sites can be found to answer those questions. Future research into the Early Archaic should include the following questions:

- During what season(s) were Early Archaic sites occupied in Greenville County and how do they fit into Anderson and Hanson's (1988) band/macroband model?
- How did Early Archaic people use the riverine and inter-riverine zones?
- What was their diet?
- ✤ What types of shelters did Early Archaic people build?

- How far did they travel to get the things they needed to survive and did they revisit these places as a part of their yearly rounds?
- ✤ What types of tools did Early Archaic people use?

Middle Archaic

Morrow Mountain and Guilford points constituted the primary evidence for Middle Archaic (5000 to 3000 B.C.) occupation in the Laurens-Anderson corridor (Goodyear et al. 1979). Morrow Mountain constituted the vast bulk of these projectile points and were present in both the I and II varieties.³ Over 95% of the 145 points were manufactured from the local quartz, which parallels other findings in Piedmont South Carolina. Guilford was not nearly as prominent and consisted of 35 finished specimens or preforms, all of which were manufactured from quartz.⁴ 2 illustrates examples of typical Archaic Period artifacts.

The Middle Archaic period was found to consist of the largest number of sites. In terms of geographic distribution, Goodyear et al. (1979) found that the Morrow Mountain phase was much like the Palmer phase, with sites occurring on ridges between watersheds. However, the almost complete reliance on local quartz separates the Morrow Mountain and Guilford phase sharply from the earlier Palmer phase. They suggest that "[t]he large number of Middle Archaic sites well dispersed through the inter-riverine areas and the abundant nature of chipped quartz remains on these sites suggest frequent movement and activity throughout the Piedmont of South Carolina" (Goodyear et al. 1979:207). Data from early reservoir projects (cf. Wauchope 1966) as well as inter-riverine observations by Caldwell (1954; 1958) and Coe (1952) made it clear that there were sharp contrasts between riverine and inter-riverine sites in terms of artifact diversity and density, and in the use of shellfish (Sassaman and Anderson 1994:134). With the advent of cultural resource management in the 1970s, additional data was available and further emphasized these differences. All of this data indicated that the largest and densest sites were located along large rivers, and that small, sparse sites were found throughout the uplands. While these differences were clear, what remained unclear was the relationship between riverine and inter-riverine sites in a settlement-subsistence system, and how, if at all, this system changed over time (Sassaman and Anderson 1994:135).

House and Ballenger studied this issue during their survey work on the proposed Interstate 77 project in 1976. They classified riverine zones of containing only the largest rivers while inter-riverine zones consisted of smaller rivers and streams. House and Ballenger (1976) argued that streams with a ranking of 3 or higher⁵ contained resources that were not abundant in the uplands (fish, turtle, raccoon, etc.), whereas

³ Coe (1964) describes Morrow Mountain I as a small triangular blade with a short pointed stem, while the Morrow Mountain II is described as a long narrow blade with a long tapered stem. While he describes them as different types, he notes that many people have chosen not distinguish between the two.

⁴ Preforms represent an intermediate stage between flakes from secondary cores and quarry blades. Some are worked bifacially, although most are unifacial and still retain the platform and bulb of percussion. Quarry blades are usually bifacially worked and are made to allow easy transportation of lithic materials until the time it is needed to be made into a projectile point. Some researchers have used the terms preform and quarry blade interchangeably, meaning the bifacially worked ovate blade.

⁵ According to the system, based on Strahler (1957) 1st order streams are the fingertip tributaries at the head of a stream and may either be year-round or seasonally flowing streams. A 2nd order stream is formed by the confluence of two 1st order streams. A 3rd order stream is formed by the confluence of two 2nd order streams, etc. This system requires that at least two streams of a given order be joined to form a stream of the next highest order. The main stem of a river

smaller streams had a higher density of deer and nut masts. The resulting archaeological assemblages from these distinct areas should, themselves, be distinct (House and Ballenger 1976; Sassaman and Anderson 1994). They divided their sites into habitation and extraction sites⁶ using a lithic tool classification scheme that would allow functional sorting of the two site types. From the information gathered using this analysis, coupled with data on the seasonal availability of resources, they created a Middle and Late Archaic settlement model:

involving spring and summer residence along major rivers; a move to seasonal base camps in upland creek valleys in September to take advantage of deer concentration in upland hardwood zones, with some exploitation of other resources as well; and then a return to riverine-located winter quarters with permanent houses in about December when the coldest months arrived, the deer rutting season came to an end, and the acorn mast in the hardwood forests began to be exhausted (House and Ballenger 1976:117).

The Windy Ridge site (House and Wogaman 1978), while fitting the expected upland site profile as proposed by House and Ballenger (1976), may have been used as a habitation site during the Middle Archaic. Other projects also complicated the model. Work in the Richard B. Russell Reservoir (Anderson and Schuldenrein 1988; Tippett and Marquardt 1984) examined a number of sites with Morrow Mountain components. Interestingly, none of these riverine sites produced denser or more diverse remains than did inter-riverine sites. This suggested that Middle Archaic people were not using the riverine and inter-riverine areas much differently in this part of the state (Sassaman and Anderson 1994:137).

Sassaman (1983) attempted to more closely examine Middle and Late Archaic settlement patterns by examining sites from a number of piedmont studies. He found that Middle Archaic settlement in the South Carolina Piedmont did not fit the riverine-inter-riverine model. This suggested that Middle Archaic people were much more mobile, perhaps moving residences every few weeks which fit Binford's (1980) definition of a foraging society. Binford (1980) proposed that foragers had high levels of residential mobility, moving camps often to take advantage of dispersed, but similar resource patches. Collectors stayed in one location longer, by sending out specialized work parties to exploit resources in widely dispersed and distinct resource patches. He believed that differences in environmental structure could be traced to large scale climactic factors. He further noted that a collector system could arise under any conditions that limited the ability of hunter-gatherers to relocate residences. During his work in the Haw River area of North Carolina, Cable (1982) argued that postglacial warming at the end of the Pleistocene led to increased vegetational homogeneity which encouraged foraging.⁷

Sassaman (1983) suggests that this indicates a large degree of homogeneity of the piedmont environments. They also had a high degree of social flexibility, allowing them to pick up and move when needed. This high level of mobility did not allow them to transport much material, which in turn, alleviated

will always have the highest order.

⁶ An extraction site is an area where resources (such as fish, lithic raw material, etc.) were obtained and is often represented by lithic debitage and perhaps small camp sites. A habitation site is a seasonal or temporary camp where these resources were usually consumed, used, or worked.

⁷ Since the vegetation was homogeneous and there were no concentrations of resources people moved from place to place foraging rather than settling near or in these resource concentrations.

the need for elaborate or specialized tools to procure and process resources at locations distant from camp. Since quartz is practically everywhere in the piedmont, tools could be easily replaced and were expedient. The high mobility and the expediency of tools helps to explain the abundance of Middle Archaic sites in the piedmont without having to imply a population explosion. Sassaman called this model the "Adaptive Flexibility" model (Sassaman 1983; Sassaman and Anderson 1994).

Future research on Middle Archaic sites in Greenville County should attempt to address the following questions:

- Do Greenville County's Middle Archaic sites fit into Sassaman's "Adaptive Flexibility" model?
- Is there evidence for seasonal use of the piedmont landscape as Anderson and Hanson (1988) suggest for the Early Archaic?
- If Middle Archaic people were more mobile than Early or Late Archaic people, did this affect their diet?
- If Middle Archaic people were more mobile than Early or Late Archaic people, was their architecture more expedient?
- What is the range in lithic raw material quality? Since they appear to have been using only local materials, did they at least take the time to locate the better quality outcrops?
- Are there any meaningful differences between Morrow Mountain I and II projectile point types?

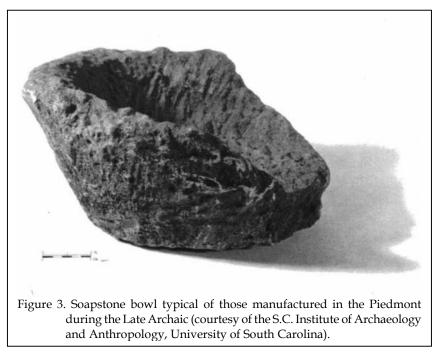
Late Archaic

Savannah River Stemmed and Otarre⁸ stemmed points are the primary indicators of Late Archaic settlement in the Laurens-Anderson study area. Ten Savannah River phase sites and seven Otarre phase sites were identified. Quartz tools, which were found in overwhelming abundance at earlier sites, consisted only of about 57% of the Savannah River assemblage. Other materials included "silicates, volcanic slate/argillite, and unknown igneous/metamorphic" (Goodyear et al. 1979:207). The Otarre assemblage reflected a trend away from igneous/metamorphic rock, with a concentration of quartz and siliceous materials. The incorporation of more types of lithic raw material as well as the fact that Late Archaic diagnostics are much fewer than Middle Archaic diagnostic artifacts indicates a sharp decrease in residential mobility.

Many of these Late Archaic sites produced fire cracked rock which was found on major ridges between watersheds. Goodyear et al. (1979:209-210) found that the inter-riverine picture of the Late Archaic contrasted quite sharply with river sites. Artifacts at riverine sites were diverse and included steatite vessels and netsinkers⁹, ground stone axes, rock mortars and handstones, atlatl weights, and chipped stone drills. In

⁸ According to Oliver (1981) the Otarre type is contemporaneous with the Savannah River stemmed type and fall within the category of "Small Savannah River Stemmed".

⁹ Sassaman (1991:87-88) states that "perforated and grooved objects are common items in Late Archaic assemblages of the Savannah River Valley. Both the grooved and perforated varieties have been referred to as



the upland sites, the assemblage consists almost entirely of chipped stone bifaces and debitage. Purrington (1983) also noted this trend for the mountain region of North Carolina. At the Savannah River Plant, both riverine and upland sites contained a full range of tools, but no architectural features have been located.

Soapstone became an important lithic resource in the Late Archaic period for manufacturing of cooking vessels, and a number of soapstone quarries have been identified in Spartanburg and Cherokee counties (Ferguson 1976). Unfortunately, little is

known about patterns in local soapstone use, although Elliott (1981) argues that soapstone exchange in the upcountry was facilitated by local reciprocal relationships. Soapstone was also probably used as a mechanism to maintain long distance relationships through long distance trade. Sassaman et al. state that:

[c]ompared to sites in the upper and lower reaches of the Coastal Plain, a higher proportion of sites in the middle portion of the plain contain soapstone artifacts. This may indicate that soapstone distributions were not merely the result of distance-decay from sources, but were much more dependent on the social composition of exchange alliances (Sassaman et al. 1988:90).

For the Late Archaic, John White (1982) also applied a riverine/inter-riverine dichotomy. He demonstrated that riverine sites were much more dense and diverse than inter-riverine sites, but also identified the existence of diverse and sometimes dense assemblages at upland sites. He argued that they were habitation camps during periods of seasonal dispersal from riverine aggregation bases.

Although Steven Savage (1989) has proposed a "Late Archaic Landscape" model, a number of researchers (i.e. Anderson 1989a; Cable 1994; and Rafferty 1992) have noted that his study was seriously flawed by the "misappropriation of data from the Richard B. Russell survey" (Sassaman and Anderson 1994:142). The purpose of the work was to attempt to apply the locational methods of GIS to the analysis of Late Archaic social systems in the Upper Savannah River Valley. However, he only chose to use early intensive survey data and ignored subsequent data from testing and excavation. In addition, he chose to ignore problems such as multicomponentcy and representativeness (Cable 1994). Although it was considered a noteworthy study since it was the first to use Geographic Information Systems (GIS) for the analysis of settlement distribution, "the errors detract from the potential value of Savage's approach" (Sassaman and

[&]quot;netsinkers", but the more common perforated slave was apparently used as a cooking stone."

Anderson 1994:142).

It is the Late Archaic period sites that contain the earliest prehistoric burials. While earlier burials existed, apparently skeletal remains have decayed beyond recognition. Beginning with this period, we can begin to address questions relating to health and disease as well as status. Research questions relating to the Late Archaic might include:

- How did Late Archaic people differently use the riverine and inter-riverine zones?
- What types of houses did they build?
- What did their diet consist of, based on faunal and floral remains as well as chemical analysis of skeletal material?
- From what types of diseases did Late Archaic people suffer?
- What were their burial practices?
- Was the social stratification within Late Archaic period groups based on evidence burial goods?
- What types of tools did Late Archaic people have?

Woodland Period

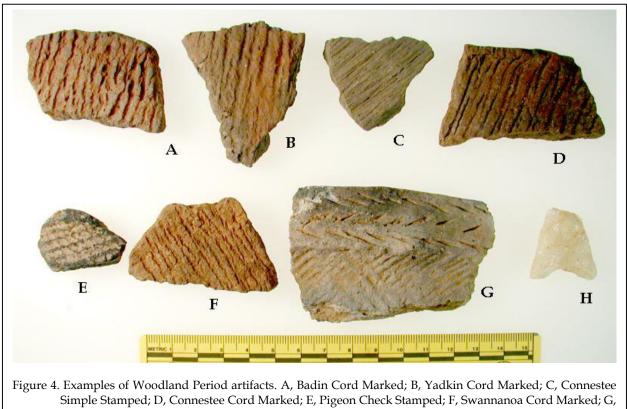
The Woodland period begins, by definition, with the introduction of fired clay pottery about 2000 B.C. along the South Carolina coast and much later in the Carolina Piedmont, about 500 B.C. Regardless, the period from 2000 to 500 B.C. was a period of tremendous change.

The subsistence economy during this period was based primarily on deer hunting and fishing, with supplemental inclusions of small mammals, birds, reptiles, and shellfish. Various calculations of the probable yield of deer, fish, and other food sources identified from some coastal sites indicate that sedentary life was not only possible, but probable. Further inland it seems likely that many Native American groups continued the previous established patterns of band mobility. These frequent moves would allow the groups to take advantage of various seasonal resources, such as shad and sturgeon in the spring, nut masts in the fall, and turkeys during the winter.

Early Woodland

Brooks and Hanson (1987) noted significant changes in the density and distribution of upland tributary sites during the Woodland period in the Steel Creek area of the Savannah River Plant. Brooks proposed that as tributary associated habitats became more productive with floodplain maturation that upland tributary terraces became areas of more permanent occupation. For the Savannah River area, the data suggested to Brooks that annual settlement ranges in the Early Woodland period were restricted to tributary watersheds (Sassaman et al. 1990:315).

Artifacts typical of the Early Woodland in Greenville County consist of Dunlap and Swannanoa ceramics (similar to the Kellogg focus of Northern Georgia). The Dunlap series is characterized by a medium



Pisgah rim; H, triangular projectile point.

to coarse sand paste, fabric impressions, and vessels with a simple jar or cup form. The Swannanoa ceramics, with heavy crushed quartz temper, are cord marked or fabric impressed conoidal jars and simple bowls. Other surface treatments consist of simple stamping, check stamping, and smoothed plain (Keel 1976:230).

Early Woodland projectile point types consist of Savannah River Stemmed (and its variants) and Swannanoa Stemmed.

Land use during the Early Woodland period in the Greenville County area suggests extensive use of the inter-riverine zone. Two sites (one in Greenville County and one in Laurens County) contained dense remains and were located on the south face of a slope adjacent to springs. Goodyear et al. (1979:230) suggest that these sites "reflect a fall-winter occupation period with subsistence activities primarily related to nut gathering and deer hunting. If these two sites in fact represent fall-winter base camps it would represent a strong break with previous Archaic systems and their settlement strategies for exploiting inter-riverine biotic resources". Based on these previous studies, Early Woodland sites are most likely to be found adjacent to springs or the upland terraces of tributaries.

Research questions regarding the Early Woodland could include:

- Do the few studies in the Greenville County area accurately reflect the preferred location of Early Woodland settlement?
- What types of food did they eat and does it reflect the perceived movement at this time away

from exploiting inter-riverine biotic resources?

- What types of houses did they live in?
- During what season(s) were these sites occupied?
- How did they bury their dead?
- Is there evidence for social stratification reflected in the burials?
- Is there any evidence of significant change from the Late Archaic to the Early Woodland? Did the advent of pottery really change lifeways that much?
- What types of diseases did Early Woodland people suffer from?
- What types of tools did Early Woodland people have?
- How were villages spatially organized and is there evidence for specialized work areas?

Middle Woodland

The Middle Woodland period is found "virtually lacking" in the Laurens-Anderson inter-riverine zone. One densely occupied site in adjacent Laurens County was found in an unusually large floodplain of a rank 2 stream. Goodyear et al. state that:

[g]iven the habitation like character of this site, plus the large number of simple stamped bearing floodplain sites along larger streams such as the Reedy River, it is tempting to see agriculture playing a role in the apparent re-orientation to flood-plain environments during the middle Woodland period in the Piedmont environment. In this regard, the middle Woodland period sites and their locations would seem to presage the late prehistoric Mississippian period pattern during the latter, where large agriculturally related villages were constructed along fertile stretches of floodplain (Goodyear et al. 1979:230-231).

This new pattern is also reflected in the Savannah River Valley where Savannah terrace sites at the mouth of Upper Three Runs Creek were being occupied again for intensive settlement. Midden accumulations at several sites indicate long term occupation or repeated occupations of these sites by relatively large groups (Sassaman et al. 1990:315).

Pottery typical of the Middle Woodland in the Greenville County area consists of the Pigeon and Cartersville series. Pigeon is quartz tempered with surface treatments of check stamping, simple stamping, and brushing. The Cartersville type is characterized by sand or grit paste with the primary surface treatment being cordmarking, although there are also check stamped and simple stamped varieties. The Cartersville series is thought to be closely related to the Deptford series on the Coast. Anderson and Schuldenrein (1985:720) suggest that Cartersville continues well into the Late Woodland period. Projectile points typically found in association with these pottery are the Pigeon Side Notched and Corner Notched types.

Testing at 38LU107 (Wood and Gresham 1981) demonstrated that one of the most intensive occupations of this multicomponent site was during the Middle Woodland period. This site is located on a

knoll adjacent to South Rabon Creek, near its confluence with North Rabon Creek. A number of features were encountered including a large, deep pit, post holes, and a stone hearth. This indicated that even sites on plowed knolls can and do produce subsurface features.

Since the Middle Woodland period reflects a new pattern of settlement, questions regarding how quickly this change occurred and how the transition to horticulture affected their material culture should be examined. Clearly, this change did not occur over night and perhaps examination of radiocarbon dates from upland and riverine sites during this transition period will begin to clarify questions regarding change in lifeways.

Other questions regarding the Middle Woodland period should include:

- Since there is a change in lifestyle and foodways due to the move to horticulture, are there any new disease patterns that appear?
- What types of houses did Middle Woodland people live in?
- How were villages spatially organized and is there evidence for specialized work areas?
- Is there evidence for social stratification in the burial remains?
- What types of foods did Middle Woodland people eat?
- What types of tools did they use?

Late Woodland

Small triangular points which are generally believed to be diagnostic of the Late Woodland and Mississippian periods consisted of 12 examples in the Laurens-Anderson study. Ten of these were manufactured from quartz while the other two where manufactured from either rhyolite or a Piedmont silicate. These projectile points were typed as "Mississippian triangulars" and included what they believed were Uwharrie or Pee Dee Triangular types and the Hamilton Incurvate Triangular type. Napier and Connestee Series pottery are typical Late Woodland types for the Greenville County region. The Napier series is a fine sand tempered ware with fine complicated stamped designs. The Connestee series is a thin walled sand tempered ware with brushed or simple stamped surface decorations. There are also cordmarked, check stamped, fabric impressed, and plain varieties (Trinkley 1990).

According to Sassaman et al. (1990:317) Late Woodland occupations in the Savannah River Valley consisted of small habitation sites along all available terrace locations of both tributaries and the Savannah River. This increasing use of low-lying terraces suggests the increased exploitation of floodplain habitats, perhaps including maize agriculture, although no direct evidence has yet been found at the Savannah River Site. Areas of higher probability for Middle and Late Woodland sites are likely located on floodplains and terraces or knolls adjacent to confluences.

Keel (1976) reported on the Garden Creek Mound No. 3 which contained a dominant Connestee component based on George Heye's 1915 examination of the mound. Later work at Garden Creek Mound No. 2 examined a portion of a village with a large quantity of Connestee remains. A number of post holes were exposed revealing one discernable square house with rounded corners measuring about 19 by 19 feet in

outline. In addition, there were a number refuse pits and hearths. The hearths included both rock filled and surface hearths. There were also a number of burial pits (see Keel 1976:99, Figure 15). It is likely that Connestee sites in Greenville County will contain similar features.

Research questions relating to the Late Woodland could involve how these people used the uplands and what the location of these floodplain sites says about social organization. It is possible that the Late Woodland Indians were very similar to the Mississippian Indians and the historic Cherokee in the sense that towns, particularly within the same drainage, saw themselves as part of a larger community. During the Archaic and Early Woodland periods, people may have been more socially associated with settlements between large drainages which may have switched to drainage-based relationships as people began settling on river and creek terraces.

Other research questions should include:

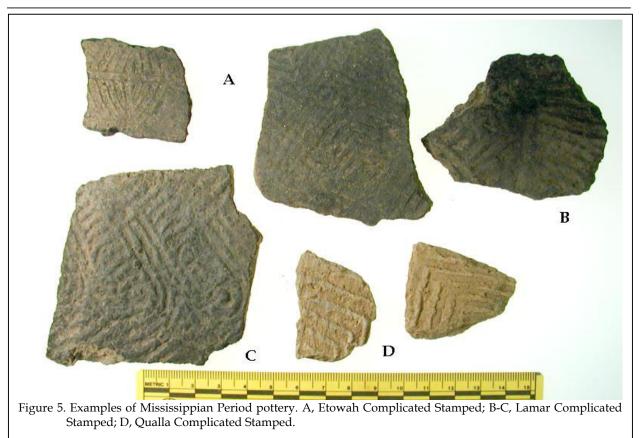
- How were settlements spatially organized and is there evidence for spatial activity areas?
- What did Late Woodland houses look like?
- What types of food did they eat?
- What types of crops did they plant?
- From what kinds of diseases did they suffer?
- Is there evidence for status differences in the burial remains?
- How did Late Woodland Indians use the upland areas?

Mississippian Period

The South Appalachian Mississippian period, from about A.D. 1100 to A.D. 1640 is the most elaborate level of culture attained by the native inhabitants and is followed by cultural disintegration brought about largely by European disease.¹⁰ The period is characterized by complicated stamped pottery, complex social organization, agriculture, and the construction of temple mounds and ceremonial centers.

In the Greenville County area, Mississippian pottery includes the Pisgah and Qualla series. Pisgah ceramics are tempered with unmodified river sand, although some earlier examples contain both river sand and crushed quartz. It is decorated with complicated stamping, check stamping and ladder-like rectilinear patterns (Dickens 1970; Holden 1966). It should be noted that the Qualla series extends well into the historic period (ca.1500-1908) and is characterized by complicated stamping and bold incising. Other types described by Egloff (1967) include burnished, plain, check stamped, cord marked, and corncob impressed. At Tuckasegee brushed examples were also identified (Keel 1976). Other artifacts associated with the Mississippian period include triangular projectile points, flake scrapers, microtools, gravers, perforators, drill, ground stone objects (celts, pipes, and discoidals), and worked shell and mica (Keel 1976).

¹⁰ Small pox was a major cause of death to a large number of Native Americans during the historic period. The smallpox epidemics of 1734 and 1783 reportedly killed half of the Cherokee population (Hatley 1993).



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Very little evidence of Mississippian period occupation was found in the Laurens-Anderson interriverine survey area which is not surprising given the focus on riverine resources during this time period. Very little evidence of Mississippian occupation has been documented at the Savannah River Plant and no formal settlement-subsistence model has been created for this area (Sassaman et al. 1990:317). However, Anderson (1994) has provided a detailed examination of evidence for political change at Mississippian sites in the Savannah River Valley and should be consulted for more information.

Excavations at large Mississippian sites in the Upper Piedmont include work at the I.C. Few site which was examined as a part of the Keowee-Toxaway Reservoir project sponsored by Duke Power Company (Grange 1972). Simpson's Field (38AN8) on the Savannah River was also investigated during the Richard B. Russell Reservoir studies (Wood et al. 1986). Work at the Chauga site (38OC47) in nearby Oconee County evidenced occupation in the Early and Late Mississippian period. Ten stages of mound building were found at the site along with burials and palisades. There is evidence for increasing impoverishment of the residents through time, since burials associated with the latest phases of mound building contained fewer grave goods than earlier phases in both the occupation during the Early Mississippian and the Late Mississippian (Anderson 1994:303-305). Homes Hogue Wilson (1986) examined burials from the Warren Wilson site in western North Carolina and provided some preliminary conclusions regarding social structure based on location of burials according to age and sex. For instance, she found more males than females were buried under structure floors. These males included primarily those under 25 or over 35 years old. She also found that individuals buried inside of structures were more likely to have burial goods than those buried in public areas. Burial feature types included pit burials, side-chambered burials, and central-chambered burials.

Studies such as this can give great insight into the social organization of prehistoric societies.

A number of mounds have been documented in Greenville County. Laura M. Bragg (1918) reported on a mound at "Caldwell Plantation" measuring about 40 feet in diameter and five feet in height. The mound was trenched through the center, finding evidence of hearths at the apex, beneath of which was human remains, sassafras wood, soapstone and slate pipes, and a polished celt. A second mound, located off of Buncombe Road between Greenville, South Carolina and Hendersonville, North Carolina was also examined. The mound was 100 feet in diameter and about 15 feet high. In addition to Indian artifacts, several slave burials were inadvertently disturbed. The investigators excavated a 15 foot square through the apex of the mound and then "a passage out to the east side". These excavations found evidence of six construction layers. J. Walter Fewkes also made collections from mounds in the Greenville area although nothing is known about their context (UGA 1969).

A.S. Rowell (Rowell n.d.) reported a cave site to Laura Bragg which may have been occupied by Indians familiar with agriculture. The site was about 14 miles from Piedmont, South Carolina on the banks of the Reedy River. The cave was about two feet high and five feet deep with a small level area in front of it. On one side of the opening was a "square block which a mortar for grinding corn had been worked out" (Rowell n.d.).¹¹

The largest amount of regional work has taken place in the North Carolina mountains at sites such as Tuckasegee, Garden Creek, and Warren Wilson. At Tuckasegee a possible town house was uncovered measuring about 23 feet in diameter with a central hearth (Keel 1976). At Warren Wilson several roughly square structures were uncovered and they all measured on the average about 21 feet square. Burials were common inside of these houses and pit features were abundant. Artifacts at the Warren Wilson site included ceramics from the Swannanoa series up through the Pisgah series. (Dickens 1970).

Most of the Mississippian research in South Carolina has focused on ceremonial mound centers, with very little research on moundless or hamlet sites. Research thus far, however, indicates that Mississippian sites are found along major drainages in locations favorably disposed to both agriculture and the exploitation of riverine resources (Ferguson 1971). Other models (e.g., Ward 1965, Steponaitis 1983, and Anderson 1990) emphasize a "linkage of Mississippian sites with easily tilled, highly fertile floodplain soils, and factors influencing the spacing of centers and subsidiary sites across the region" (Anderson 1989b:114) Research in Greenville County should not only identify and examine any ceremonial mound centers, but also the relationship of moundless settlements and hamlets. Research questions could include the following:

- How did mound centers and hamlet villages interact?
- What types of crops were they growing?
- Do burials reflect status differences?
- How are structures within hamlet sites spatially organized?
- What did these structures look like?

¹¹ This "square block" also may have been used for processing nuts -- or it could have been natural.

- From what types of diseases did Mississippian people suffer?
- How did Mississippian Indians use the upland areas?

Historic Period

For the historic period, the data is much richer. This is not because more historical archaeology has been done in Greenville County, but because of the historic documents available that provide details that would otherwise be unavailable at present. While some may ask "If we have historic documents, then why do we need to do historical archaeology?", this is an easy question to answer. Much of the history has been written by the elite, literate, and white citizens who have their own personal concerns and points of view, and tended to overlook people such as black slaves, and poor or common whites. As a result, there is little that we know about their lives and it is at this level that historical archaeology becomes important. These people were the ones that made Greenville County prosperous; they were the farmers, the blacksmiths, the tailors, the mill workers, and the miners. This does not mean to suggest that the study of the "elite" is unimportant because it is necessary to understand how they articulated with the "common" people, but there were more of the common than the elite and there is so little known about this "silent majority".

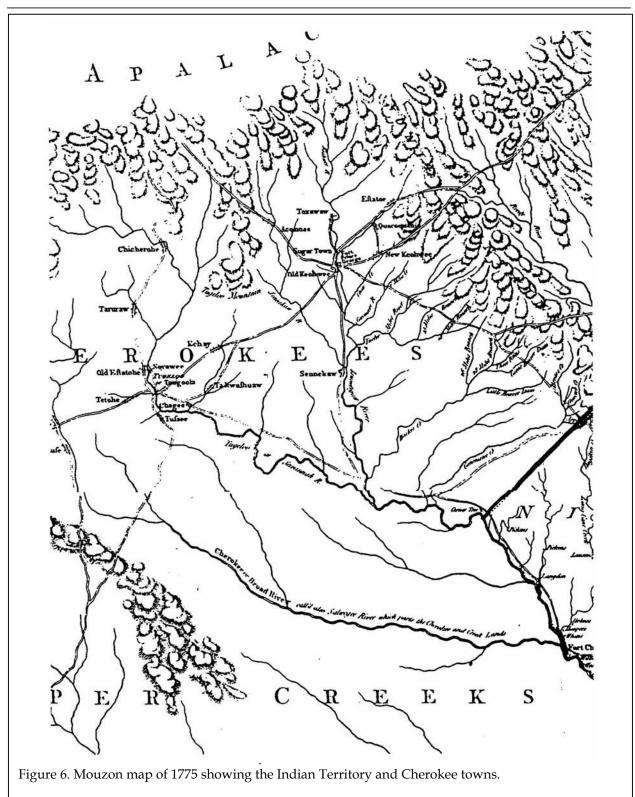
For the historic Cherokee, we know little about how the presence of Euro- and African-American culture impacted their lives. We do know that many Indians died of smallpox and other European diseases and that the remaining ones were eventually removed from South Carolina. However, we don't know a lot about how foreign influence impacted their foodways, their architecture, the organization of settlement, or their values. In short, we do not know what it was like to be a Cherokee Indian on the Carolina frontier.

Historic Indians

Fogelson and Kutsche (1961:88-89) describe the lands of the Lower Cherokee as "comparatively flat lands on the banks of the Tugaloo and Keowee Rivers and their branches in what is now northwestern South Carolina" (Figure 6). Because of the advancement of the white frontier, there was a great deal of intertribal strife and boundary rearrangements precipitated by the dislocation of tribes east of the Cherokee. With direct contact with the white pioneers war ensued and a number of Cherokee villages were destroyed. Both war and disease reduced the population dramatically.

Swanton (1952) lists a number of Lower Cherokee towns in the upstate in Oconee and Pickens counties and recently, Sheriff (1991) and her elementary school students compiled data from various accounts and maps providing composite descriptions of various Lower Cherokee towns in South Carolina. Mooney (1928) estimates that the total Cherokee population was about 22,000 in 1650. He states that in 1715 the Lower Cherokee had a population of about 2,100, although Swanton (1952:223) believes that this estimate is too low. In 1755, estimates for North Carolina gave five divisions of the tribe with a total of 2,590 people. They were forced further west, removing them from the area by 1838 although a few remained in the mountains as refugees until 1842. The Qualla Reservation in western North Carolina was set up for them at this time where a number continue to remain. A 1930s estimate placed the North Carolina population at 1,963 (Swanton 1952:223).

Historically, the Lower Cherokee used the western Piedmont of South Carolina as a hunting territory. The eastern limits of this hunting territory were defined by the presence of the Catawba Indians. According to Logan (1859) there was a common hunting ground between the Lower Cherokee and the Catawba Indians which encompassed the districts of Richland, Fairfield, Chester, and York. Hatley (1993) states that the



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Cherokee hunting grounds had been modified by years of purposeful intervention and some of the most productive hunting areas were the old fields and planting lands. "These patches -- soil licks, sand ridges, canebrakes, and old fields, maintained in a sere of young growth by light burning -- provided a habitat where deer could predictably be found" (Hatley 1993:212).

Goodyear et al. (1979) suggest that a translucent "Ridge and Valley"-like chert is the result of late prehistoric and/or Cherokee activities.¹² In looking for an archaeological correlation, they found that these translucent "Ridge and Valley"-like cherts are mainly restricted to piedmont counties west of the Broad River. No archaeological work has been conducted in Greenville County associated with a Lower Cherokee village and it is likely that a major village does not exist since they are believed to be primarily located in Oconee and Pickens counties. However, there are likely to be a number of camps and/or hamlets that were continually revisited during hunting forays in the land dividing the Catawba and the Cherokee. In fact, several land grants for eighteenth century Greenville County give enigmatic references to Indian settlements. In several instances, late eighteenth century surveyors reference *Wattacoo's* (also *Wattacoo, Waterco, Wattacoe*) camp site on their surveys. For example, surveyor Joseph Whitner laid out property for himself in 1785 that was located "one mile below Wattacoo's place". There are references to other possible historic Indian settlements including "Uceties camp" as well as "Oyl Camp Creek" (Breedlove and McCuen 1993:35-36) (Figures 7 and 8).

BIJI Statiof South Carolina go District Mante for a war by John Thomas la The North at unto John Walla Containing Os any Vite no being Abour the ance FORK d on the north vice of this work fach of Caluse, In on the South by the sime all other sides Press 2 Survey by me the 24 0 the ine to inc - Su No. 18 stat. die A 71.060131 Figure 7. 1784 Seaborn plat showing a reference to "Wattaco's place" (Greenville County RMS, Commissioner of Locations, Vol. B, p. 131).

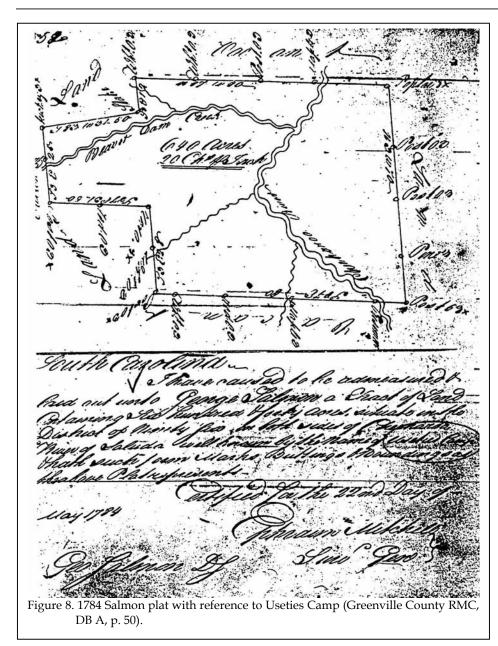
The settlement pattern for the village sites and individual house sites was at the base of hills adjacent to tillable land and sources of fresh water. If arable land was abundant, houses would sometimes be clustered in the middle of fields (Fogelson and Kutsche 1961:90). The seasonal planting cycle seems to have strongly affected the rhythm of eighteenth century Cherokee life. Small hunting parties went out from late October to the early spring, with shorter hunting trips

during the summer (Gearing 1958:1150). Often, these summer hunting forays took place only after the corn was planted and before it was ready to be harvested (Fogelson and Kutsche 1961). This may have had an impact on the season of use of Greenville County Cherokee camps or hamlets.

Bartram describes their pattern of settlement:

An Indian town is generally so situated, as to be convenient for procuring game, secure from sudden invasion, having a large district of excellent arable land adjoining, or in its vicinity, if possible on an isthmus betwixt two waters, or where the doubling of a river forms a peninsula. . . . At other times however they choose such a convenient fertile spot at some distance from their town, when circumstances will not admit of having both together (Bartram 1928 [1791]:400-401).

¹² Goodyear et al. (1979) provide no firm statement as to whether or not the chert is indeed Ridge and Valley.



Artifacts associated with the historic Cherokee include the previously discussed Qualla ceramic type. It should be noted that Egloff (1967:68-75)argues that there is marked variation in Qualla ceramics between the Georgia and South Carolina towns, the North Carolina towns, and the Tennessee towns. This argument was later bolstered by evidence from Tuckasegee (Keel 1976). In addition to Oualla ceramics, small triangular projectile points are also typical, as well as evidence of European interaction. The Cherokee town of Tomassee (38OC186), situated on a terrace overlooking Tamassee Creek in Oconee County, was tested to evaluate the condition of the site following deep plowing and vandalism bv pothunters (Smith et al. 1988). The work identified the presence of an eighteenth century

Cherokee occupation. Fortunately, the south half of the site remains in pasture and the landowner has agreed to cease deep plowing on the presently disturbed portion of the site. A number of pit features dating to the Cherokee occupation were uncovered and excavated. Posts associated with a rectangular or square structure measuring at least 20 feet on one side were identified. In addition, there were two historic Cherokee burials. One infant burial was accompanied by a necklace of 121 small, wire wound barley corn beads and two pairs of silver ball and cone earrings, one pair in each ear. They believe that these kinds of grave goods place the date of the burial after circa 1750 (Smith et al. 1988:42). An extended adult burial was also located which contained 12 metal buttons (Smith et al. 1988:44).

Work at Estatoe (38OC47) by Miller (1959) and Kelly and de Baillou (1960) indicates that the mound

had a series of building levels. A series of structures was built on the apex with a central fire pit. The final mound construction is believed to be contemporary with the final phases of construction at Tugalo and Chauga. The Estatoe site is located on the west bend of the Tugaloo River on a slight ridge and is contained by a large bend in the river (Egloff 1967:7). The Chauga site (38OC1), however, does not appear to date as far into the protohistoric period as Estatoe (Egloff 1967).

For the past several years Gerald Schroedl and Brett Riggs have held archaeological field schools at the Chattooga Site in Oconee County. They located house sites as well as the council house during the first season of investigations. Work during the second season focused on the excavation of the council house. These excavations revealed a portion of the exterior wall, interior benches, and central floor. Datable artifacts at the site places the structures use between about 1720 and 1740. The floorplan of the council house was found to be comparable to those found at mid eighteenth century Overhill Cherokee townhouses (Schroedl and Riggs 1990a, 1990b).

Qualla phase ceramics were also predominant at the Tuckasegee site in North Carolina. Here, no dwelling houses were excavated, but a townhouse was uncovered. The circular townhouse was 23 feet in diameter with a central hearth. A.R. Kelly and R.S. Neitzel (1961:24) describe a similar hearth from the Chauga site in Oconee County which belonged to historic Cherokee. This hearth was believed to have ceremonial implications (Keel 1976).

Michael Harmon (1986) has reviewed historic Cherokee sites inundated by the Keowee-Toxaway Reservoir. The work done here in the late 1960s was a salvage project rather than a cultural resource management project and, therefore, did not obtain any detailed data on the sites investigated. Nonetheless, of the 39 sites investigated, ten contained evidence of eighteenth century Lower Cherokee occupation through the presence of Qualla ceramics and eighteenth century European ceramics on the same site. Harmon's emphasis was the examination of the use of European artifacts in Cherokee culture rather than the geographic settings of these sites. However, this has previously been discussed through Bartram's accounts and other works (e.g. Beuschel 1976; Kelly and de Baillou 1960; Smith et al. 1988) and applies to the Keowee-Toxaway sites.

As previously mentioned, the most likely Cherokee site type in Greenville County is a hunting camp, although it is possible that individual families may have lived in these areas. Once their function has been identified, they should be compared to assemblages from the Cherokee towns to determine how these people related not only to the Cherokee villages, but also to the encroaching white settlers.

Research questions could include:

- What types of Cherokee houses existed in Greenville County and how do they compare with houses from the large villages and small hamlets?
- How long were they occupied and were they occupied seasonally?
- What types of food did they eat?
- What kinds of crops did they grow?
- What impact did European and African culture have on their lives?

- What kind of relationship did they have with the large Cherokee towns?
- Do their burials reflect social status or give any evidence of social structure?
- From what types of health problems did the historic Cherokee suffer?

Farms and Plantations

Historic period archaeology in the Greenville County area has focused primarily on the late nineteenth and twentieth century occupations, essentially because the area was so lightly settled during the earlier periods. Mills (1972 [1826]:576) states that the population of the Greenville District was very sparse until near the end of the eighteenth century. In 1793 the *State Gazette of South Carolina* reported that the Pendleton and Greenville districts had at least 20,000 inhabitants. Seven years earlier, only 40 families were reported living there (Orser 1988:24).

Although no detailed archaeological survey of large portions of Greenville County has been performed to provide a local agrarian settlement model, work at the Savannah River Plant (Brooks and Crass 1991) can used as a comparison and modifications can then be made to fit Greenville County. Brooks and Crass (1991:78-79) found that during the first century, settlements were oriented toward major watercourses. Later in the eighteenth century settlers began occupying areas further up the larger drainages. Upland settlement was very sparse. In the Savannah River area, the proximity to water was due to the need to be near the primary artery of transportation. In addition, soils which contain a greater amount of organic matter are found in this area. For the Greenville area, navigable water courses did not exist. However, the need for water to power mills probably made water access equally important. Areas which would have been considered ideal for the construction of mills would have been narrow drainageways with a fall or shoals with a drop of at least three feet (see Evans 1840; Newman 1984; Swain 1885).

In addition, some of the drainages offered rich farmland. The geography of Greenville County is such that there was usually no problem in including some sort of water course in a property. The land is characterized by narrow ridges, usually flanked by streams. Since most of the eighteenth century settlers in Greenville County were farmers, property often either bounded creeks or straddled creeks to take advantage of any rich bottom land that was available. Where actual farm houses were located in these areas is not clear, although it is probable that they were located near other activity areas such as the mill and fields. Therefore, it seems reasonable to suggest that they were primarily located on knolls adjacent to creeks or at the base of hills next to the agricultural fields. Evans suggests that, "[i]nstead of choosing sites on the rivers, he [the Scotch-Irish] preferred the hillsides; using the wooded ridges for summer pasturage and the streams, as at home, as boundaries so that the neighbors had a share in the bottom-lands" (Evans 1965:44).

Goodyear et al. (1979) identified 29 historic sites, primarily dating from the eighteenth and nineteenth centuries, in the Laurens-Anderson corridor. At the time of this survey, twentieth century archaeological sites were regarded as having little research value. During the writing of the Laurens-Anderson report, the investigators decided that ignoring the twentieth century sites was a mistake since a number of anthropological problems they proposed required understanding the entire geographic development of an area (Goodyear et al. 1979:232).

Not surprisingly, Goodyear et al. (1979) identified only one site with eighteenth century materials. This site in Greenville County contained two sherds of white salt glazed stoneware, strongly suggesting an occupation before 1775 (South 1977). The site, which also contained ceramics dating into the early nineteenth

century, was located on the end of a narrow ridge nose overlooking a small creek.

Clearly the very earliest settlers were in a precarious position being located adjacent to the Cherokees whose actions could be unpredictable and who were often considered untrustworthy by the white settlers (see McDowell 1958)¹³. In addition to understanding settlement pattern and the basic fabric of everyday life, future research should focus on examining the possible material correlates of interaction with the Cherokees.

Based on Mills' Atlas (1969 [1825]), by the 1820s Greenville County had a fairly good road network and house sites were more often being located adjacent to these roads, although settlement was still probably heavily water oriented. This movement toward roads is at least partially due to the introduction of the cotton monocrop in the early 1800s (see Mills Atlas 1968 [1825]). According to Anne McCuen who has researched Greenville County's early settlement, the increasing orientation to road networks is also partially due to an increase in merchant businesses that needed to be located along roads which ran across the tops of ridges (Anne McCuen, personal communication 1995).

Very little archaeological research has been done on nineteenth century farmsteads in the upstate. However, in neighboring Spartanburg County, Benjamin Resnick (1988) recorded standing architecture and performed test excavations at the Williams Place house site (38SP109). The structures that were extant during his study were believed to have been erected sometime between 1839 and 1850 by Robert R. Williams, although the site may have been occupied by his father as early as 1805 (Resnick 1988:29-31). The arrangement of structures concentrated at two centers consisting of the main house and its services structures and the dependency structures. Within the mainhouse complex were the farmhouse, kitchen, smokehouse and commissary. Dependencies included a still house/barn, frame barn, log barn, and corn crib. There were two isolated structures consisting of a smaller house site about 200 feet from the mainhouse complex (believed to have belonged to a freedman) and a blacksmith shop located about 175 feet from the mainhouse complex. Other features included a road network and a dammed pond constructed in 1945. Without standing evidence, it is likely that many of these structures would have been overlooked in an archaeological investigation; not because they weren't interesting, but because they leave little archaeological evidence. Clearly, there were many activities that took place at farm sites including those specialized activities that may be archaeologically detectable such as sewing or pottery manufacture.

Although constructed during the eighteenth century, the primary period of occupation at Rosemont Plantation in Laurens County was the nineteenth century (Trinkley et al. 1992). Work at plantation sites will provide data on a segment of society that was in the higher economic stratum and will provide important information about the range of lifestyles present in the Piedmont. Historical research indicated that a small log house was initially constructed which was replaced by a larger home built adjacent to the Saluda River. It was the later house which was the focus of archaeological testing. Other structures identified either historically or archaeologically included a school/library, flanker, kitchen, possible slave houses, and a possible smokehouse. In addition to work the at structures, the remnant ornamental garden was also mapped. The archaeological data suggested that the occupants of Rosemont were indeed wealthy through the presence of expensive ceramics and personal items as well as the presence of an elaborate garden.

Archaeological investigations at the Kilgore-Lewis Spring House site (Carrillo 1979) were performed primarily to aid in the restoration of the spring. It was part of a larger project to restore the springhouse and

¹³ Likewise, the historic Cherokee did not trust the white settlers, who kept encroaching on their hunting grounds and eventually pushed them out of the state all together.

surrounding area to approximate its eighteenth and nineteenth century appearance in an area which was once a part of a formal garden. The spring house was initially constructed in the first quarter of the nineteenth century and associated with a plantation purchased by Waddy Thompson in 1807. Artifacts generally dated to late nineteenth century and consisted primarily of South Carolina dispensary bottle fragments. The spring house was found to be an elaborate piece of work suggesting that the planter was wealthy.

At both Rosemont Plantation and the Kilgore-Lewis spring house, the archaeological evidence suggests that at least some upcountry planters lived in opulent surroundings for this part of the state. However, little work has been done at area plantation sites indicating that this generalization is based on very little data. In addition, almost nothing is known about the slave population that supported this lifestyle.

There has been no published study on slave archaeology of the South Carolina upstate. Work by Orser (1988) at Millwood Plantation in Abbeville County focused primarily on the tenant population. However, he notes that the slave force there between 1830 and 1860 grew from 55 to 195 individuals and this growth was heavily impacted by the lucrative cotton staple. The owner, James E. Calhoun, had three plantations by the 1830s and was a very wealthy individual (Orser 1988). In Greenville County, such large plantations, as they are considered in other portions of the state, did not exist.¹⁴ Most people who had slaves only had a few, perhaps one to ten. Typically, a large plantation had anywhere from 20 to 50 slaves, and these were uncommon (Anne McCuen, personal communication 1995). However, McCuen (1991:72-74) does list one exceptionally large planter in a Deed of Trust dated May 14, 1831. This planter, Rawlins Lowndes, lists 137 slaves.

Given the demographic situation of Greenville County plantations, the relationship between master and slave was probably very different than in other parts of the state. They likely worked side by side, and because of this interaction, the slaves probably developed a different sub-culture within the larger African-American community. This sub-culture was probably quite different than that which developed in the South Carolina lowcountry. McCuen suggests that the relationship between master and slave did not change significantly after freedom (Anne McCuen, personal communication 1995). Since, African-Americans are under-represented in the research, future work should focus on a better understanding of slave and freedman life in the upstate.

The remainder of the sites that Goodyear et al. (1979) located dated to the nineteenth and twentieth centuries and primarily represent tenant farming sites. These sites are road oriented, and since little is known about earlier eighteenth century settlement, no changes in settlement pattern can be strongly argued (Goodyear et al. 1979).

Twentieth century archaeology at the testing or data recovery level has focused on rural tenant and owner sites in neighboring Spartanburg County (Joseph et al. 1991; Trinkley and Caballero 1983) as well as the Sampson Mill Village in downtown Greenville (Trinkley 1993a). The work at the Sampson Mill Village allowed the researchers to begin to understand how the move from farm to mill affected late nineteenth/early twentieth century upcountry citizens and will be discussed in more detail later.

During the late nineteenth and early twentieth century in the Savannah River Valley, Brooks and Crass (1991:79) suggest that major watercourses are still the centers of occupation, with the smaller drainages being in-filled. However, the sand ridges are also heavily occupied. Examination of the Greenville County

¹⁴ In this discussion, the term "plantation" refers to any farm with slaves.

road map for 1940 shows that there is very little settlement along creeks, and most of the houses are shown adjacent to roads.

Work by Joseph et al. (1991) at the Finch farm site in Spartanburg County revealed a relatively dispersed settlement pattern such as witnessed by Resnick (1988). The settlement consisted of the main house, log barn, large barn, cider mill, molasses mill, log corn crib, pig pen, smoke house, blacksmith shop, hay barn, tenant house, and other barns. Other features consisted of two springs, an orchard, and a garden. There were also a number of more modern features of the site which included piles of wooden pallets, garage, trailer, metal storage shed, etc. (Joseph et al. 1991:Figure 20, Figure 25).

At the Webb tenant house associated with the Finch farm the house was characteristic of many tenant houses having an open floorplan. There was no plumbing as evidenced by the presence of a two seater outhouse and was warmed by a fireplace and wood cooking stove.

Probably the most complete study of upstate tenancy was performed by Charles Orser (1988) at Millwood Plantation. Although initially occupied in the 1830s, Orser focuses on the material basis of tenant life in the postbellum up through about 1925. He examined the spatial organization, architecture, and possessions of a relatively stable population of African-Americans who had crossed the threshold into freedom. Whether Abbeville County is directly comparable to Greenville County is highly questionable. For example, in 1850 Abbeville County's slaves consisted of approximately 60% of the population, whereas in Greenville County slaves consisted of only about 33%. Nonetheless, the Millwood study provides valuable comparative information.

Research questions related to the farm and plantation could include:

- How does the layout of these sites change through time?
- ✤ What are the range of activities found at these sites?
- In terms of range of activities how do tenant sites, small landowner sites, and plantation sites differ?
- Is there evidence for settlement pattern change through time?
- Is there material evidence for interaction with the historic Cherokees at early sites?
- How do slave and plantation sites in the upcountry compare with those in the lowcountry?
- What was the lifestyle of an upcountry slave and how did it compare with the lowcountry slave?
- Under what situations were former slaves able to buy property, and how do property owning blacks compare with those who were tenant farmers?
- How are Scotch-Irish farmsteads similar to or different from farmsteads in areas settled by other ethnic groups, such as Germans? And if they are different, is there a point where both groups are "assimilated" and the differences disappear?

Grist Mills

The location of grist mills was bound by geographic variables; the primary necessity being the presence of falls or shoals with a drop of three feet or more. In 1840 Oliver Evans suggested that when siting a mill, an inexperienced miller should ask the advice of several experienced millers and determine which is the best advice to follow. He states:

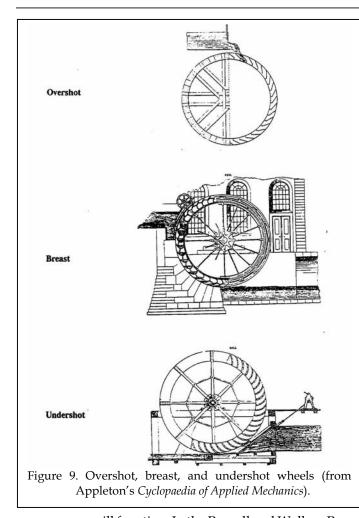
[t]he first, perhaps, fixes on a pretty level spot for the mill-house, and a certain rock, that nature seems to have prepared to support the breast of the dam, and an easy place to dig the race, mill-seat, &c.

The second passes by these places without noticing them; explores the stream to the boundary line; fixes on another place, the only one he thinks appointed by nature for building a lasting dam, the foundation a solid rock, that cannot be undermined by the tumbling water; fixing on a rugged spot for the seat of the house; assigning for his reasons, that the whole fall, must be taken in, that all may be right at a future day. He is then informed of the opinion of the other, against which he gives substantial reasons (Evans 1840:275).

Essentially all mills were built similarly with the only major visible difference being the wheel which is either an undershot, breast, or overshot wheel. The type of wheel depends on the height of the falls. An undershot wheel normally accommodates a fall between 3 and 8 feet. A breast wheel accommodates falls between 8 and 16 feet, while an overshot wheel is used on falls between 16 and 36 feet (Figure 9). While an undershot wheel can be used on higher falls, the use of a breast wheel is more efficient since it provides more gravitational power. The water is supplied to the wheel with a flume which directs the water to the wheel paddles. The size of the wheel depends not only on the height of the fall, but also the size of the grinding wheel. Evans indicates that the most efficient of these wheel types was the overshot (Evans 1840).

Another type of wheel which was typically used in the mountains was the tub wheel. Unlike the other wheel types which had their long axis vertical, the tub wheel which normally measured only about three feet around is laid horizontally within the mill house. Its paddles are fed with water under pressure. The water from the falls goes down the flume into a holding tank. When the mill is ready to be used, the gate to the holding tank is opened which allows the water to go down a chute which narrows near the wheel, providing the pressurized water. This allows the wheel to turn which then rotates the mill stone. The grain is then ground between the top mill stone and the lower stationary stone (Wigginton 1973:142-163). The advantage of the tub mill was that it was relatively compact and could be used under tight physiographic constraints, such as narrow creek or river valleys. They were also less expensive to build and operate, and could be operated from smaller streams.

According to Newman (1984) until the mid-nineteenth century the most common of these types was the undershot and overshot wheel although there were modifications (including the breast wheel) for specific locational and manufacturing situations. After 1850 the development of the turbine through a process of practical trial and error culminated in the development of the "mixed flow turbine" in the 1870s. The mixed flow turbine often took place of the undershot wheel because of its superior efficiency. In the Russell Reservoir, Newman (1984) found that two of seven mill sites dating into the late nineteenth century had undershot wheels which was surprising since there was more efficient technology available.



Newman (1984) reviews several surveys of mill sites in both the mountains and the piedmont including the Russell Reservoir on the Savannah River, the Wallace Reservoir on the Oconee River in Georgia, a four county area in northwest Georgia, and the Columbia Reservoir in southern Middle Tennessee. Since Greenville County is located within both the piedmont and mountain region, a discussion of his findings is pertinent.

He found that in the piedmont (represented by the Russell and Wallace Reservoirs) where cotton was the economic base and where the textile industry became important, there was evidence for plantation based mills serving only the plantation. In the mountain region, which never saw the development of the textile industry and where cotton was of lesser importance, private intermittently run tub mills seem to be represented only in mountainous northwest Georgia. The water powered milling industry persisted until the 1950s in the mountain region while largely disappearing in the piedmont shortly after the turn of the century (Newman 1984:102-103).

The type of motive power was related to local physiographic conditions, the local

economy, or mill function. In the Russell and Wallace Reservoirs millers had access to steep natural falls and an abundant supply of water. Therefore, the efficiency of the motive machinery was probably not the primary factory. The use of the undershot wheel probably could have provided ample power given the abundance of water available. In the mountainous Columbia Reservoir the situation was different due to the limestone river banks. Because of these banks, races could not be constructed and therefore, the water power was confined to the head created by the immediate fall and the height of the dam. In addition, dam height was limited by law to seven feet to allow navigation, although this was not likely of concern in the mountains of Greenville County since there was no navigable watercourse. For the Columbia mills, the advantage of the mix flow turbine which could operate under low head conditions meant a dramatic increase in power for the Columbia mills. Again, low head may not have been a concern in the Greenville County mountains, and perhaps an overshot wheel was more commonly used. In northwest Georgia traditional technology continued to be used on both minor tributaries and for the adaptation of turbine power on larger streams as demand for services increased.

The Yearbook of South Carolina (Watson 1907) more precisely defines the demise of grist mills in the state. It states that in 1900 there were 564 mills in operation, while in 1905 there were only 29 establishments still operating Unfortunately, the names and locations of these mills are not mentioned. However, these few mills were producing more than the 564 mills in 1900 as a whole which indicates that milling had quickly

become a large scale business as opposed to a family or community operation. In the early 1880s Greenville County had a large share of the state's grist mills. Only Marion and Orangeburg counties had more grist/flour mills. There were 98 grist/flour mills under operation in Greenville County and none were considered to be merchant mills "except one or two in a small local way". Eighty-two were water powered

Table 1. Flour and Grist Mill Wheels Listed in the 1880 Industrial Census for Greenville County.						
Туре	#	Range in height of falls (in feet)	Mean height			
Overshot	25	10-37	20			
Willis	3	8-30	19			
Turbine	9	9-20	14			
Breast	5	6-16	11			
Undershot	1	8	8			
Outer Discharge	1	8	8			

and 12 were steam powered (Anonymous 1884). As one got further toward the coast it appears that steam power was more common. For instance, of Sumter County's 78 mills only 28 were water powered, and of Richland County's 21 mills, only five were water powered. This is in sharp contrast to upstate counties such as Greenville or Anderson, where of the 85 mills, 65 were water powered. Given the topography of Greenville

County, there were many areas suitable for mill sites and Mills Atlas (1825) shows a number of them on the rivers and the larger tributaries and a number are also found on much later maps such as the 1882 Kyzer map.

Unlike earlier censuses, the 1880 Industrial Census for Greenville County provides relatively detailed description of grist mill operation in the nineteenth century providing information on the type of wheel used and the height of the falls. The census lists overshot, breast, undershot, turbine, outer discharge, and Willis wheels. All but the Willis wheel and outer discharge wheel have been previously described. Unfortunately, no description of a Willis wheel has been located, but given the range of falls that it accommodated it may have been a type of turbine.

Though no direct reference for an "outer discharge" wheel was located, it is likely that it was an outward-flow turbine (Fourneyron Turbine). With this wheel, the water enters from above and is guided by curved blades to be discharged laterally at the base of a circular chamber (Benjamin 1895:919). Table 1 provides information on the number of different wheel types and the range of falls. Illegible entries were excluded. Interestingly, no tub mills are mentioned which may suggest that nowhere in Greenville County was the terrain so rugged as to necessitate the use of a tub mill. Alternatively, in those regions where the terrain was sufficiently rugged, there were not enough people to support an operation at a community level.

Research questions relating to grist/flour mills in Greenville County could include:

- Under what conditions were water powered mills modified into turbine powered mills when the technology became available?
- Did grist/flour mills operate longer in the mountainous region of Greenville County than in the piedmont region?
- Where were the merchant mills located and did their location have anything to do with them becoming merchant mills?
- Of the water powered mills how many used tub, undershot, breast, or overshot wheels and

were there clear physiographic reasons for their use?

Is there much variability in architectural configuration? If there is variability why does it exist? Is it related to physiographic reasons?

Distilleries

In the remote mountain areas farmers milled or kept the corn they needed for personal consumption and the excess corn that they could not get to market was converted to whiskey. While the whiskey could be consumed locally, it could be more easily sold than corn out of the field (at least when it was legal) since it could be kept indefinitely. As Blitz (1978:93) noted, "[a] pack horse could carry more whiskey than it could grain, so whiskey production had a practical purpose". During prohibition one Southern mountain resident argued:

[w]e have no means of bringing the produce of our lands for sale either in grain or in meal. We are therefore distillers through necessity, not choice, that we may comprehend the greatest value in the smallest size and weight. The inhabitants of the eastern side of the mountains can dispose of their grain without the additional labour of distillation at a higher price than we can after we have disposed that labour upon it (Kephart 1913:151).

Because of this situation, it seems plausible that many grist mill operators as well as others who were growing corn in the upstate were also involved in distilling corn into whiskey either legally or illegally. Surplus fruit was also used to make brandies. Mills (1972 [1826]) notes that there are a number of distilleries in the district, but that they are all domestic¹⁵. The industrial censuses for Greenville County list a number of distilleries in the 1850s and 1860s, but none are listed thereafter. During Reconstruction, there was a federal liquor law prohibiting the distilling of grain from the end of the Civil War up through prohibition. Miller (1991:42) stated that near Greenville there were three "rifle clubs" which were organized to overthrow Reconstruction in 1876. Most of these people were illicit distillers intent on protecting their income and threatened by "governmental regulation". The trouble between government agents and the "lawless element" continued up through the turn of the twentieth century.

Old moonshiner strongholds continued to give trouble [in the early 1890s]: the Dark Corner of the Glassy Mountains in northern Greenville County, South Carolina, was 'inhabited by a population more inclined, apparently, to illicit distilling than to any lawful occupation.'" (Miller 1991:152).

Resnick (1988) states that one of the structures at the Williams Place site functioned as a still house. During the Civil War era, Robert Williams is known to have operated a still and was selling alcohol (whiskey/brandy) on a commercial basis. Apparently, the still house was converted to a barn later on, probably after the war when making liquor became illegal. Unfortunately, no excavations took place at this structure. Still houses should typically be found near streams, due to the need for plentiful water.

The physical evidence of distilling or moonshining depends on whether the still was dismantled, abandoned, or destroyed. It seems likely that the valuable copper parts may have been salvaged. Artifacts

¹⁵ Interestingly, Mills (1972 [1826]) discusses the poor and distilleries under the same heading, which indirectly suggests an association between the poor and making liquour.

found at a still site in northern Alabama consisted of large pieces of broken stoneware vessels, large metal containers and fuel oil cans. There was also corrugated iron. Other artifacts which might be expected include fruit jars, glass jugs, buckets, and fieldstone or bricks (Blitz 1978).

Research questions regarding distilleries might include:

- Was there a strong market for locally made alkaline glazed stoneware jugs among distillers based on archaeological evidence?
- What was the socioeconomic status of people who distilled and does this status change when making liquor becomes illegal?
- How did federal liquor laws affect the quantity of whiskey being made and how did it affect the location of stills?
- What is the topographic location of still sites (near water, in hollows, or hidden areas)?
- Do stills near houses date prior to Reconstruction?

Saw Mills

In Greenville County, saw mills were as, if not more, numerous than grist mills. Saw mills provided the lumber necessary for the construction and provided a way to make use of the wood supplied through clearing the land for new agricultural fields.

Early saw mills were powered the same way that grist mills were powered; by water using the water wheel. By the late nineteenth century, most saw mills were still water powered. Of the 19 mills listed in the 1880 Industrial Census, only six were steam powered. Six were listed as using overshot wheels, two were breast or quarter breast mills, and four were turbine powered. It is possible that there were more mills than show up in the 1880 Industrial Census, since an 1884 study (Anonymous 1884) states that there were 64 saw mill in the county which were "generally small and do purely local business". They employed 135 whites and 49 blacks. Of these mills, 36 were water powered while 28 were steam powered.

Commonly used was the up and down saw driven by a crankshaft and powered by water. The mechanism moved a series of vertical saw blades up and down, sawing a log into several planks at once. Later, saw mills incorporated more specialized equipment such as band and circular saws.

Saw mills in the early part of Greenville County's settlement were located in the same types of physiographic areas that grist mills were located. The machinery to saw the wood was probably housed underneath an open shed building, with a number of other shed buildings being used to cover the lumber and allowing it to dry in a more controlled setting. Later on, as other types of power became available, there was much more flexibility in the location of saw mills.

In times when milling of wood was needed on site and there was no water power, saw trestles or saw pits were set up and either open or frame pit saws were man powered. Archaeological evidence of these areas is likely to be slim. The only remains may be broken parts of saw blades and remnants of the saw pit.

The only saw mill to be investigated in South Carolina is in Berkeley County within the historic

boundaries of Middleburg Plantation¹⁶, and the survey level work focused on the adjacent settlement rather than the mill itself. A 1786 plat showed the location of a "saw house" and a 1794 plat referred to it as a "saw pit". Efforts were made to determine if there was any permanent slave occupation in that area since early twentieth century maps showed a cluster of buildings in that area. The investigations identified a settlement dating from as early as the late eighteenth century through the mid twentieth century with a peak in use around 1860. Above ground evidence believed to be associated with the "saw house" or "saw pit" consisted only of a depression measuring about 9 by 15 feet. The presence of a settlement suggests that milling operations here were on a fairly large scale (Affleck 1990).

Research questions associated with saw mill sites might include:

- ✤ What is the archaeological profile of a saw mill?
- ✤ At sites where saw mills occur, are they the major industry or is milling secondary to another endeavor?
- Can a saw mill site be archaeologically identified?

Blacksmith Shops and Foundries

One of most common industries listed in the industrial censuses of Greenville County was blacksmithing. The shops occurred in both rural and urban settings. In rural settings, while some people may have considered blacksmithing their profession, many farmers were also skilled at blacksmithing and had small personal operations.

According to Light and Unglik (1984) a blacksmith's shop should have at least three clearly recognizable functional areas within it. The most important area was the work area which will included the bellows, the anvil, workbench, and vise. In larger shops there might also have been a carriage bay where wagons that needed to be repaired could be stored. The storage area would have included stock, seldom used tools, mandrels¹⁷, and swages¹⁸. Last, there would have been a domestic area where the smith and his clients could eat and relax (Light and Unglik 1984:11-12).

During their excavations at a blacksmith shop at Fort St. Joseph in Canada, they found evidence of the anvil base which was the remains of a spruce stump. They also found clinkers, charcoal, iron stock fragments, tools related to the art of blacksmithing, tools that were being repaired or made, as well as domestic items. All of this suggests that a blacksmith's shop will be archaeologically distinctive. Some blacksmiths were also involved in coppersmithing or tinsmithing, while sometimes individuals specialized in these metals. The most distinctive artifacts would be rivets and patches for repairing kettles, pans, etc.

¹⁶The site number of the main house and slave row is 38BK38, while the number for the saw house settlement is 38BK1733.

¹⁷ A mandrel is a cylindrical rod around which metal is forged, cast, molded, or shaped (*Oxford English Dictionary* 1971)..

¹⁸ A swage is a die stamp for shaping metal on an anvil (Oxford English Dictionary 1971)..

As stated previously, blacksmithing was also done on the farm, as evidenced by the presence of a shop at the Williams Place (Resnick 1988) and the Finch farm (Joseph et al. 1991) in Spartanburg County. The key identifying artifacts associated with the shop at the Williams Place included the number and type of bricks composing the forge and the sizable amount of iron artifacts that represented the manufacturing activities conducted there. One test unit was placed inside the shop and the artifacts recovered included horse/mule shoe scraps, wrought iron implements (e.g. wagon hardware), nails, bolts, and washers. The blacksmith's shop may have been an early component of the farm complex based on the presence of a few wrought nails (Resnick 1988:63). However, it should be considered that wrought nails are what was made at blacksmith shops even into the twentieth century.

Foundries in Greenville County included a Confederate foundry as well as metal working at the Greenville Coach factory. Clearly, these types of operations were specialized and did not overlap much with the products manufactured by the small blacksmith. These foundries probably had specialized tools, specifically for making the types of goods they needed. In the 1880s, two foundries/machine shops were listed and included Greenville Machine Works and Palmetto Iron Works (Anonymous 1884). The archaeological profile of a large scale foundry operation is unknown. Survey by Chicora Foundation at the Palmetto Confederate Ironworks in Columbia, revealed that analysis of artifactual remains can be tedious. Often they consist of parts of larger items that are much more easily identifiable when attached the whole. As expected, the vast majority of artifacts were iron. According to the 1884 Sanborn Insurance Map, the Palmetto Ironworks consisted of nine structures. The main structure contained the "Pattern and Machine Shop", the "Forge", and the "Shop" which included a 15 horsepower engine, the foundry with a "core oven", and an unlabeled room containing a cupola. Other structures consisted of a building with a "Pattern Shop" and "Office", a building used for "Pattern Storage", another "Pattern Shop", three sheds, and two unspecified buildings (Trinkley 1993b).

Questions related to smithing and foundries might include:

- What is the difference in scale between an urban and rural blacksmith shop?
- How were the needs of urban consumers different from rural consumers?
- ✤ What types of metals was the smith involved with?
- Did he have an adjoining shop where he sold goods?
- What was the economic status of a smith compared to other professions?
- Does the profile of a smith's shop change through time?
- ✤ Was the smith involved in gun smithing?
- How do blacksmith shops in an industrial setting (such as the Greenville Coach Factory) compare with other types of blacksmith shops?
- What is the archaeological profile of a large foundry? And what types of support structures did they normally have?
- Did the owner or manager live nearby? And what was his economic status?

Iron Industry

Articulated with blacksmithing and foundries was the iron industry. There has been some research in the Greenville County area involving the upcountry iron industry, which began in the late eighteenth century (Ferguson and Cowan 1993). These industries, like grist mills, developed adjacent to rapids and waterfalls to provide power. According to Ferguson and Cowan (1993) other important environmental factors included the presence of iron ore, hardwood forests (fuel supply), marble or metamorphosed limestone (as a fluxing agent), and building stone.

Ferguson and Cowan (1993) have documented only three ironworks in Greenville County, but nonetheless they were part of a band extending from Catawba County, North Carolina to Anderson County, South Carolina. Between 1775 and 1802 there were at least eight ironworks in the South Carolina piedmont. In the Greenville District, these included Henry and Joshua Bensons' works¹⁹ on the Reedy River; Adam Carruth and Lemuel J. Alston on the Saluda River, and Elias Earle on the north fork of the Saluda River. Most of the ironworks during this time period were isolated country furnaces and/or forges. They had limited production schedules and output, developed in somewhat isolated rural areas and usually served only the local market (Ferguson and Cowan 1993:170-171).

In addition to making items such as firebacks, nails, anvils, bar iron, pans, pots, kettles, skillets, dutch ovens, and stoves, some owners and operators also had gun factories. These included Adam Carruth and Elias Earle of the Greenville District. For instance, Carruth who started manufacturing guns in 1801 expanded his ironworks into a large armory during the War of 1812.

One interesting endeavor by Elias Earle was an attempt to establish an ironworks on Cherokee lands between 1807 and 1815 at the mouth of Chickamauga Creek on the south side of the Tennessee River. A treaty with the Cherokees was carried to Washington by Earle and although President Jefferson was agreeable, the Senate determined that the tract was within the state of Tennessee and Tennessee refused to relinquish her claim. Therefore the endeavor failed.

According to Ferguson and Cowan (1993) the iron manufacturing activities in northwestern South Carolina by the 1830s were dominated by the South Carolina Manufacturing Company, the King's Mountain Iron Company, and the Nesbitt Iron Manufacturing Company, none of which were located in Greenville County. The closest was the South Carolina Manufacturing Company which controlled approximately 25,000 acres within Spartanburg County adjacent to the Pacolet River and western Cherokee County. In Greenville County, no foundries or iron works are listed in the industrial census of 1850, 1860, or 1870. In 1884 (Anonymous 1884) two "foundries or machine shops" were listed and include the Greenville Machine Works and Palmetto Iron Works.

Smith (1982:28) states that "iron plantations" are characterized by large land holdings, a distinctive settlement form and spatial organization reflecting centralized control by the owner, specialized production, and a distinct division of labor. How this is reflected archaeologically is unclear since to date, only two sites have been documented. They include the Nancy Mountain site in York County and the Thicketty Mountain Iron Ore Pits in Cherokee County. At the Thicketty Mountain site ore pits that were once clearly visible are

¹⁹ In 1826 Mills notes that "[f]ormerly an armory was established in this district, on the waters of Reedy river; but since the peace it has declined. Benson's iron works are in this district; and another formerly stood near the village, on Reedy river, which was burnt" (Mills 1972:575 [1826]).

now obscured by agricultural activities that have filled in many of the pits. Some are still visible and range from about 15 to 30 feet across and 6 to 9 feet deep (Ferguson and Cowan 1993).

There were probably a number of structural features associated with the manufacturing process and general operation of the plantation. At William Hill's iron plantation in York County there was "a good two story brick house, 40 by 35 feet, with cellars, and other necessary buildings, together with four grist mills and two saw mills (*City Gazette and Daily Advertiser* 1795). This quote identifies distinctive aspects of the early iron works. Later iron works were much more complex. In the mid-nineteenth century the Swedish Iron Manufacturing Company the structural features were described in the following manner:

... Ironworks, Buildings, etc. --- These consist of two blast furnaces, forge, attached to which are four hot-blast, blooming (Catalan) files, one refining fire, one puddling furnace, shingling hammer, rolling mill, nail factory (with six cutting-machines), foundry, machine shop, pattern shop (with a large stock of patterns), blacksmiths' and wagon shops, with the full complement of tools required in such establishments, grist and saw mills, a large and commodious mansion house, boarding house, store, a sufficient number of dwellings for workmen, and other outside buildings necessary (Shepard and Jones 1866:17).

As this quote illustrates, these "iron plantations" tended to be fairly self sufficient due to their isolation and often produced their own food and housing for the workers.

Archaeological evidence of the early iron industry in the South Carolina piedmont has been identified at 12 sites, ten of which were recommended as eligible for the National Register of Historic Places. This is a significant number of sites found with enough integrity to be considered eligible. Therefore, it may be that ironworks are typically found in areas that have not been exposed to later development activities.

Winter (1994) explains eighteenth century blast furnace technology for the Chesapeake area, which applies to the South Carolina Piedmont. The furnaces were substantial, stone structures shaped like truncated pyramids. They were usually about 25 feet square and 25 to 35 feet tall. The stack enclosed two chambers -- the bosh and the hearth which were both lined with sandstone. The bosh received the ore, limestone, and charcoal through an opening in its top. The hearth formed a repository for the molten iron and slag after it had been processed in the bosh. One side of the hearth contained a small opening for a pipe (called the tuyere) which brought the forced air from the bellows. The bellows which were 20 to 25 feet long and several feet wide were powered by the waterwheel (Winter 1994:210).

Beside the furnace stack sat the casting house. Here the molten iron was tapped from the furnace into a long sand trench. This trench was referred to as the sow, and its side trenches were called pigs. Some of the iron was cast to form stoves, hollowware, and other objects (Winter 1994:210).

Archaeology at the Antietam Furnace uncovered the furnace foundation, the bellows platform, a flue, a drain, and the waterwheel pit. Remains of the casting house had apparently been destroyed. Much of the stone rubble that covered the area had evidence of having been heated and was coated with slag. This suggested that it originated from the furnace stack. Most of the artifacts recovered dated to the third quarter of the eighteenth century and primarily consisted of discarded iron objects , tools, and nails.

The furnace base at Antietam measured about 12 feet square. The wheelpit interior was well preserved and measured 33.5 feet long and 6.5 feet wide. All four sides were constructed with dressed, drylaid limestone. In addition, three parallel trenched spaced about five feet apart were identified. They were

about 10 feet long and two to three feet wide. The size and configuration of these features suggested that this held the platform that supported the bellows mechanism (Winter 1994:211-212).

Ferguson and Cowan (1993) list a number of research problems for iron plantations. These questions include:

- How much variation is there in furnace style and construction in the area?
- What were the mining and quarrying technologies, and how do they compare between eighteenth and nineteenth century operations?
- ♦ What types of iron products were manufactured in the region?
- How are these sites spatially patterned across the county and how is the site patterned within?
- How do these ironworks articulate with the rural way of life. For instance, William Hill's iron plantation had a grist mill. Was he growing crops in addition to running an iron plantation, and if so, was this common?
- How do Greenville County's iron plantations fit into Smith's model?
- What types of additional activities took place other than mining and forging iron, such as mills, stores, etc., and how were they organized across the landscape?

Tanneries

Another common profession listed in the late nineteenth century industrial censuses was tanning. Earlier, tanning was a very valuable skill due to the lucrative fur trade with the local Cherokee Indians. A few tanneries have been examined in the southeast including one in Edenton, North Carolina (Garrow et al. 1978) and one in Charleston, South Carolina (Zierden et al. 1983).

At the First Trident site in Charleston, Zierden et al. (1983) recovered a large number (n=217) of leather scraps in a marsh, all of which had been altered. For instance, several had hand punched holes and many had a straight cut edge. They also found a couple of small unidentifiable tools which they believed were associated with leather working. Unfortunately, since leather does not often preserve well, evidence of a tannery based on its presence will likely not be found.

Artifacts that would survive might include unhairing knives, fleshing knives²⁰, vat hooks²¹, sleekers²², and strap metal. Since skins were often soaked in solutions in large vats, strap metal should be a common artifact. The presence of a stream or some other source of flowing water was desirable, since it allowed the skins to be easily rinsed.

²⁰ Fleshing and unhairing knives are both double handled curved knives used for either cleaning scraps of flesh from the hide or removing loosened hair.

²¹ A vat hook is a long-handled, blunt-pointed hooked pole used for stirring the hides in the tanning pits.

²² A sleeker is a tool used for smoothing leather, used in finishing the tanned hide.

In many cases the entire process was done by hand with the only exception being the horse-driven oak-bark-grinding mill. Although, according to Fisher (1986), there were a number of variations on the original plan, the mill, which ground bark to use in the tanning process, consisted of a grinding wheel which was placed on an axle attached to a rotating post. The axle was pushed by a horse which rolled the wheel over a channel filled with oak bark. Some evidence of this device or a similar one is likely to be present.

In the 1880 Greenville County Industrial Census, which provides the most detail for all censuses examined, there were three tanneries. Of these tanneries, two milled the bark using horsepower, while the third milled it using an overshot waterwheel as a source of power.

Questions related to tanneries might include:

- ✤ What types of structures are associated with a tannery?
- Where do tanners fall on the socio-economic scale and does this change through time?
- What types of archaeological features are associated with the tanning process?
- Were some of the tanners involved in leather working such as making saddles, harnesses, boots, shoes, etc.?
- How common was it for tanneries to be found on private farms?
- Where were urban tanneries located? Are they on the edges of town because of the space they may have required or because of their smell?

Woodworking

Woodworking in some form was also common in the industrial censuses and included people listed as general woodworkers, chair and wagon makers, carriage makers (including the Greenville Coach Factory), and cabinet makers. While there are no particular features that might be archaeologically identifiable in relation to woodworking, there may be a number of discarded or broken tools or equipment which suggest woodworking activities. Such tools might include axes, adzes, specialized saws, files, hammers, nails, rivets, planes, chisels, gouges, awls, bores, cabinet hardware, and carriage and wagon hardware (Sloane 1964).

Within the occupations listed, some can be considered as craft while others are part of a commercial industry. Chair makers, cabinet makers, and general woodworkers would be included under craft, whereas wagon and carriage makers are commercial industry. In instances like the Greenville Coach Factory, both woodworking and blacksmithing occurred and will produce a profile that should be distinguishable from the cabinet or chair maker since the hardware needed was different.

Questions related to woodworking could include:

- Can work areas and other activity areas be identified in a shop?
- Can the types and variety of woodworking be identified through the presence of specialized tools and hardware?

What was the socio-economic status of a woodworker in instances where they lived near or at their shop?

Tailor Shops

Tailors were also included in the list of industries for Greenville County in the late nineteenth century. Stanley South (1960) investigated a public house at Brunswick Town in North Carolina that was interpreted as having been later used as a tailor shop. The tailor's shop provided a very distinctive archaeological profile with a large number of clothing items being recovered including glass beads, straight pins, buckles, buttons, sleeve buttons, thimbles, and scissors. The public house had six rooms with three internal fireplaces. During the excavation of the public house and tailor shop, a large quantity of straight pins were recovered from five of the six rooms. South interprets the sixth room as being a possible office.

Although not listed in the industrial census, seamstresses were probably very common in Greenville County, particularly in the town of Greenville. In Charleston, many of these seamstresses were also prostitutes. As Trinkley and Hacker state:

[t]his is not to say that the trades of the mantua maker, milliner, or seamstress were "codes" for prostitution. Nor does it mean that all white or black women engaged in these professions were prostitutes. But the information provided by Roberts and others suggests that women in these trades were most often forced into prostitution as an alternative to incomes so low that they were inadequate for even the basic human necessities (Trinkley and Hacker 1995:63).

Given this information, a slightly different interpretation could be made for the Public House at Brunswick Town.

While Charleston perhaps had a larger demand for prostitutes than Greenville because of the number of sailors coming into the port town, it is likely that Greenville also had a number of women involved in this occupation. If so, future research should examine if many of them, like the Charleston prostitutes, were also practicing as seamstresses.

If the income of a seamstress was so low, it may be that tailoring was not very profitable, and male tailors will be on the lower end of the economic scale. As a result, it is possible that a certain social strata predominated that trade.

Research questions related to tailor shops might include:

- ✤ Is there evidence that the tailor lived at the shop?
- What is the socioeconomic status of a tailor or seamstress?
- ✤ Is there evidence for specific work areas?
- Did some of the tailoring consist of a home craft sold out?
- ✤ Was the tailoring profession predominated by one race?

Is there evidence of tailoring or seamstressing activities at other Public Houses?

Pottery Production Sites

Recent work by Drucker et al. (1993) in the Middle Tyger River Valley has identified or revisited a number of stoneware pottery kiln sites. The 16 kiln sites located in Greenville and Spartanburg counties operated from the mid-nineteenth century to the early twentieth century and the Middle Tyger River Valley has been identified as a major center of stoneware production with its roots having begun in the Edgefield District.

Previous research by Baldwin (1993) in the Tyger River Valley and in the Edgefield District (Castille et al. 1988) suggests that pottery production sites are often located adjacent to roads and houses. Often they are on "sloping landform margins, where kilns were dug into slopes to take advantage of the earth's natural insulation" (Drucker et al. 1993:5). The associated clay extraction pits are generally found along tributary streams. Clarence Belcher collected clays for a source located about six miles from his pottery shop (Drucker et al. 1993:74).

Pottery production sites contain two major elements: the shop and the kiln. Carnes (1989) has suggested that kiln sites will have artifacts such as glazed and unglazed stoneware, kiln furniture (such as testers, saggers, stackers, props, fillers, and wads), glaze millstones, architectural debris, slag, glaze chunks, coal, clay or sand concretions, and domestic artifacts (such as non-stoneware ceramics, bottle glass, etc.).

At the shop, after the clay had been conditioned, it was shoveled into a pug mill where it was ground by mule power into a fine paste. According to Zug the device was:

essentially a barrel with a set of rotating knives or pegs inside it . . . a simple mechanical device designed to grind the clay into fine particles, remove the air bubbles, and bring the clay to the proper consistency for turning (Zug 1986:121).

Also in the shop would be the kickwheel which the potter would used to turn the clay into pots. The shop likely would house a stone mill for grinding the glaze as well.

The kiln type used in the production of the stoneware was known as a groundhog kiln. These kilns were low, rectangular cross draft kilns with a firebox on one end and a short chimney on the other. These kilns got their name from the fact that they were normally built into a slope with only the chimney and the fire door visible (Vlach 1990:22).

Drucker et al. (1993) provide future research issues, however, many were specific to the sites found. The one general research question they present is:

[w]hat can Tyger River area and other piedmont pottery kilns tell us about the evolution and regional variation of kiln design and construction during the 19th and early 20th centuries? In particular, are there correlations or associations between kiln location, size, and orientation (vertical and horizontal placement)? Individual potters' socioeconomic status and number of kilns? Access to natural resources? Market factors? Regional economic trends (Ducker et al. 1993:155).

They also urge looking not only at the production sites, but also at the domestic sites in order to place

stoneware production in a more integrated historical context.

Another question that might be asked relates to the type of glazes used. While the Edgefield potters exclusively used alkaline glazes, potters in the Seagrove area of North Carolina not only used alkaline glazes, but also salt and slip glazes. How were the Middle Tyger River potters affected by these two potting areas? Also, can a local style be identified based on forms and glazes, or is it a combination of styles from other potting centers?

Questions relating to organization of labor also need to be addressed. Were these commercial potters, or was the activity only occasional?

Interestingly, Drucker et al. (1993) performed microprobe analysis on 10 alkaline glazed sherds from five Tyger River pottery sites. The purpose was to compare paste and glaze composition and color of historical sherds with known products made using similar technology. Two modern control sherds were prepared by a Tyger River potter, Billy Henson, for comparison. Their results were useful for general comparison of glaze samples when compared to visual observations. They found, for example, that a sherd with light green glaze color and light gray paste had the highest percentage of calcium. In the control sherds, they found that the higher the percentage of kaolin clay present the higher the overall calcium percentages. No statistical analysis was performed because of small sample size (Drucker et al. 1993:165-166). Examination of a larger collection would be interesting since there appears to be potentially significant differences among the historic sherds and between the historic sherds and the modern control sherds (see Drucker et al. 1993:167-168; Table B-1). This analysis may help to address questions about variability in the types of clays and glazes used.

Brickmaking

Although no brickmakers were found in the 1850, 1860, or 1870 industrial censuses, five establishments are listed by the 1880s (Anonymous 1884). Brickmakers appear to have been in operation earlier since in 1826 Mills (1972:577 [1826]) states that "[b]esides rock, very good brick, for building, is made of the clay found everywhere; a proof of which may be had in the village." In addition, the historical research suggests several kilns elsewhere in the county. Why they do not show up in the industrial censuses of 1850, 1860, and 1870 is unknown.

One activity of brickmaking which will leave a diagnostic feature is clay mining. According to Gurke (1987:5) the most common practice in the United States and Britain for mining clay was digging by hand in shallow pits. In one example he provides from Philadelphia the clay was "dug in spits, each spit being one foot deep, four feet wide, and 16 feet deep, which makes a mass for one thousand bricks" (Gurke 1987:5). The kilns for firing the bricks were probably within reasonable distance of the clay deposits, so that large amounts of clay would not have to be hauled over long distances for preparation and firing.

The pug mill was one of the earliest mechanical devises used in brickmaking. Early pug mills were usually a wooden tub through which ran a vertical shaft of wood. A series of blades was attached to the shaft. The clay and temper was dropped into the top of the container and as the clay made its way down, it was mixed with the rotating blades.

Once the clay was mixed it was molded into bricks. This was either done by hand, patting the clay into rectangular boxes, or spreading the clay on the ground and cutting the clay into rectangles. After they are molded they are allowed to thoroughly dry before they can be taken to the kiln. Often, large sheds were used

to store bricks while they dried to help quicken the process, since rain is unpredictable and slows the drying process a great deal. Often these sheds were heated to reduce the humidity levels. Once they were dry, they were taken to the kilns to be fired.

Temporary kilns included the scove or field kiln and the clamp kiln. The scove or field kiln was made out of the dried green bricks. The sections had bricks 35 to 40 courses high and at the bottom of each section was an arch or firebox that ran the length of the kiln. After the kiln was set, a wall of burnt brick was put around the kiln and was daubed over with mud to prevent unwanted drafts. Fires were lit in the arches, and continually fed until near the end of the firing when the arches were covered by stones or an iron door. The kiln was dismantled after firing and the bricks were ready for sale. The clamp kiln worked similarly, however, there are no arches, but rather "live holes" which extend the length of the kiln and are about 7 inches wide and 9 inches high. The smaller fire box is possible because the green brick has mixed within it the coal dust necessary for complete burning. With both the scove and clamp kiln bricks were unevenly fired, with bricks on the bottom receiving more heat than those on top (Gurke 1987).

Because to the uneven heating problem, the downdraft kiln was invented. This directed the heat along the walls of the kiln or outside by means of a flue to the top of the kiln. There the curved or domed roof and the draft caused by a tall attached chimney forced the hot air downward through the bricks and out through openings in the floor. This provided more uniform firing of the bricks. These downdraft kilns were constructed in a circular (also known as bee hive) and a rectangular form (Gurke 1987).

Permanent kiln types consisted of the Hoffman continuous kiln and the tunnel kiln. In the Hoffman kiln a series of chambers were connected in a racetrack oval or circle with the wall between being temporary. The advantage of this kiln was that while bricks were firing in one part of the kiln, they could be unloaded in another part, allowing for continuous use of the kiln. Kilns of this type are known to have had fires burn in them continuously for 50 years. The tunnel kiln consisted of a long low tunnel just large enough to accommodate a steel car loaded with green brick. The car, which ran on rails, was provided with a platform and walls built of firebricks to prevent heat damage. While new green bricks were entering one end, fired bricks were emerging from the other (Gurke 1987:32-34).

Research questions associated with brickmaking might include:

- Is brickmaking not listed in the earlier censuses because the operations were small and impermanent?
- What types of support buildings are associated with brick kiln operations?
- How do Greenville County's brick kilns compare in terms of output with brick kilns in the Charleston area?
- What sort of kiln technology was normally used?
- Were there associated settlements for these workers and who were they?
- Were some kilns associated with plantations that had some other economic basis?
- Who operated the kilns? Slaves? Poor or middle class whites?

Did the kilns operate continuously or just when a few bricks were needed?

Gold Mines

Most of the archaeological work on gold mines has taken place at the Reed mine in Cabarrus County, North Carolina (see, for example, Knapp 1973; Trinkley 1986; 1988). At the Reed mine, gold was obtained through a number of methods which changed through time. When mining began in 1803 up through 1830 mining consisted primarily of digging pits along or in Little Meadow Creek, extracting the gold bearing rock, and washing and panning it for gold; essentially, retrieving only the placer deposits,²³ During the 1830s, the miners moved uphill above the creek and look for gold in underground quartz veins by digging shafts and tunnels. After the Civil War mining and panning continued sporadically. In 1890 a ten-stamp mill was erected to process the gold. The formal operation of the mine continued up through World War I (Knapp 1973:xiii-xiv).

In Greenville County, Lieber (1859:64) noted that gold was not widely distributed and was not being regularly mined. However, he mentions a couple placer mines operating including Carson's Gold Mine (known as the McBee mine in the early twentieth century) on the Greenville/Spartanburg county line. Another mine was located on Wild Cat Creek. In the early twentieth century seven areas were mentioned by Earle Sloan as being either actively mined or exhausted (Sloan 1979:32 [1908]). It appears that some small attempt was made at both of these mines to mine veins, although these attempts were, for the most part, unsuccessful. For Carson's Mine Lieber (1859:66) states that "[v]eins, indeed, abound on the property, and some of them contain a little gold; but I much doubt their size, extent in depth and value, and shall only be too happy to find myself mistaken". As for the Wild Cat Creek Mine, he states "[e]xplorations made in the adjoining hill were entirely unsuccessful, the gold in the veins being very small in quantity, although the character of the gravel in the deposits forbids the belief in its distant transportation, and would naturally refer its gold to these veins" (Lieber 1859:66). He also mentions a couple of other deposits on "the lands of the Hon. Mr. Westmoreland and of Mr. Wm. Dickey, and others in the immediate vicinity. Some of these have been worked, although imperfectly, so that considerable portions of the deposits yet remain. In south-eastern Greenville, isolated pieces of gold have been picked up within reach of freshets in the Ennoree, but the topography does not indicate the probability of any deposit, and it is probable that such nuggets may be of recent transportation" (Lieber 1959:67).

Approximately 50 years later, Earle Sloan lists eight gold mines, all of which appear to be placer mines. However, the Cureton Mine on the Middle Tyger River did yield some ore deposits. He states that:

[t]wo test shafts, respectively 12 and 14 feet in depth, have been connected by a tunnel along the strike of the vein. Vein stringers of quartz aggregating about 18 inches in thickness irregularly break across, and follow, the line of stratification near the surface; these veinlets are gradually converging towards the bottom of the test shaft Selected samples afford irregularly high returns of gold. The property commends itself as entitled to deeper exploration than has yet been undertaken (Sloan 1979:33 [1908]).

Since Greenville County's gold deposits were mostly placers, no direct comparison can be made between them and the Reed Gold mine in North Carolina. However, Knapp (1973:1-25) provides a

²³A placer deposit is an alluvial deposit of gold, meaning that it eroded from uphill ore deposits down onto an alluvial floodplain or creek bottom.

description of the early period of Reed mine use which primarily consisted of placer mining.

First, the miners picked up the obvious, large chunks of gold from the creek bed and in the process learned to recognize "grain gold" in the gravel of the stream. This was the gold that had been deposited through erosion from the sideslopes of the adjacent hills. Often the small grains would travel downstream until it reached a bend where often particles settled. After settling, the larger and lighter gravel rose while the finer, heavier gold particles gravitated toward the bedrock and formed a layer of rich auriferous (gold bearing)material. The miners devised a method to sort and separate gravel, sand grains, mud, and gold dust in such a way to retrieve only the gold. This method was known as panning. Basically, panning used the specific gravity of the different types of particles to separate out the gold. Unfortunately, panning was an extremely slow process with little yield. As Knapp (1973:5) notes, "[a]n experienced, diligent worker might wash fifty pans in a day, but this still was only 1 cubic yard of gravel." As a result, a more efficient method was used to extract the placer deposits. A rocker, which was constructed with a box with a tin bottom full of punched holes, shook back and forth on a steel slider with water pumped on the clay, sand, etc. The smaller particles, including the gold would fall through the holes while the larger particles stayed in the rocker.

At the Reed mine and at other mines, mercury was sometimes used to extract gold. The mercury would amalgamate with the gold. The resultant compound was then heated to distill off the mercury, leaving pure gold. The mercury, collected during the distillation process, would be reused (Knapp 1973:13).

Dension Olmstead noted in 1824 that a barrel rocker was being used at the Reed mine and that the creek bed and bottom lands of Little Meadow Creek in an area of 50 to 100 yards wide and for a quarter of a mile up the creek was filled with many small pits and dirt piles (Olmstead 1824).

The rocker was shortly replaced with a "long tom" or sluice which could handle larger quantities of material. It was not until after the 1820s that miners began mining ore deposits, which Greenville County did not have. Therefore, placers continued to be mined up through the twentieth century.

Although mining effectively ended around World War I in Greenville County, there was probably an increase in activity during the Great Depression as people looked for other sources of income. Mining still occurs today, but only as a small scale recreational activity.

Although no one has published a description of the types of structures and features that might be present at a placer mine, Knapp (1973:x-xi) provides a glossary of terms providing some insight into what might be present. Features, structures, and artifacts that one might find at Greenville County gold mines include an iron retort (for removing mercury), evidence of hydraulic mining (exposing surface ore by washing away earth and rock with water under pressure), mining pits, pans, shovels, rocker parts, sluice, and tailings (which are waste deposits from processing ore at the mill). In addition, at the Engine Mill House Trinkley (1986) found some unusual stoneware which he believes was used to ship mercury to the mine. The stoneware is not local and its origin is unknown.

Research questions directed toward gold mine sites are listed below and deal with technology, site patterning and signature, organization of labor, and the presence of camps or residences. In relation to labor, Lieber (1859:68) suggests that slaves should be excluded from work at deep mines because of "the carelessness of negroes, and their present high price, as well as the considerate feelings of precaution which a master naturally entertains for his servant " However, he recommends their use at placer deposits since the labor is cheap and reliable.

Research questions related to gold mining in Greenville County, could include the following:

- How did changing technology alter the face of Greenville County gold mine sites?
- What is the patterning of gold mine site locations?
- What was the organization of labor (Were these mines family operations? Who was involved in the mining? Was the gold mined all year or only during agriculturally slow periods?)
- What is the archaeological signature of placer mine sites?
- Are there any short term or permanent domestic occupations (such as campsites, owners housing or slave housing) at gold mine sites?

Taverns/Inns/Public Houses

In many instances, taverns, inns, and public houses were words interchangeable. Inns and public houses were not only authorized to sell alcoholic beverages, but also rented out rooms for the night. A tavern was more often equated with a place where food and beverages were served, but sometimes also rented out rooms.

Only one tavern has been excavated in South Carolina. However, several have been examined in the Mid-Atlantic states of North Carolina, Virginia, and Delaware. Unfortunately, most are urban taverns which may provide an archaeological profile different from ones in rural Greenville County. These urban tavern owners would have had much better access to manufactured goods, whereas taverns in the South Carolina rural upstate may have had little access to manufactured goods.

Mills' Atlas (1969 [1825]) shows a number of taverns and inns in Greenville County in 1820, most of which are situated south of the city of Greenville. They include Seaborn's tavern, Garrison's tavern, Pollard's tavern, and E. Green's tavern. North of Greenville there is only one reference to what is interpreted to have been a tavern or inn, called Bridge Lodge. It was located at the foot of the mountains adjacent to the north fork of the Saluda River and may have served as the "last resting point" before entering the sparsely populated mountain region. In Mills' *Statistics of South Carolina* (1972 [1826]) he mentions that the town of Greenville had three good public houses in 1826. The only mention of rural taverns that he makes is "[t]he taverns are increasing in number, and improving in entertainment as the travelling increases" (Mills 1972:575 [1826]).

Since taverns/inns/public houses served to feed, house, and entertain people their artifact pattern is probably distinctive, although not yet discovered. Typically there were individual rooms with fireplaces, a kitchen, as well as a public room. While it seems that little would be found in the lodging areas since people tended not to "move in" for extended periods of time, it is likely that the public room and kitchen would have large quantities of artifacts. For instance, at Wetherburn's tavern at Colonial Williamsburg (Noël Hume 1969), a large quantity of brandied cherries were found in bottles still intact, buried up against the inside wall of the tavern's kitchen. Apparently, burying bottles was a common practice in the eighteenth century as testified by the 1753 supplement to Ephraim Chambers's *Cyclopaedia*:

[s]omething also depends on the place where the bottles are set, which ought to be such as exposes them as little as possible to the alterations and impressions of the air: the ground is

better for this purpose than a frame, sand better than the bare ground, and a running water, or a spring often changed, best of all [quoted in Hume 1969:26].

One might expect large quantities of pipe bowls and stems as well as large quantities of plates, eating utensils, cups, mugs, and bottle fragments. Coleman et al. (1990:170) suggest that urban taverns, which are predicted to have more of a social function than rural taverns, would have more artifacts associated with socializing, such as tobacco pipes and bottle glass. Rural taverns, functioning more for traveler subsistence, might have a higher percentage of ceramics.

Many taverns did not stand alone, but were surrounded by a number of support structures and features. Court records sometimes provided detailed descriptions and include this one from Delaware:

one dwelling House occupied for a Tavern with a kitchen under the same ruff, one room of side house wants plastering the rest of the house in reasonable repair their is one new porch at the Front of the said House there is on said Premises one new Log Meet house also one new said Log Corn Crib one brick one wants some repair one log barn with stables at one end in reasonable repair one new stable one shed for Horses to stand under with Clabbord ruff some what wore one garden pailed in, in midling repair, and a few scatterind apple trees . . . (quoted in Coleman et al. 1990:64).

Further south in North Carolina, Stanley South (1960) excavated a public house and tailor shop. On C.J. Sauthier's 1769 map of Brunswick town, the lot containing the public house had a number of other structures and a well. One structure may have served as a kitchen and dining area, while other structures may have served as stables, laundry, etc. Privies were surely present as well. The public house itself was a barracks style building with six rooms and three internal double chimneys. Although located in an "urban" setting, it seems reasonable that public houses and taverns in rural settings had similar amenities.

In South Carolina, Zierden et al. (1982) examined McCrady's Tavern and Longroom. Based on the artifactual remains, McCrady's catered to a high status clientele. The artifact pattern for the longroom fell within the range of the Carolina Artifact Pattern (South 1977) for the two major groups of kitchen and architecture. However, the percentages for tobacco were significantly higher which corresponds to findings at other tavern sites.

Questions relating to public houses, taverns, and inns might include the following:

- Is the artifact profile of a tavern, etc. different from a domestic structure?
- At rural taverns, etc. what types of support buildings are commonly found?
- Did some of the support structures serve not only the tavern, but also the dwelling house for the tavern-keeper and family?
- How are taverns in the upstate different from or similar to taverns on the Coastal Plain of South Carolina?
- How are South Carolina taverns different from taverns in the Mid Atlantic states or elsewhere?

- What types of activities went on at rural taverns?
- Did some local residents turn their own homes into taverns or inns?
- How do rural taverns compare with urban taverns?

Country Stores

One important aspect of rural life was the country store. In Greenville County, they were beginning to make a presence in the early nineteenth century, however, it wasn't until after the Civil War that they became important aspects of the community. Although Mills' Atlas (1969 [1825]) is not complete, it provides at least a sample of what was present in the Greenville District in 1820. He shows the presence of only three rural stores (Ballard's, Toney's, and unnamed), all located south of Greenville. In his statistics of the state (Mills 1972 [1826]) he does not make mention of the importance of these stores to the district, suggesting that they did not make an impression on him. However, this suggests that rural residents of Greenville County had little access to consumer goods without going into the town of Greenville. Mountain residents may have had to do without most consumer goods.

After the Civil War, as large plantations were broken up into smaller units and communities were predominated by the yeoman or tenant farmers, country stores became much more numerous all over the state. Since most rural Southerners were isolated, merchants were now concerned about the convenience of the stores to their customers. Where railroads were being built, company representatives encouraged the building of warehouses, stores, and railway stations at strategic points. Everywhere else, the stores were springing up in locations where it was believed that there were enough people to make them profitable. There was also the demand for an agency which could exchange small quantities of goods for equally small amounts of diverse rural produce. In addition, the buying and selling of cotton was now removed to these crossroads villages (Clark 1944).

Emancipation and the shift of white farmers into cotton cultivation handed new power to South Carolina's merchants. These new opportunities resulted in a large increase in the number of trade establishments. In areas that were heavily populated by blacks, such as the Coastal Plain, the new firms were crossroads merchants who, according to Hammond had "become an important factor in the organization of labor and in the distribution of wealth" (Hammond 1883:659). In the piedmont, where merchants had been numerous before the war, increase not only occurred in small rural communities but also in larger towns. Simply put, before the war plantations had provided necessities to the black slaves whereas in areas not dominated by a plantation economy such as the Upper Piedmont, country stores already existed to provide necessities to the farmer. Emancipation created a need for new country stores in areas that were formerly supplied by plantations.

In Greenville County, during the postbellum, black tenant farmers made up about 56% of the tenant population, whereas in counties where plantations were larger and more prevalent the black tenant percentage was often much higher. For instance, in Aiken County black tenants composed 95% of the labor and in Berkeley County black tenants comprised 90% of the labor (Anonymous 1884). In 1940, white farmers in Greenville County numbered 4,388 individuals whereas black farmers consisted only of 1,219 people. For Aiken County white farmers consisted of 1,734 individuals and black farmers consisted of 1,656 individuals, and in Berkeley County, there were 817 white farmers and 2,253 black farmers (1940 Census).

These local merchants were one of the most important sources of credit. For the sharecropper or

tenant farmer, many times the landlord controlled the local business. Therefore, through the farming business the landlord secured one-half to two-thirds of the tenants' produce, and through his commercial operations he could potentially secure the rest. The interest was generally exorbitantly high, "justified" by the risk. The security was the entire crop which, after being harvested and ginned, had to be turned over for disposal by the creditor in payment of the debt. Since there was often only one store per community, the tenants and sharecroppers tended to be a "captive audience" (Johnson et al. 1935). Often the planter paid the hired hands in scrip which could only be used at a given store (Woodman 1968). In the Upper Piedmont most of the former plantations did not create commissaries or stores, although a small number (7.5%) did. Regardless of whether or not the landlord owned the store, a lien system prevailed in the South.

For both the yeoman farmer and the tenant/sharecropper, the country store offered a myriad of merchandise including foodstuffs, clothing, farm tools, horse hardware, musical instruments, toiletries, drugs, and sports equipment. In addition to providing necessities and luxuries, the store was also a meeting place where the idle could sit and talk to the other idle, play checkers, or watch the pedestrian traffic.

The archaeological signature of a country store is not known. If it is unknown at the time of discovery that the site contained a store, it may be difficult to apply a function. For instance, store owners sometimes lived above or behind the store front, which would cause the site to produce a domestic artifact pattern. Some (Honorkamp et al. 1982) have suggested that commercial activity is likely to be poorly represented in the archaeological record, with the vast majority of artifacts representing the domestic component. In contrast, Honorkamp (1980) suggests that sites with both craft and domestic activities will generate at least some byproducts indicative of site function. What these by-products might consist of at a country store is unknown.

If the owner did not live there, there may be little clear evidence that the site functioned as a store. Since stores often served as a social center, with people often gathering on the front porch particularly in the summer, there may be a distinctive trash disposal or littering pattern. There is likely to be a large quantity of bottle glass, crown caps, and pull tabs from drinking beverages on hot days. Questions related to country stores could include:

- How common was it for a store owner to live at the store?
- ✤ How are these stores spaced across the landscape?
- ✤ If the owner lived there what was his/her economic status?
- Is there archaeological evidence for a large degree of social activity?
- If so, how is this activity exhibited in the archaeological record?
- Is there evidence for other buildings such as a cotton warehouse or granary at the store?
- What does historical research indicate about changing consumer demands through time?
- How does an antebellum store compare with a late nineteenth century store in terms of architectural configuration and amenities?

While these questions are not exhaustive they can at least provide insight into the development of the country

store and the fabric of interaction that occurred there.

Cemeteries

A number of researchers (e.g. Atkinson and Turner 1987; Garrow et al. 1985; Rose 1985; Trinkley and Hacker-Norton 1984; Wegars et al. 1981) have demonstrated the value of examining physical remains (i.e. skeletal material, coffin hardware, and jewelry) in cemeteries to better understand issues surrounding status, ethnicity, diet, disease patterns, and belief systems. These works have shown that there is more to a cemetery than the names and dates of the individuals buried there or the decorative styles of cemetery markers.

In the 1970s archaeologists first became aware of African-American mortuary patterns through the work of John Combes (1972) on the South Carolina coast. That work was largely based on previous anthropological or folklore studies such as Parsons (1923), Michael (1943), Glave (1891), Georgia Writers' Project (1940), and Puckett (1926). More recent discussions include those by Fenn (1985), Nichols (1989), Thompson (1983), and Vlach (1978). These studies describe the African-American practice of placing items on graves and attribute the practices to African beliefs.

Deetz's (1977) work at an Anglo-American cemetery in New England provides a serration of tombstone styles illustrating a shift from death's heads to cherubs to urns and willow trees in the eighteenth and early nineteenth centuries. In addition to these stylistic shifts, was also a shift in verbiage used in the epitaphs, illustrating patterns of change in Anglo-American culture.

In addition to Deetz's work, Diana Combs (1986) has examined tombstones from Georgia and South Carolina. However, she focused on the more elaborate designs and the cemeteries she examined were concentrated along the coast. The meanings of the various motifs used were discussed as well as their relationship to religious beliefs. Although not exploring the upstate, the study provides useful comparative data from the lowcountry.

Recent work such as that by Trinkley and Hacker-Norton (1984), Rose (1984), and Garrow et al. (1985) has emphasized the study of coffin hardware and osteological remains. These studies, undertaken when the cemetery is to be relocated, are a necessary adjunct to the formal and legal routine of relocation as specified by South Carolina law. Rathbun observes:

cemetery data are extremely important above and beyond the usual categories associated with distinctive persons, design features, and association with historic events. This narrow definition of historic importance fails to recognize that human remains provide data of considerable historic importance. Not only are many segments of the population omitted from typical historical sources, but the skeletal remains provide empirical evidence directly relevant to broad historical issues in health, nutrition and social customs. The biological history of our nation has received insufficient attention Even if some of the information inferred from bioarchaeological analysis is available from other sources, validity and accuracy of other records can be evaluated through comparison with the physical evidence (Rathbun 1985:208).

While most of the previously discussed works deal with low country African-Americans, they provide both a baseline for the study of African-American biocultural archaeology in the upstate, and a data base to compare against Anglo-American cemeteries.

Generally cemeteries are begun for three social groups which include:

- *family* to provide a burial place for family and extended family;
- *church members* to provide a burial place for members of a church, or
- *community* to provide a burial place for members of a town or community.

A fourth cemetery type, which actually might be considered to be a combination of the three, is a slave cemetery. While slaves within the same plantation were not necessarily all related to one another, they probably consisted of a small number of extended families, making them a combination of a family and community. It is also probable that they were all of the same religious faith and went to the same church. All of these cemetery types might and probably will provide different profiles.

The family cemetery is the smallest of the three types and contains a limited number of surnames. The type, style and variety of tombstones may depend on the time period, the changing wealth of the family, the availability of materials, and the religious denomination of the family. Stones could range from unmarked fieldstone markers to cut marble markers. Sometimes family cemeteries were surrounded by low stone walls or iron fences which clearly demarcated the boundaries, but not always. Unfortunately, there has been no formal study of cemetery location and their proximity to the family farm or plantation.

Perhaps equally as small is the slave cemetery which sometimes was used into the postbellum period. Since slaves were poor and blacks during the postbellum were usually equally poor, the variety of stone styles might be limited. It is likely that most were fieldstone during slavery and poured cement during the postbellum. If the cemetery persisted into the modern period, they were probably marked with granite markers or metal tags. How strongly African beliefs were followed in the upstate is unclear. However, in the lowcountry these cemeteries were often located in wooded areas some distance away from the slave settlement and were not fenced. In addition, there were often decorative plantings or grave goods which still might be visible today. These grave goods are commonly found in lowcountry cemeteries and are known to occur at least as far inland as Richland County as there are several early twentieth century graves in the B.F. Randolph cemetery with grave goods. Such cemeteries need to be documented in Greenville County, if they exist. If they don't exist, then their absence should be explained.

The decorative style of markers at church cemeteries is often restricted by the religious beliefs of the church members. While there may be a variety of markers, they were probably limited in range of style at certain points in time (see Deetz 1977). In addition, there may be decorative motifs or epitaphs that are common in family clusters. It is possible that ethnicity will also be visible through decorative motifs and the presence or absence of grave goods or decorative plantings.

Community cemeteries are often found in downtown areas. While some are also located on the outskirts of towns, most are very modern cemeteries that sprung up in the 1960s and 1970s when cemeteries were set out in acres of grassy land with few or small trees. Community cemeteries of age, typically have a large variety of stones since they harbor individuals from a number of different background and beliefs. Here, it is likely that both rich, middle class, and poor people were buried in the same cemetery, often grouped by family. It is possible that wealth played a role in where the person was buried, but presently the role of wealth in burial location is unknown.

All of these cemetery types can provide very significant information beyond who the people were,

when they were born, and when they died. They can address questions relating to social and economic status, beliefs and symbolism, health and disease, and community make up.

For family cemeteries, these questions could include:

- ✤ Is there evidence for changing economic and social status?
- What beliefs are represented in the material remains such as tombstones, coffin hardware, and jewelry, and can it be related to religious denomination?
- Did members of the family suffer from any health problems and were any of these genetic?
- Are aspects of their diet reflected in their skeletal remains?
- Is there a pattern in cemetery location in relationship to the family homestead?

Questions regarding slave and freedman cemeteries might include:

- Is there evidence for improving economic conditions from slavery to freedom?
- How do the material remains (i.e. tombstones, jewelry, and coffin hardware) of blacks and whites of similar economic status compare?
- How does the health of blacks and whites of similar economic status compare?
- How do upcountry slaves and freedmen compare with lowcountry slaves and freedom?
- What health and diet problems did slaves and freedmen experience?

Questions regarding church cemeteries might include:

- What is the range of social and economic status and how does this compare with other denominations?
- What beliefs are represented in the material remains such as tombstones, coffin hardware, and jewelry?
- What types of differences occur between white and black Baptist churches and does religion or ethnicity take precedent in the material remains?
- Do these beliefs appear to change at any point in time?
- Does health and diet relate to economic status?

Questions regarding community cemeteries might include:

✤ What is the range in social and economic status?

- What is the range in religious beliefs?
- Does the location of individual or family graves in any way reflect socioeconomic status?
- Do the archaeological remains of community cemeteries differ from rural church or family cemeteries?
- ✤ Are there any community patterns in health and disease?

Urban Sites

The city of Greenville was begun around Richard Pearis' trading post and grist mill established on the Reedy River between 1760 and 1770. The city was established in 1786 and about a decade later Lemuel J. Alston offered a site for the court house. He also laid off 400 acres round the court house plat, laying out a proposed village called Pleasantburg although the town was always referred to as Greenville. Since most settlers were interested in agricultural land, the lots did not sell well and Alston sold 11,000 acres, including the town of Greenville, to Vardy McBee in 1815. Through McBee's efforts, the town became a trading center for surrounding counties. Greenville also became known as a health resort for lowcountry planters escaping the malaria and humidity of the lowcountry summer (Building Preservation Technology 1981:11).

Mills describes the town of Greenville in the 1820s stating that:

[t]he public buildings are, a handsome brick court-house, (lately erected,) a jail, a Baptist meeting-house, an Episcopal church, and two neat buildings for the male and female academy. Of public houses there are three which will vie in accommodation and appearance with any in the state. The private houses are neat; some large and handsome. . . . The number of houses is about 70, and the population about 500 (Mills 1976:573 [1826]).

These references provide some idea of the types of buildings present during Greenville's early existence.

Although it is unknown what types of services and goods were available in Greenville early on, by the mid to late nineteenth century the industrial censuses list tanneries, boot and shoe makers, blacksmiths, coppersmiths, tin shops, silver platers, saddle and harness makers, tailors, carriage makers, chair and wagon makers, cabinet shops, guns shops, builders, and bakeries. Some, if not all, of these types of industries were in operation in "downtown" Greenville. In fact, by the late 1850s, Greenville had the South's largest carriage and wagon plant known as the Greenville Coach Factory and later as the Markley Carriage Factory.

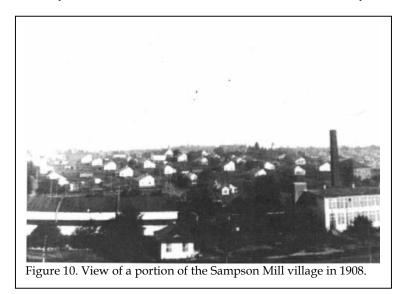
Wesley Breedlove has performed some limited salvage excavations in the downtown area. Unfortunately, since these projects were not funded none of the results have been published. As a result, no published urban archaeology dealing with Greenville's early existence has been performed although deposits associated with industries, public buildings, and households are probably still present. Sites in urban settings tend to be more complex than those in rural settings because of the intensity of occupation and the continual building, tearing down, and rebuilding. Anne McCuen has performed a lot by lot study from downtown Greenville's beginnings through about 1856 (Anne McCuen, personal communication 1995). Such a study is invaluable to understanding what types of activities took place on a particular lot through the mid-nineteenth century and to understanding the archaeological components it might possess. It is also a great initial step in evaluating the archaeological potential of the downtown area.

Site formation at urban sites tend to be complex since they consist of artifact deposition, artifact redistribution, or removal of artifacts from the record altogether (see Zierden and Calhoun 1984:104-195). This process can go on several times and will be most complex in older cities. In towns like Greenville that have not been occupied as densely and for as long as towns like Charleston, this complexity is different, if not less. First of all, the deposits are not as deep. In downtown Charleston, historic deposits alone can extend to more than five feet in depth.

In addition, there are natural processes, like scouring and erosion, that affect urban site formation. Work in downtown Augusta, Georgia by Joseph (1993) indicates that upcountry urban deposits may not be as dense as those found in urban sites along the coast. Most of the project area was located on the ridge slopes leading to the Savannah River and it appeared that periodic flooding swept away deposits from the surface leaving a fairly shallow occupation horizon. It is likely that erosion also played a hand in the shallowness of the deposits.

In downtown Columbia, auger testing of the Palmetto Ironworks site by Chicora Foundation (Trinkley 1993b) indicated that deposits generally ranged from 0.9 to 1.5 feet, although one test was over 2.1 feet in depth suggesting the presence of a feature. Complex lensing was not evident in these tests as it might be in an urban Charleston setting.

Testing of historic sites in downtown Laurens by Payne and Hulan (1986) also found that urban deposition in the Piedmont area is not deep. But although sites are not deeply deposited, the work by Joseph (1993) suggests that these sites are still relatively complex. Stripping in areas of the site revealed a very large number of features which would require "teasing apart" to determine which building episode they are associated with (see Joseph 1993:209, Figure 71). In these urban situations, mechanical stripping is probably not the ideal approach to interpreting the deposits. Because of this urban complexity, it is important to carefully hand excavate the remains to determine what they are associated with.



Greenville was impacted by the cotton monocrop. Cotton factories and gins sprang up in many areas in the early nineteenth century and became a major way of life at the end of the nineteenth century as a response to wartime disorganization, emancipation, and changes in transportation and communication (Carlton 1982:14). Cotton mills and their associated villages became their own urban areas with a number of support facilities such as stores, hospitals, recreation facilities, churches, etc. As a result, they can provide significant data regarding the lives of people of various economic means involved in the same industry.

Excavations were performed at the Sampson Mill Village (Trinkley 1993a) although the funds available restricted the amount of fieldwork that could be done. However, the work illustrated that early twentieth century urban mill village sites can have rich deposits and yield significant archaeological information about mill life.

The archaeological and historical research at the Sampson Mill Village (Figure 10) suggested that white mill families were somewhat better off than their black rural counterparts. For instance, the village contained more toys than the tenant sites. In addition, the mill families had access to a number of facilities that their rural counterparts did not. They probably received better health care, education, and more opportunities for socialization and recreation. However, mill workers were not well off and cut financial corners when they could as revealed by the presence of spindle rings at the site. A local informant explained that employees would often take home wooden spindles for heating fuel to reduce the cost of heating their homes with coal. In terms of refuse disposal, ditches and gullies tended to be the primary repository of trash. Research into diet concluded that tenant farmers and mill workers at similarly and that they were both equally involved in canning garden vegetables (Trinkley 1993a). Since the work at Sampson Mill village was limited and provided only a brief glimpse into the lives of the mill workers, mill villages should continue to be considered an important archaeological and historical resource. In addition, these sites often have living informants which are a valuable part of the historical record.

The mill villages provide architectural data, information on trash disposal, diet, urban landscapes, as well as status. Research questions related to mill villages could include:

- How do the lifestyles of the mill worker and supervisory personnel compare?
- What are the refuse disposal patterns at the mill village?
- How do urban mill village patterns compare with other urban and rural patterns?
- How has mill life changed through time?
- What types of activities took place in the mill village?

The Pelham Mill ruins in eastern Greenville County are currently on the National Register of Historic Places. These ruins provide another angle at looking at mills and mill life since this site represents the remains of the industrial complex dating from about 1820 through 1935. Drucker and Jackson (1987) presented a number of topics which this type of site might address. These questions include:

- What was the character and physical layout of the mill through time?
- What types of rooms and work areas did the mills contain? This question would include the functional identification and excavation of late nineteenth and early twentieth century work areas, buildings, and/or rooms to gather information about the operation and by-products of these activity areas.
- What types of local services (sawmills, blacksmiths, and gristmills) were provided by the mill?

Since this mill dates as far back as 1820s, locating the associated mill village is important since it may be able to address questions relating the labor organization changes through time. Obviously, Emancipation strongly impacted the mills and there is a switch from primarily black slave labor to white labor.

While examination of mill life relates primarily to the lower and middle classes of white people of the late nineteenth and twentieth centuries, questions relating to rich whites also need to be identified and addressed. In Charleston, we know that townhouses tended to contain more expensive items than rural plantation homes. We also know that some of these planters who owned Charleston area plantations and townhouses had summer retreats in Greenville. For instance, Charlestonian Henry Middleton built Whitehall in Greenville County sometime after 1813 as a summer retreat from the lowcountry malaria and humidity. Work at these types of sites might yield interesting and significant information about the lives of the wealthy in upstate settings and how it compares to assemblages in urban and rural Charleston. In addition, antebellum sites could be compared to postbellum sites to see how the poverty experienced during Reconstruction affected the material possessions of the once wealthy. Other questions could include:

- Were upstate houses "show cases" and were they intended for entertaining?
- Were goods and furniture transported back and forth from the lowcountry to their Greenville homes?
- Did only the wealthiest own property in the upcountry?
- ✤ If so, how does this affect the archaeological record?

In addition, nothing is known about the lives of urban blacks. Since they were generally not hired in the mills during the postbellum period to work alongside whites, it is likely that many remained tenant farmers. Opportunities for blacks in the city of Greenville appear to have been limited to only those who had previously been urban slaves. Recently, Anne McCuen has discovered a standing and occupied house built by a freedman in the 1870s. He bought the property from his former owner and built the house which is still occupied by some of his descendants. Before and after slavery he worked as a blacksmith (Anne McCuen, personal communication 1995). Questions relating to the black citizens of the city of Greenville could include:

- What was the lifestyle of blacks during and after slavery?
- What was the lifestyle of rural versus urban blacks?
- What was the range of economic means and what were the variables that affected this range for urban blacks?
- How do white millworkers and urban blacks with specialized skills compare?

Military Sites

Military sites in Greenville County consist of late nineteenth and early twentieth century training camps associated primarily with the Spanish-American War and World War I. Both appear to have been temporary, having only been used during one war, and both can provide information specific to these time periods.

Camp Wethrill was a Spanish-American War training camp. Little is known about it although photographs show a number of log cabins within the camp (C.L. Bailey Collection, New York Public Library). It has never been archaeologically recorded and little is known about its present condition. Wesley Breedlove believes that he has located the site, although he has not found much above-ground evidence (Wesley

Breedlove, personal communication 1995). According to Armstrong (1976:593), military installations built after the war, between 1900 and 1905 were not nearly as primitive as ones built earlier. A large number of these camps were built because of the change in American policy which formerly opposed large peacetime standing armies. These new camps contained a large number of amenities (e.g. schools, libraries, amusement rooms, etc.) that the camps during the Spanish-American War did not have. This strongly suggests that soldiers may have found life at Camp Wethrill fairly spartan and boring.

Camp Sevier which was a briefly used World War I training camp is located within the city limits of Greenville and has been affected by a number of activities including modern commercial and residential development (Shelton 1955). The site had been previously identified by Wesley Breedlove and was recorded by Steve Smith of the South Carolina Institute of Archaeology and Anthropology. The camp was found to be spread over a large area of northeastern Greenville with only little pockets of the camp remaining. During this visit, trench lines and rifle pits in one isolated area were mapped in. In addition, Mr. Breedlove showed Mr. Smith the area of various remains including two standing chimneys in a residential yard, a magazine, and at least three warehouses still standing at the railroad yard (38GR202 site form).

Camp Sevier was set up to train National Guard troops, making them into Regular Army soldiers, and was make-shift since there was no space at Regular Army training camps. The men lived in tents in rows along company and battery streets. There may have been more permanent common use buildings. Murphy (1936) describes buildings that were combined store-room, kitchen and mess halls, but does not say if they were larger tent enclosures or actual frame buildings. He goes on to say that there were latrines and bath houses at the end of company streets with large boilers providing warm water for winter bathing. There were also post exchanges, three magazines, warehouses, supply houses, infirmaries, and guard houses. In addition there were a number of stables and corrals. There was a Divisional bakery, a salvage depot, automobile repair shops, shoe repair shops, fire station, and a base hospital complex. The hospital buildings were connected to one another by plank walks and included an administration building, wards for patients, nurses quarters, officer's quarters and quarters for the enlisted personnel as well as supply buildings and kitchens. Clearly some of these structures were much more permanent buildings as witnessed by the presence of ruined structures located by Mr. Breedlove.

While there were military regulations that camps were supposed to follow during the Spanish-American and World War I era, they sometimes did not consistently do so. We know from photographs that structures at Camp Wethrill consisted primarily of log cabins, whereas tents were used at Camp Sevier reflecting its impermanency. It is likely that tent structures were not regulation for training camps, but given the unpreparedness of the United States entering into World War I, the use of tents is understandable.

The reason for the use of log construction at Camp Wetherill is not immediately clear. Wood was a locally available, free resource if you were using timber from the property land. Log construction also made it possible to have immediate use of the lumber, rather than having to have it milled either on site or some place else. The use of what may have been expedient, suggests that there was some flexibility regarding the building modes used at training camps during the Spanish/American War.

Research questions and issues that military camps may address include:

- Were the permanent buildings at Camp Sevier pre-existing; a mix of pre-existing and new buildings, or all new buildings?
- Where was the line drawn in terms of what could be housed or stored in tents?

- How does Camp Sevier compare with other make shift training camps and how does it compare to permanent camps?
- Why was log construction used at Camp Wetherill?
- Is Camp Wetherill typical of Spanish-American War training camps?
- How were both Camp Sevier and Camp Wetherill organized?
- What were the living habits of the soldiers at both camps in terms of food consumption, garbage disposal, recreational activities, etc.?
- Can status differences be identified between officers and enlisted men?
- ✤ How closely were camp regulations followed?

Site Formation Processes

Important to understanding sites as they are found in the ground is a discussion of site formation processes. Piedmont sites were altered by processes that the Coastal Plain may not have experienced, such as heavy erosion. A discussion of urban site formation was presented in the section describing urban archaeology and should be consulted regarding its information.

There are a number of factors that affect the nature of the site in the ground. We have previously discussed how urban environments are affected by continual building, tearing down, and rebuilding and that some urban sites are not as deeply deposited as those in towns such as Charleston or Savannah which were occupied for longer periods of time and saw more intensive use. A discussion of site formation processes is necessary in order to understand what archaeologists should expect to find in terms of depth, stratigraphy, and complexity.

In sum, sites tend to be located in two general geographic areas: knolls and floodplains. As previously discussed, sites located on knolls are generally subjected to erosion due to clearing and continued plowing of these areas. As the soil is plowed and erodes downslope, future plowing goes deeper and deeper into the site, eventually plowing features completely out. According to a 1934 USDA erosion survey, Greenville County exhibits varying amounts of erosion ranging from moderate sheet erosion to moderate sheet erosion with occasional gullies, to severe sheet erosion with occasional gullies. The most severe erosion is found on hills and side slopes adjacent to the Saluda River. The lightest amount of erosion is found away from rivers where slope angles are not as steep. For the Greenville County area, a large part of this erosion did not begin until the early twentieth century except in the very southern portion of the county where erosion was a problem during the antebellum period (Trimble 1974:15). Little erosion probably occurred during the Indian occupation of Greenville County, since they tended to focus on cultivation of the bottomlands. However, the cultivation of "second bottoms" or stream terraces may have deposited soils into the "first bottoms" (Trimble 1974:32).

These bottomlands and stream terraces are the other areas most commonly occupied or used. While upland soil erosion caused the deposition of soils in these bottomlands, the scouring of occasional floods often carried these deposits off. In the Uwharrie Mountain region of North Carolina (providing a similar

geographic setting to Greenville County) Joffre Coe found that, in general, there was very little soil build-up on these floodplains. Whatever soil was deposited was scoured away. However, there were isolated build-ups in some areas. At the Doerschuk site a:

projecting outcrop of rock formed a large eddy area during the period of major floods. This resulted in the deposition of greater quantities of coarser materials than would have been true on the open floodplain. A second factor to be considered is that the narrow valley and projecting rock outcrops have prevented the formation of mature meanders and this area has been largely protected from lateral or bank erosion (Coe 1964:21).

Although not common, occasionally sites are found on side slopes and these are the sites which are most likely to have been subjected to heavy erosion. It is here where sheet erosion with some gullying has probably taken place. For instance, 38MC915 was found on a sideslope adjacent to Stevens Creek in McCormick County. This sideslope exhibited gullying and artifacts were found from about halfway up the slope down to a very narrow second terrace above Stevens Creek. It is quite possible that many of the artifacts that were originally deposited upslope eroded down to the narrow terrace where the bulk of artifactual remains were recovered (Adams 1993).

Very few archaeological features were encountered at the Finch farm site which Joseph et al. (1991) attribute to the amount of plowing and erosion. They provide good news and bad news about piedmont archaeology suggesting that:

the horizontal integrity of Piedmont sites can be expressed even within plowed contexts. Work at 38Sp97 (prehistoric site) and 38Sp101 (Finch farm site) indicates that meaningful clusters of artifacts can be read in the surficial distribution of prehistoric and historic artifacts within plowed contexts. This is the good news. The depth of plowing exhibited by Piedmont farms, the use of subsoil as an agricultural horizon, and the intensity of erosion over the course of the past 200 years has severely damaged the subsurface integrity of Piedmont sites, and this is the bad news (Joseph et al. 1991:256).

Therefore, while subsurface features are likely to have been destroyed (except in non-erosional floodplains or urban contexts), unless they are unusually deep, surficial plotting of artifacts can yield valuable information.

Summary and Future Research

As is suggested by this summary, very little archaeological work has been performed in Greenville County, particularly at the data recovery level. No large-scale prehistoric excavations have taken place in the county and all that is known about Greenville County's prehistory is based on survey level investigations and most of the large-scale settlement models presented are based on data collected elsewhere in the state. No historic sites clearly associated the Lower Cherokee have been archaeologically recorded with the South Carolina Institute of Archaeology and Anthropology. However, the work by Breedlove and McCuen (1993) provides strong evidence for the location of a number of sites. Virtually nothing is archaeologically known about Colonial or Antebellum lifeways in this area or the rest of the upstate. Some limited work has been done at the Rosemont Plantation main house complex in neighboring Laurens County (Trinkley et al. 1992), but little is known about the lifestyles of upcountry slaves and more investigations of upcountry plantation main houses are needed to provide a clearer picture of plantation lifeways. In addition, there is no archaeological information regarding urban life. Early twentieth century research has focused primarily on tenant farms, owner farms, and a mill village and even these studies are sparse.

The research questions for Greenville County are quite numerous since so little is known about its prehistoric and historic occupants. Questions posed within the previous text as well as broader questions are listed below.

As Canouts and Goodyear (1985) have stated, prehistoric sites consist primarily of upland lithic scatters and they argue strongly for their interpretive value. They can provide data concerning changing land use and changing preference or use of lithic raw materials.

A number of researchers have used a riverine/inter-riverine settlement model (e.g. Goodyear et al. 1979; House and Ballenger 1976; Sassaman 1983; White 1982) to characterize several different time periods. It would be useful to use this model to examine and characterize all prehistoric time periods so as to better understand how environmental and/or technological changes affected the movement and the settlement of people. Although Mississippian people, for instance, are known to have occupied river terraces, little is known about how they used the upland environments. Also, it is still not clear if and how the move to riverine settlements affected social organization. In addition, while some of the large late prehistoric riverine settlements were ceremonial mound centers, there were also moundless settlements and small hamlets. Future research should focus on how the inhabitants of each of these settlement types related to one another.

In addition to settlement and social organization issues, questions regarding diet, environment, technology, and long distance exchange need to be addressed. Prehistoric burials can also yield important data regarding social organization and health and diet. Ethically, archaeologists examining Native American burial remains should involve the Native American community to ensure their interests are met.

For the historic time period, questions regarding the relationship of eighteenth century settlers to the historic Cherokee Indians need to be addressed. Questions arise regarding how the change from the self-sufficient style of life on the frontier to increasing access to manufactured goods affected area residents. In addition, questions could examine how the new monocrop of cotton affected settlement locations of small farmers, planters, and slaves.

Research at late nineteenth/early twentieth century sites should examine how freedom affected former slaves through the examination of black tenant farms. These could then be compared to white tenant farms, white farm owners, and white mill operatives and supervisors to examine a whole range of questions relating to the social and economic relationships of blacks and whites; the poor and the middle class; the rural and the urban.

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