In this chapter, evaluations of the significance of the discovered cultural resources will be given. This is a complex task, and one that should be faced with great trepidation because it is this process that determines the "fate" of the resources considered.

38 CFR 60.6 states that:

The quality of significance in American history, architecture, archaeology and culture is present in districts, sites, buildings, structures and objects of state and local importance that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and

a) That are associated with events that have made a significant contribution to the broad patterns of our history; or

b) That are associated with the lives of persons that are significant in our past; or

c) That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components lack individual distinction; or

d) That have yield, or may be likely to yield, information important in prehistory or history.

The difficulties associated with evaluating significance are evident in a careful consideration of the criteria. The phrases "work of a master" and "high artistic values" clearly call for very subjective interpretation on the part of individuals. Similarly, "distinctive characteristics of a type or method" imply the existence of a typology or classification, and it is a truism in the social sciences that these devices are often adopted to serve immediate purposes, with the utility of the devices being determined in retrospect by some measure of the success of the exercise for which they were adopted.

As an archeologist, I can find no immediate solace or retreat in the use of criterion (d): "important in prehistory or history." We might as well be speaking of "high artistic values."

Many archeologists have attempted to come to grips with these criteria as they relate to the evaluation of archeological and historical resources (cf. Schiffer and Gumerman 1977; Moratto and Kelly n.d.; King, Hickman and Berg 1977, among many others). The result of this has been the development of typologies of significance. It is possible that the utility
of these typologies will not be for assessing significance but for improving and facilitating communication among investigators.

Perhaps the most extensive typology that has resulted is that of Moratto and Kelly (n.d.). Their categories are:

a) historical significance - "ascribed to properties which may contribute to the understanding of cultural patterns during the historic era" (n.d.: 7).

b) scientific (research) significance - "the potential for using cultural resources to establish reliable facts and generalizations about the past" (n.d.: 9).

c) ethnic and symbolic significance - ascribed to cultural resources which hold "religious, mythological, spiritual, or other symbolic importance for a discrete community of people" (n.d.: 16).

d) public significance - "refers to those values which accrue to a society through the enlightened stewardship of its archeological resources" (n.d.: 19).

e) monetary significance - an estimate of the "potential monetary worth" of a cultural resource. It is suggested that this category only be used for preservationist goals (n.d.: 22).

For the discussion below, monetary significance will not be argued for the resources impacted by the proposed Richard B. Russell Dam and Lake Project. The difficulties of this concept are many, and we would like to join Schiffer and Gumerman (1977:246) and others in regarding this as "historical curiosity."

The category of scientific (research) significance is broad enough to include a wide range of concerns that relate to the utility of a site or resource to contribute data useful to the solution of research problems, usually of a timely or current nature (Schiffer and Gumerman 1977:249). With a category of such broad reference, a typology of scientific significance has also been advanced. This typology suggests that this category can be subdivided into a) substantive, b) anthropological, c) social scientific and d) technical, methodological and theoretical (Schiffer and House 1977) elements. I would view this typology as strictly an exercise because the various categories advanced have no clear boundaries which separate them from one another. For example, substantive significance refers to the description and explanation of events and processes, yet there is also a category of theoretical significance. Is the explanation of a process not theoretical? Or, can the explanation of a process be substantively significant, but not theoretically significant? The distinction between anthropological and social scientific significance is interesting in this regard also. Can we have something which is anthropologically significant but not significant for social science? Although the intent of the authors is to facilitate conceptions of significance, I sense here more of an effort to typologize for its own sake. Given the discussion in Moratto and Kelly (n.d.) concerning the reaction of the Advisory Council on Historic Preservation to the use by archeologists of the criteria of eligibility to the National Register of Historic Places, the use of such a typology,
which results in "the unsatisfactory realization that all sites are significant" (Schiffer and House 1977: 256) is disturbing. For this reason, the use of the concept of scientific significance will be restricted in this report to the utility of a resource to contribute meaningfully to a research domain.

King, Hickman and Berg (1977: 96-104) discuss significance in terms of the utility of a resource to potentially contribute to the enhancement of knowledge and secondly, the importance of a resource to a specific group of people. The first refers to research value and the second to cultural values of a resource. To be sure, some resources can possess both values.

Research values are to be evaluated in terms of national, state, or local significance. National significance refers to research values of utility to studies of broad scope. The state level of significance is awkward and refers to the state level of preservation and planning. Local significance refers to research values of utility to a restricted region or locality. These levels have been identified with regard to the expansion of the scope of the National Register of Historic Places by the National Historic Preservation Act of 1966 (P.L. 89-665) to include properties of state or local significance.

Cultural values are identified with respect to groups of people or communities. This meshes well with Moratto and Kelly's (n.d.) "ethnic and symbolic" significance discussed above.

The discussion above has introduced a variety of types of significance that may be addressed when evaluating cultural resources. In this report, we would like to combine aspects of both and argue the significance of resources in the Richard B. Russell Dam and Lake Project in terms of these categories:

1) **Scientific significance**: use is made of both Moratto and Kelly (n.d.) and King, Hickman and Berg (1977). Cultural resources which possess data that can contribute to the elucidation of cultural processes.

2) **Cultural significance**: this subsumes Moratto and Kelly's "ethnic and symbolic" category and refers to resources which can contribute to the heritage of a community or a group of people.

It will be noticed that historical significance is not listed above. This is because historical significance, as it is used, refers to events or processes of the historic period. The salient characteristic of an historic period site is not its historicity, which, in itself, adds nothing to its potential for contributing to knowledge, but rather the same characteristic which argues the potential of prehistoric sites, that is, its data content integrity.
Another factor that has caused us to employ only two categories is the fact that most typologies of significance fail to result in types which are mutually exclusive. This is a very serious shortcoming for a typology. As archeologists, we would be very concerned about a lithic typology that has overlapping types, such that type A could sometimes be called type B, if the need arises. This was the most serious fault of the Schiffer and House typology of scientific significance discussed above. Moratto and Kelly's discussion suffers from this also, i.e., "there are many cases where ethnic and historic or public significance are the same" (n.d.: 17).

Recourse is also not made to levels of significance (i.e. national, state or local), because these do not in themselves serve to absolutely discriminate. King, Hickman and Berg (1977: 102) use an example of a cultural sequence for a specific area as being of local significance, but this site "can, of course, immediately attain national significance if the questions that give them meaning are tied in to some larger issues...."

In terms of the criteria of significance outlined in 36 CFR 60.6 (quoted in the beginning of this chapter), our selection of resources depended upon consideration of the integrity criterion in conjunction with criteria "a," "c" and Md. As was discussed above in chapters on research design and field methods, this area was poorly known in terms of the knowledge of the research and cultural values that may be represented. Furthermore, background data indicated that historic land use of this area was extensive and intensive, resulting in the diminution of the integrity of some of these resources. It was further noted and argued, that field conditions were such that the surface collection of sites was hampered by the problem of unequal access to the sampling space. As a result of these factors, survey methods concentrated on gathering data relevant to an accurate estimate of the sites' integrity and artifact content. Integrity can be monitored along a number of dimensions (above and King, Hickman and Berg 1977: 97-98). In most instances, we are taking a very liberal view of this criterion as integrity of location. There are no sites in the reservoir that are undisturbed (Talmage, et al. 1977). Artifact content was monitored in terms of criteria "a," "c" and "d" as was mentioned above. Eligible sites have been documented by Cultural Resource Inventory forms that were submitted to Interagency Archeological Services - Atlanta, Georgia on February 15, 1978. At that time, evaluations were made on a site by site basis pursuant to paragraph 1(d) of contract number CX 5880-7-0119. Sites argued as potentially eligible are identified in the Eligible column of Appendix A.

At this time, the arguments of significance will be advanced without regard to individual sites, but rather in terms of the research and cultural values present among the body of resources that will be impacted by the proposed Richard B. Russell Dam and Lake. This approach has been adopted because the areal scale of the project has included a wide variety of resources located in both the riverine and upland zones. This feature of the areal definition of the project allows for the identification of site complexes of both a synchronic and diachronic nature. Individually, sites in these complexes might not have easily identified values, but when considered as part of a larger unit, these
values became enhanced. In addition to complexes controlled by diachronic or synchronic concerns, such as a complex of sites spanning the Archaic, or a complex of contemporaneous (in the broad sense) sites of the Late Archaic, site complexes can be identified in terms of environmental similarities or dissimilarities. It is these features of the resources which greatly enhance the research and cultural values identified.

The goal of our efforts has been to develop a reasonable basis for the identification of these values. Because of the nature of the impacts on these resources, preservation is an option that can be relied on only in the case of some of the sites located in the public use areas. For those sites that will be inundated, the data recovery operations that are anticipated must provide a "picture" of the archaeological record of this area that is of use for immediate purposes, and hopefully, serve the data needs or problems which have not been anticipated. The areas of significance identified below will hopefully contribute to the development of that picture.

The presentation below will be organized into a discussion of research values of specific cultural-historical units, then consideration will be given to those research and cultural values that are best treated in a diachronic manner, for example, trend studies, such as increasing sedentarism, patterns of raw material procurement and distribution, among others.

**Paleo-Indian Period**

Although no conclusive evidence of the use of the project area during the Paleo-Indian period was found during any of the surveys conducted, this absence was not unexpected (Michie 1977). Should this absence remain the case during further data recovery operations anticipated for this area, useful knowledge will result, because it will be possible to suggest for the first time that the absence was not conditioned by the intensity of investigation. A well documented demonstration of the absence of Paleo-Indian cultural materials from this zone, will be of value to investigators in areas where Paleo-Indian materials do occur. This distributional data could be of value for monitoring ecological and behavioral variability during this time that would condition such nonsubtle choices of the uses of large scale physiographic zones. Knowledge of this sort would also provide a baseline for evaluating the context of the initial occupation of this zone during the Early Archaic.

**Early Archaic**

This time period is represented by 43 components, which comprise 7.08% of the total of the prehistoric components recovered during the survey. Diagnostic artifacts of this period include the Dalton, Hardaway, Kirk corner-notched, Kirk stemmed, Palmer, LeCroy and Kanawha forms. Thus, the gross Early Archaic marks substantial variability. There is evidence that this sequence is also a chronological sequence (Coe 1964; Chapman 1976, 1977). This variability in different types of Early Archaic diagnostics appears to be unequalled in the Southeast. DePratter
(n.d.: 455) notes that only a Dalton and a possible Palmer were found in the Wallace Reservoir. Goodyear (1978) notes only Daltons, Palmers and one Kirk point from the Laurens-Anderson survey east of the Russell area. House and Ballenger (1976) note only Kirks and Palmers from their study area. The presence of LeCroy and Kanawha forms in this area, as was mentioned above, was previously not known from this area (Chapman 1975: 254). This variability within the project area suggests that this area could contribute significantly to an appreciation of the dynamics of adaptation during the period of initial occupation of the Piedmont. Early Archaic point forms have wide areal distribution. Daltons occur from Arkansas east to North Carolina (Morse 1969; Goodyear 1974; Coe 1964). The Bifurcate Point Tradition also is areally extensive (Chapman 1975).

These distributional facts suggest that finer definition of the assemblage composition of the Early Archaic forms would not only contribute to local understanding but could provide very useful comparative data for investigating working the area. For example, let us consider assemblage complexity or diversity. It appears from this study and others in the adjacent area (Goodyear 1978; House' and Ballenger 1976; Cable, Cantley and Sexton 1978) that the diversity of tool types present in surface collections from the Piedmont of South Carolina is quite low. This contrasts very markedly with assemblages from excavated contexts of this horizon in Arkansas (Goodyear 1974), Alabama (DeJarnette, Cambron and Hulse 1962), Tennessee (Chapman 1973, 1975, 1977), and North Carolina (Coe 1964) where there is an impressive elaboration of other elements of the chipped stone technology and in some instances, ground stone implements as well.

It can only be wondered at this point if this reflects the vagaries of surface collected data from upland contexts as opposed to the riverine or rock shelter location (with the exception of the Hardaway site [Coe 1964]) of the other sites mentioned. It is possible that organizational differences are being indicated by this disparity in assemblage complexity. There has been advanced by House and Ballenger (1976) and Goodyear, Ackerly, and Ballenger (n.d.), a middle assemblage variability that suggests that base camps will be located in the riverine zone while extraction sites will be located in the upland (inter-riverine) zone. Assemblages are argued to be more complex in the riverine zone, reflecting a wider variety of activities presumed to occur at base camps (House and Ballenger 1976: 79). Although the boundaries of the inter-riverine and riverine zones have never been explicitly defined, it appears that if a difference exists behaviorally, it may be simpler to characterize this as a riverine-upland dichotomy, with reference only to the topography. This is argued because data from single component Archaic sites indicate no noticeable increase in assemblage complexity for sites in the project area. For eleven single component Early Archaic sites in upland context in the project area, the mean number of unifaces is .63 per site. The mean number of unifaces on 28 single component Middle Archaic sites is .57 per site. Given the fact that unifaces are known to be frequent during the Middle Archaic (see above, prehistoric outline and Chapman 1977), this difference hardly seems significant.
Resolution of this disparity in assemblage complexity during the Early Archaic in the Piedmont of Georgia and South Carolina must await data from excavated contexts. The potential for sealed Early Archaic levels is high in the project area.

This survey, and others conducted on the Piedmont (House and Ballenger 1976; Goodyear, Ackerly and House n.d.; Cable et al.: n.d.) have observed that Palmer points are the most frequently represented diagnostic of this time period, while Kirks are present, but only rarely. Goodyear (1978) found only one Kirk but 39 Palmers. The Richard B. Russell survey recovered 26 Kirks and 35 Palmers. On the Coastal Plain, however, Palmers are less common and Kirks are more frequent (Goodyear, personal communication). This distributional fact is perhaps indicative of functional differences between Palmer and Kirk forms which make them suitable for specific tasks. Kirk forms, when found, are absolutely larger, with whole points being found, or points broken, terminating there useful lives. Palmers, on the other hand, are absolutely smaller and when found, have been resharpened down to the point where they are "nubbins." Supportive of these differences is the fact that, in the Russell Reservoir sample, 77.1% of the Palmers are made of quartz, which is locally available, while only 34.6% of the Kirks are made of quartz. The evidence of resharpening to extend use life in the Palmer category and the fact that this occurs even with forms that are made of locally available material, casts interesting light on the notions of curated versus expedient tool use and the relationship between local and non-local raw material use (Binford 1976).

Evidence in the project area indicates that important research values are present in the potential for future studies to refine present definitions of assemblage composition of the various manifestations of the Early Archaic. These refinements will permit detailed study of the changes that occurred within this short time span. Although upland lithic scatters lack the clarity (Glassow 1977) of sealed contexts, there are some in the project area of such size that it is reasonable to suppose that there may be horizontal separation of components reflecting either different occupational episodes or, at least, temporal periods. There are analytical techniques available that permit the isolation of separate but overlapping episodes, which could perhaps be brought to bear on this problem (Vierra and Taylor 1977).

Data from sealed contexts of this time period will also contribute greatly to the definition of assemblages. Sealed contexts also will have direct evidence of the presence of features such as hearths or pits, for which there is little potential of recovery in the upland setting. It is this information that will provide the bases for comparison with the studies that have been conducted in other parts of the Southeast (Coe 1964; Chapman 1973, 1975, 1977; DePratter n.d.). In addition, data from this time period will provide within reservoir comparisons with assemblages from later time periods.
**Middle Archaic**

One hundred and one components from this time period, representing 16.64% of the prehistoric components found, were recovered during the surveys of the project area. This time period is the most frequently represented of all the cultural-historic periods, which is also characteristic of other surveys of the South Carolina Piedmont (House and Ballenger 1976; Goodyear, Ackerly and House n.d.; Cable, Cantley and Sexton 1978). The Middle Archaic is indicated by Stanly, Morrow Mountain I and II, Guilford and Halifax projectile points. This sequence is chronological (Coe 1964; Chapman 1976, 1977). In contrast with the biface variability mentioned above for the Early Archaic, this array of Middle Archaic forms is representative of other surveys in the area, with the exception of the Halifax points. Stanly points are minimally represented in the project area and this is in agreement with House and Ballenger (1976) and Goodyear (1978). While there was variability in the use of raw materials during the Early Archaic (see above), this is not the case during the Middle Archaic. Morrow Mountain I and II and Guilfords are predominantly made from quartz, which is locally available (see Table 38). Although only 5 Stanly forms were found, three of these were made from nonlocal materials.

The Middle Archaic of this area (the Morrow Mountains primarily) can be equated with Caldwell's "Old Quartz Industry" (1954, 1958). His discussion of this manifestation was in terms of it being pre-Archaic in the sense that it lacked ground or polished stone (see Krieger 1953). His description of the assemblages clearly indicates this (1953: 8-9). This presents an interesting paradox in light of the trends of eastern United States prehistory discussed by Griffin (1967), Ford (1974) and Dragoo (1976). Increases in absolute site numbers would seem to indicate an increase in population during this time period. Yet, the reduction in the complexity of the technology (which is also noted by Chapman [1977] and which is also evident at Doerschult [Stanley South, personal communication; Gardner 1974]), would seem to contradict standard notions of the relationship between population density, reduction of mobility, increased activities at one site, and increased tool diversity. The present state of our knowledge does not, of course, permit a resolution of this paradox, but it is mentioned here as an area of investigation that, if addressed, could contribute in very important ways to our understanding of the dynamics of adaptation within the Archaic period. The potential for sealed contexts with Middle Archaic assemblages, could, to be sure, profoundly alter the current view of assemblage complexity during this period. This will also shed light on the riverine/inter-riverine model of assemblage variability (House and Ballenger 1976).

It is apparent that this time period is also one of increasing regional differentiation of adaptation (Griffin 1967, among others). What has not been discussed as part of this process of regionalization has been the very pronounced differences that occur on the regional level at this time period. At the Koster site in the lower Illinois Valley, data from Middle Archaic horizons indicate house platforms, numerous pits and other features and a diverse chipped stone technology (Brown, et al. n.d.). At the Eva site, those levels equivalent to the Middle Archaic show evidence for use of shellfish, diversified
chipped stone technology, bone tools and ground and polished artifacts, in addition to organically stained middens (Lewis and Lewis 1961). It is possible that the adaptations of this time period are radically different from those in the midcontinental region. If this is so, detailed investigation of this phase could provide data not only useful for local studies but comparative data of use to investigators working in these other areas.

The use of local raw materials (quartz) during this time period follows trends observed in Tennessee (Chapman 1977) and Virginia (Gardner 1974) where it is observed that preference shifts to raw materials of lesser quality. Interesting in this light is the shift to quartz during the Middle Archaic in the Duck River area of Tennessee, where it has to be imported from the Cumberland Plateau (Faulkner and McCullough 1973). Further investigations in this area could contribute to an understanding of this process, because the use of this "lesser" quality raw material is thought by some to represent an adaptive compromise resulting from reduced mobility. This view is strongly challenged by a mention of this phenomenon in the lower Illinois Valley or at the Eva site, and the introduction of quartz into the Duck River area, where "high" quality Ridge and Valley cherts are locally available. Quartz is very hard and it may be that its durability was being selected.

Further data recovery from the project area will also provide information for developing models of subsistence and settlement strategies during this time period. Of interest here is the scale of the adaptation. The picture of the assemblages from Middle Archaic sites from surface collections is acknowledged to be incomplete. As was mentioned above, the riverine/inter-riverine model of assemblage variability suggests that the upland surface scatters represent extractive activities associated with fall-winter exploitation of deer and nut resources. The riverine zone is thought to be the locus of base camps where maintenance activities are conducted. (Use of extraction versus maintenance in this model follows Binford and Binford 1966.) The inspiration for this dichotomy is clearly from the midcontinental area of the United States where the large rivers--the Ohio, the Tennessee, the Mississippi, etc.--have developed wide alluvial valleys. In the formulation of the model for the South Carolina Piedmont, however, warrants were not provided to give credence to any supposition that the patterning observed in the large midcontinental river systems could be expected in the Piedmont, where river gradients are steep and the development of floodplains is attenuated. A model that posits year-round occupation of this zone, during the Archaic is of interest, given the numerous references in Swanton (1946), Lawson (1952), Adair (1930) and others of what is clearly a seasonal pattern of use of the Piedmont by groups which practice agriculture in zones adjacent to the Piedmont, i.e., the mountains and the Fall Line-Upper-Coastal Plain.

The chronological sequencing of diagnostics is of interest here also, because, to the degree that these monitor population density, tremendous fluctuations in population density or occupational intensity are implied in the project area by the paucity of Bifacial Tradition...
points at the end of the Early Archaic followed by the initial part of the Middle Archaic, represented by Stanly points. At the end of the Middle Archaic, the few Halifaxes would, under such a line of reasoning, again represent virtual abandonment of this zone. Given arguments of vegetational stability presented in the section on climatic and environmental change, such fluctuations, if they exist, would be extremely interesting in an area where population is said to be increasing through time, culminating in the adoption of agriculture and relatively settled life. It was also mentioned above, that parts of the upper Coastal Plain in South Carolina also seem to have been used little during the Middle Archaic (Hanson, Most and Anderson 1978), yet there is ample evidence for occupation during the preceding and succeeding time periods. Are we witnessing zonal shifts of occupational intensity from the Piedmont to the Coastal Plain? It is premature at this juncture to seek resolution of these questions. They are posited because the patterning in the archeological record of this area indicates that standard notions of cultural development derived from an examination of the archeological record of the midcontinental region may not realistically cope with the character of the adaptations of populations in the Piedmont and the Coastal Plain. Appreciation of this variability not only contributes perspective and comparative data to investigators in these other areas but also "sets the stage" for what appears to also be anomalous use of this zone during the late prehistoric period (see below).

**Late Archaic**

Fifty-three components, comprising 8.73% of the prehistoric components located during the surveys of the project area can be assigned to the Late Archaic. The diagnostic artifact of this period is the Savannah River point, which is a large, square shouldered point that is also representative of the Broadpoint Tradition (Turnbaugh 1975). Whereas nearly all of the Middle Archaic diagnostics were made from quartz, there is again a shift to substantial use of non-local raw materials, especially slate and Coastal Plain chert (Table 38 shows quartz being used 50%, slate 42.2% and Coastal Plain chert 6.25%). The southerly location of the two non-local materials is probably to be expected given the location of the Stalling's Island site (Claflin 1931) downstream of the project area.

The project area lies north of the boundary of the Stalling's Island culture as this is defined by Stoltman (1972, 1974). This manifestation is defined primarily on the basis of association of diagnostic materials with extensive shell middens, such as those at Stalling's Island (Claflin 1931), Lake Spring (Miller 1949), Rabbit Mount (Stoltman 1974) and Bilbo (Waring in Williams 1977), among others. No evidence of shell middens was found in the project area, so it is likely that "typical" Stalling's Island culture sites will not be represented. The Late Archaic components here, however, do have potential for elaborating the conception of this taxonomic unit, because it is apparent that the classic Stalling's Island culture sites represent only one part of the subsistence-settlement system (Stoltman 1972, 1974).
The distribution of Late Archaic sites from the coast of South Carolina and Georgia up the Savannah River and into the Appalachian Summit area suggests that it was at this time that human adaptations were river system extensive. This is to say that, during the annual round, there were seasonal occupations of the various physiographic zones, i.e., the Coastal Plain, Piedmont and the Appalachian Summit. The project area has the potential for filling a gap in our knowledge of this distribution. This would shed light on the scale of the adaptation at this time. At present it is not clear if there is an orientation of the Stalling's Island culture from the Fall Line to the coast, with another Late Archaic system occupying the Piedmont and Appalachian Summit areas. If it happens that Late Archaic adaptations are river system extensive and the components in the project area are systematically related to Stalling's Island culture sites, this would be of interest in terms of the riverine/inter-riverine model discussed above. These facts would indicate that during the Late Archaic, adaptations of which are presumably more sedentary than during earlier periods, mobility of populations through an annual round was indeed high. Such a situation would cast interesting light on a model of behavior that argues for year-round occupation of the Piedmont.

Data from this area could also contribute to the investigation of the Broadpoint horizon (Turnbaugh 1975), which has a wide areal distribution from Georgia to New England. At the southern end of this range, subsistence is focused on shellfish, but further north, subsistence is based primarily in terms of anadromous fish such as the shad (Alosa sapiddissima). This appears to be the first intensive use of aquatic resources in non-coastal settings in these areas, and the investigation of the factors which condition this shift in emphasis and the concomitant organizational adjustments could serve to evaluate the arguments advanced recently by Osborn (1977) and Schalk (1977) about the adoption of aquatic resources into the subsistence base.

These studies could, in turn, then be used as bases of comparison for investigators studying Late Archaic manifestations in other parts of the Southeast. Recent reviews of eastern United States prehistory (Griffin 1967; Ford 1974; Dragoö 1976) view the Late Archaic as the culmination of a process of regionalization that resulted during this time in a number of distinctive manifestations, such as "Central Riverine Archaic" and "Coastal (Piedmont) Archaic," among others. These distinctive manifestations are then considered to be the bases from which developments during the Woodland and Mississippian periods arose. Given the interesting patterns of Woodland and Mississippian utilization of the project area (see below), study of the Late Archaic base could provide insight into developments of the later prehistoric here.

Data from the Stalling's Island site (Claflin 1931) and others indicate that there was a tremendous elaboration of the technology, especially when compared to the preceding Middle Archaic. There is evidence for extensive ground and polished items, the use of bone and the development of distinctive chipped stone tool types such as the cruciform drill. Our surface collections and limited test excavations failed to recover any of the distinctive chipped stone forms and, of course, bone and antler items were not expected because of poor preservation.
on acid soils. Further data recovery from excavated contents would determine if the absence of these items from surface collections is a sampling/preservation problem or, if indeed, the Late Archaic manifestations of this area do have simpler technologies than those indicated for the Stalling's Island culture (Stoltman 1972, 1974) sites. Either result would contribute to a delineation of assemblage complexity and the development of models of subsistence strategies and settlement patterns.

A research domain of some significance at both national and regional levels is the study of the origins, adaptation, and distribution of the Stalling's Island (Claflin 1931; Fairbanks 1942; Stoltman 1972), Orange (Goggin 1947; Bullen 1972), and Wheeler (Griffin 1945; Jenkins 1975) cultures on the Savannah River and adjacent South Carolina and Georgia coast, the St. John's River in Florida, and the Tennessee River in north Alabama. These Late Archaic cultures, each emphasizing shellfish subsistence, were locally quite successful, as Stoltman (1974) points out for the Stalling's culture of the Savannah, but other cultures quite nearby appear to have been unaffected. In particular, no dispersal of pottery inland occurs for 1500 years. Because of the importance of ceramics in archeological interpretation, the question of this failure of diffusion has intrinsic importance. Moreover, the origin of pottery, an important medium today of artistic and cultural expression of the various Native American societies, appears to suggest a significant cultural value in the study of these early fiber tempered wares. The Russell basin offers the last opportunity to examine the area adjacent to, and on the same river system as, the Stalling's type site near Augusta.

Research value for this question may be regarded fruitfully in a general theoretical framework such as Cleland suggests (1976: 60).

The focal-diffuse model may be visualized as a continuum in which the two types of adaptations are polar extremes. At one end, we find highly specialized focal adaptations that are centered on one resource or a few similar resources. At the other end are the diffuse adaptations that are based on the scheduled utilization of a great variety of resources.

Certain predictions related to this model can be made. One of these is the tendency for functional (not formal) categories of tools to be limited, or in other words, there will be low functional variability in assemblages. Secondly, focal adaptations tend to be specialized and conservative—the main tactic of decision making is to minimize risk to procurement of the staple (Cleland 1976: 62).

Accepting Stoltman's view that the Stalling's culture was based on intensive exploitation of shellfish (1974: 231), one can suggest a relatively focalized economy. From such a crude instrument as Table 66, it is apparent that Russell data, discounting biases of observability between time periods, are consistent with the existence of a rather diffuse economic strategy, argued from (1) the apparent absence of a relatively riverine-oriented site distribution and (2) the occurrence of Late Archaic sites on all landforms except levees and bottomland.
knolls, on which very few sites are known from any period (Table 66).

<table>
<thead>
<tr>
<th>TABLE 66</th>
<th>UPLAND COMPONENTS (a)</th>
<th>LOWLAND COMPONENTS (b)</th>
<th>LOWLAND UPLAND</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early Archaic</td>
<td>38</td>
<td>8</td>
<td>0.21</td>
</tr>
<tr>
<td>Middle Archaic</td>
<td>78</td>
<td>24</td>
<td>0.31</td>
</tr>
<tr>
<td>Late Archaic</td>
<td>34</td>
<td>20</td>
<td>0.59</td>
</tr>
<tr>
<td>Woodland</td>
<td>13</td>
<td>17</td>
<td>1.31</td>
</tr>
<tr>
<td>Mississippian</td>
<td>13</td>
<td>22</td>
<td>1.69</td>
</tr>
</tbody>
</table>

(a) Ridge nose, ridge slope, ridge top, saddle, upland knoll
(b) Terrace, levee, bottomland knoll, river, bluff, island

Thus presented is the opportunity to contrast the Stalling's adaptation with one in the same drainage system. Detailed work in Russell would elicit reliable assemblage samples from a component sample chosen to reflect obvious dimensions of variability such as landform and site size. At this time it would appear that environmental differences between the two areas, perhaps simply conditions unfavorable for upstream mollusk growth, may account for this contrast; however, geomorphological and sedimentological studies of the Russell basin have only just begun.

Utility of a given site for approaching this research domain, beyond minimal standards of archeological integrity, can be seen in terms of two criteria: (1) Late Archaic affiliation, with single-componency, a desirable property, and (2) representativeness of the site considered together with all other Late Archaic project sites, so that variability in site location and content is adequately represented.

**Early Woodland**

The traditional perspective of the archeology of the East has emphasized the importance of the Woodland era as containing the germs of later developments in agriculture, religious and mortuary architecture, and ceramics (Griffin 1967). The observation that there is not really such a sharp break from the Archaic lifeways, particularly in terms of economic-technomic subsystems of culture, has also been made, both for the East and the Southeast (Cleland 1976; Caldwell 1958). Nevertheless, it does appear that minor subsistence shifts at this time period may have eventually made possible later shifts of a very fundamental nature. That is, this period is known to see the use of both native Eastern Agricultural Complex cultigens (Struver and Vickery 1973) and perhaps even the occasional employment of maize (Whitehead 1965b), the harbinger of more intensive agricultural orientations. Thus the
era in question retains its archeological interest at a local level even without exhibiting items on the trait list definition.

In a sense, the significance of this period for Russell research is enhanced by the very limited and ambiguous segment of the local archeological record that seems to be pertinent. The immediate vicinity of the project does exhibit coarse tempered, fabric impressed ceramics (Goodyear, Ackerly and House n.d.; Wauchope 1966) that appear to be the best diagnostic of the period. Moreover, from a wider theoretical and geographic perspective (see section on this period in South Appalachia above) we were led to expect material manifestations relating to relatively immobile gatherers and stores of acorns and nuts, with architecture, heavy midden formation, and something of a river-creek orientation (e.g., see Caldwell's 1958 description of the Kellog phase of north Georgia).

However, the total archeological manifestation most probably attributable to this period was a total of 25 rather variable sand-tempered, fabric marked sherds from 15 different sites. This period, important to Eastern archeology in both the culture-historical and processual-theoretical senses, is scarcely representative even under the dubious assumption that all of the Fabric marked sherds date to Early Woodland times.

Investigation of this period should aim at isolating the chronological association of these ceramics. Criteria for site utility in this regard include only a minimal degree of site integrity since the requirement is for artifacts uncovered to have constituted a single assemblage. A sample drawn from the universe of relevant project sites should be stratified by factors of obvious relevance, such as landform.

**Middle Woodland**

This range of time, 200 B.C. to A.D. 500, has general significance in both a national and a regional or local sphere. For the first time, much of the forested East shares the form, if not the semantics, of a common symbol system as well as a new degree of concern with mortuary ceremonialism and the maintenance of an elite distinguished at least in death by possession of superbly crafted artifacts made of materials procured far away. The Hopewellian Interaction Sphere (Caldwell 1958; Sruever and Houart 1972) have deeply penetrated the Southeast, with centers at Mandeville (Kellar, Kelly and McMichael 1962), Tunacunnhee (Jefferies 1976), Icehouse Bottom (Chapman 1973), and Garden Creek (Kelly 1976a). In its Midwest heartland, but not so far in the Southeast, there is evidence of increased reliance on cultivated plants. It is often, though not always, held that more efficient agriculture allowed the concentration on mortuary architecture and goods, the specialization of labor implied by the well-crafted artifacts, and the presumed elaboration of religious symbolism involving such forms as the raptorial bird.
Despite distribution in an arc halfway around the project area (Mandeville to Garden Creek), direct evidence of Hopewelian activity in the project area is nonexistent. It should be noted also, in light of the apparent propensity for actors in the Hopewelian sphere to locate major centers near specific exchangeable raw materials (Jefferies 1976), that mica mines in the general project vicinity were historically exploited and mica was an aboriginally exchanged exotic material (e.g., see Sears 1964: 271).

The Southeast generally may furnish a test case for the idea of initial focalization upon intensive agriculture as a prime mover in Middle Woodland cultural evolution (Willey 1966). Cleland places Late Archaic and Early and Middle Woodland in his Late Diffuse adaptive pattern (1976: 70). However, this question cannot be regarded as resolved for the Southeast. From south-central Florida, the large and long occupied Fort Center site is reported by Sears and Sears (1976) to exhibit firmly identified maize pollen temporally distributed from "some centuries B.C. to nearly A.D. 1000." Associated with the site are drainage (?) ditches, earthworks and Hopewelian mortuary ceremonialism.

Connestee ceramics have, however, been found in Hopewelian ceremonial contexts at least twice; at Tunacumhhee and Garden Creek (Keel 1976a), and relatively large collections are available from the Georgia side of the Russell project. The apparent absence of Hopewelian interaction appears to be a significant research problem, considering that (1) ceramic types elsewhere affiliated with Hopewell are present; (2) the area lies spatially on a straight line between major Hopewelian centers, and (3) mica is abundant and obtrusive, for areas of glittering micaceous sands and clays occur in several places.

The Russell project mitigation phase offers the opportunity to further test the observation that major Hopewelian centers tend to avoid—at least so far as they have not been found—the Piedmont physiographic province of the Southeast. The seven Connestee sites (Table 67) and the two Swift Creek components fall into this time interval and are relevant to such an investigation. Only general associational integrity is required for the inclusion of these sites in the universe to be sampled.

The defining feature of the South Appalachian culture area is carved paddle stamping, and this period is the time of its major expansion over the area. This has often been treated as a purely stylistic technique, indicative perhaps of ethnic affiliation, culture contact, and/or migrations. If we are to take seriously the concept of culture as an adaptive system, then we must be aware that one possible way of conceptually dissecting such a system is into technomic, sociotechnic, and ideotechnic subsystems. In this conceptualization, the stamped surface treatment has its principal content with the sociotechnic and ideotechnic aspects of culture. I would like to suggest the possibility that such a treatment, insofar as it increases the surface area of the vessel, also increases the rate of heat transfer between the pot and its surrounding. If the largely fabric marked wares that were partly replaced at this time (see "Early
TABLE 67

LATE PREHISTORIC COMPONENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>GA</th>
<th>%</th>
<th>SC</th>
<th>%</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deptford</td>
<td>5</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Early Swift Creek</td>
<td>2</td>
<td>67</td>
<td>1</td>
<td>33</td>
<td>3</td>
</tr>
<tr>
<td>Connestee</td>
<td>7</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>Etowah</td>
<td>4</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Savannah</td>
<td>1</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Pisgah</td>
<td>1</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Early Mississippi</td>
<td>11</td>
<td>73</td>
<td>4</td>
<td>27</td>
<td>15</td>
</tr>
<tr>
<td>Late Mississippi</td>
<td>7</td>
<td>78</td>
<td>2</td>
<td>22</td>
<td>9</td>
</tr>
<tr>
<td>All Woodland</td>
<td>15</td>
<td>57</td>
<td>11</td>
<td>42</td>
<td>26</td>
</tr>
<tr>
<td>All Mississippi</td>
<td>20</td>
<td>65</td>
<td>11</td>
<td>35</td>
<td>31</td>
</tr>
<tr>
<td>Archaic</td>
<td>107</td>
<td>90</td>
<td>46</td>
<td>197</td>
<td>281</td>
</tr>
<tr>
<td>Woodland and Mississippian</td>
<td>35</td>
<td>61</td>
<td>22</td>
<td>39</td>
<td>197</td>
</tr>
</tbody>
</table>

Woodland section) had different properties of heat transfer, or if a different proportion of plainware characterized the new pottery assemblages, then a functional purpose may have been responsible for this treatment’s spread as an adaptive trait. In this connection, it is interesting to note that a very high proportion of Connestee sherds (the only Middle Woodland series whose plainware is recognizable from our surface collections) have a very high ratio of surface-treated sherds to plain. Naturally, the alternative to the prehistoric origin of this ratio is that these surface collections by Hutto (1970) were selected for non-plain sherds. The consistent Deptford-Early Swift Creek-Cartersville-Pigeon-Connestee four-footed jar form also deserves analysis from a functional viewpoint as well as a stylistic one.

This research domain should not be regarded as an empty argument for significance of all stamped pottery sites. Rather, awareness of the potential for technological-functional-experimental studies would enhance the research values of sites already deemed significant. Of particular interest for this research orientation would be Early to Middle Woodland stratified sites. At such sites, careful intrasite analysis might yield indications of activity patterning—hence function—from ceramics both before and after the coming of stamped wares.
Deptford and Swift Creek ceramic types radiated from an assumed origin near the mouth of the Savannah (Sears 1964) to acquire a distribution from North Carolina to north Florida and from Alabama to the Atlantic. In many places, Deptford was the first pottery made (Sears 1964; Stoltman 1974). Most Deptford sites are shell middens, and burial mounds are known. Grave taxonomic problems exist with the early check stamped wares of the Southeast. This, Keel suggests, is due to the equation in Georgia of check and simple stamping with a Deptford time level wherever such a complex is found (Keel 1976a: 227-228). South Carolina archeologists unabashedly employ Deptford types in classification (e.g., see South 1976). However, while the north Georgia situation has been confused by the use of the poorly defined (Caldwell, Thompson and Caldwell 1952; Caldwell 1958) check and simple stamped Cartersville types, it appears that the project area's "marginal" position, relative to firmly grounded archeological sequences, may be "central" with respect to throwing light upon these taxonomic problems common to north Georgia, the Appalachian Summit, and the lower Savannah. The paucity of relevant data from the upper Savannah area may have been a key factor in the development of an unsatisfactory system of ceramic classification.

While only 6 sherds at 5 sites from the study area could be identified as Deptford artifacts, 25 sherds from 9 sites were check stamped and reflect either this Woodland period or the late Mississippian revival of the technique (Caldwell 1955). It seems likely that a substantial Woodland check and simple stamping technique, in our analysis labeled Deptford or simply "check," does offer potential for elucidating the taxonomic culture historical problems discussed by Keel. This would appear to get a research problem of more than local significance. Besides integrity sufficient to imply the preservation of a general artifact-site association, selection of locations for further work should require only the suggestion from survey data that check and simple stamped techniques have substantial representation; only 3 Russell sites have more than two sherds of the "check" type (Appendix D).

The Swift Creek complexes evident at sites 9EB83, 9EB259, and 38AN8 are argued to offer data relevant to problems of national and local significance. Some of the earliest burial mounds in the Southeast, also assumed to be related to the Hopewellian phenomenon, are found on the northwest Florida coast by A.D. 200-300; they belong to the Santa Rosa-Swift Creek culture (Willey 1949). The origin of the Gulf tradition of the Southeast appears to be affiliated with Early Swift Creek in Florida, southern Alabama, and southwest Georgia (Sears 1964: 266-267) at the Mandeville site (Kellar, Kelly and McMichael 1962). Primary ceramic attributes of the Gulf tradition have been identified by Walthall and Jenkins (1976) as shell stamping, dentate stamping, incising, punctating, and vessel supports; according to their synthesis, a Gulf Tradition dominated the Southeastern Coastal Plain until A.D. 500.

While Swift Creek components are known above the Fall Line--Wauchope reported 43 (1966: 436) in northern Georgia--the center of Swift Creek development was farther south. Thus, the possibility of substantial occupations of this culture as far to northeast as the study area, is important to the local problem of constructing a cultural chronology.
Investigation of this unusual Swift Creek manifestation may throw light on the environmental adaptations of Swift Creek and possibly the Gulf tradition, especially in a case such as site 9EB259, where a long and continuous archeological record is quite possible. If we assume that Swift Creek relates to a discrete cultural system with Coastal Plain affiliations, diachronic study of its adaptation to the Upper Piedmont would have regional research value. The anomalous Swift Creek components deserve careful attention at all the sites reported.

Late Woodland

The Late Woodland of the forested East can be conceptualized in at least two ways. The first, and more typical one, is that it was a time of decline in the complexity, aesthetics, and external relationships of aboriginal societies. This decline is possibly related in the Northeast to climatic change (Griffin 1967). The inappropriateness of this decline model for the Southeast has been, however, widely recognized, with special reference to the Gulf Coast and the lower Mississippi Valley.

The other obvious conceptualization of Late Woodland is as the period during which the foundations for later Mississippian development were laid. This aspect has been relatively neglected in regional studies possibly due to emphasis on the external connections of the East to cultures south of the border. That research upon this time span is significant for Russell project work is clear, and it is significant at both the national and regional (South Appalachian) levels. The investigation of the Late Woodland "decline" might be especially appropriate for a study area which lacks any unambiguous evidence of Late Woodland occupation. No ceramic types attributable to this period are known from the Russell area; while several point types (Mississippian Triangular, Caraway, Pee Dee Pentagonal: see section on analysis of hafted bifaces and Appendix C), which may or may not date to this period were found.

At this time we can merely state that the time span is of research interest regionally due to its role in the origins of South Appalachian cultures. Local interest certainly inheres to the absence of any evidence for substantial human utilization of the area. Tentatively accepting this negative result as reflecting past cultural behavior, it appears that a major shift in subsistence and settlement may have occurred. Possibly the pattern of extensive agriculture/winter hunting which characterizes the Southeast at the time of European contact became established during the Late Woodland, with the main role of the Piedmont, being hunting territory. Alternatively, the considerable post-historic alluviation of Piedmont bottomlands (Trimble 1974) may have deeply buried sites of this time span. A third possibility is suggested by Keel's (1976a: 222) proposition that in north Georgia the culture complex identified as the Cartersville focus continued to exist with only a few modifications, in ceramics at least, until about A.D. 700. The difficulties encountered in diagnosing Late Woodland could
therefore be at least partly due to problems in the currently accepted
culture-historical framework. In the Russell area, the analogous
pottery ware would be Connestee. At least some of these Russell sites
may derive from Late Woodland times. While Keel's suggested North
Carolina time range for Connestee is A.D. 200-600, Connestee-related dates
range far forward, past A.D. 1000 in other areas. There is little
reason, even accepting Keel's position, to question the possibility of
later Connestee survival in the Russell area.

Approaching the Late Woodland problem, then, might involve three
tactics: (1) investigation of sites that have projectile points
possibly referable to this time (2) deep excavation of areas where
gemorphological (Coe 1964; Chapman 1976) considerations or archeological
manifestations suggest the possibility of buried sites, and (3) careful
excavation of any Connestee components which promise to be well preserved,
with a view of radiometric dating or cross-dating Connestee artifacts
in well-documented association with other diagnostic materials.

Mississippian

The storage of cultigens as the basic subsistence strategy, has been
used as the definition of Mississippian cultures. In point of fact,
this economic orientation has usually been assumed without demonstration
for societies which have features elsewhere associated with intensive
agriculturalists. Instances of this are frequent, including some in
preceding sections of this report. A significant, though not always
primary, role can be imparted to agriculture in several cultural
localities at this time span in the South Appalachian area. Cultigens
from the Pisgah phase of the Appalachian Summit include corn, beans,
cucurbits, and possibly sumpweed (Iva annua var. macrocarpa) (Dickens
1976). Eastern Tennessee has maize and/or beans from the Emergent
Mississippian Martin Farm and Banks phases, as early as A.D. 880;
probable Eastern Complex maize dates to around A.D. 1000 (Faulkner
1976). Charred maize kernels are known from Stamp Creek, a Woodstock
period site of northern Georgia (Hally 1975: 39); however, evidence from
many other areas at this level is lacking. Irene phase cultigens
have not been demonstrated, for example (Stoltman 1974; 32), but the
paucity of excavations using the new techniques of organic recovery
(Watson 1976) or generally poor preservation may be factors in the
frequent failure to get direct evidence of Mississippian cultigens.
Thus, a problem of local, although great, research significance, is
the question of whether a true Mississippian adaptation was present at
all in the project area, as it is in many other parts of South Appalachia.

At European contact, Creek Confederacy Muskogean speakers were
apparently regularly compelled to supplement their fall harvest by
major hunts long before winter was over in the yearly cycle (Canouts
1971). It is possible that a similar situation held for the same and
earlier times in the Russell area, but marked by the use of artifact
types (e.g., Etowah Complicated Stamped) which are elsewhere associated
with definite Mississippian-oriented sites (Etowah type site). The
simple presence of mounds (at 9EB85 and 9EB86) does not guarantee agriculturally-dependent subsistence (Ford 1974: 402). In fact, as Brain (1976: 57) has pointed out:

The question of agriculture in North America must be approached in the broadest possible perspective. It is not just a question of its presence, but of its ramifications. While maize, and its oft associated cultigens, are taken as the classic expression of native American domestication of plant resources, it represents but one of many stages in developing subsistence strategies, the contextual significance of each of which must be carefully considered.

The late Woodland declines may have resulted from "the adoption and successful integration of intensive corn agriculture and the bow and arrow [which] together allowed for a greater degree of self-sufficiency by smaller, more independent social units, and that the larger, more dispersed, and perhaps shifting, population was therefore more immune to the pressures of a socio-ceremonial superstructure" (Brain 1976: 59). The Russell picture is at least consistent with such a reconstruction, but with the time of interest transposed from the Woodland to the Mississippian period. That is, the Early Mississippian mound confirmed at site 9EB85 and probable at 9EB86 is the only sign of intensive late prehistoric occupation in the project area (Table 68). It is followed by a very scanty and apparently non-intensive Late Mississippian culture (s) which, at least in historic times, used corncob impressed pottery—the only evidence of cultigens in the Russell area.

Two principal approaches, direct and indirect, suggest themselves for the attack on the Mississippian subsistence problem. Careful excavations at sites known to have a high degree of integrity and a Mississippian component would attempt to obtain carbonized or pollen remains of cultigens. In addition, refined and supplemented site location data available at the mitigation stage of work could be used to infer drastic subsistence changes from drastic changes of site distributions and types (see section below on site settlement and distribution). A detailed comparison of the physiographic settings of Woodland and Mississippian components, as shown in Table 68, reveals an apparent moderate shift of Mississippian components toward ridgetop landforms relative to the Woodland period.

Another topic of regional research significance is the study of the Southeastern Ceremonial Complex. Background information on the Southeastern Ceremonial Complex has been cited in the section of Eastern Mississippian culture history. As discussed above, the significance of the Complex appears to be two-fold. First, it is an indicator of, and an integral part of, complex stratified Mississippian social systems (Brown 1976). Further, so far as its widely dispersed centers share Southeastern Ceremonial Complex symbolism and artifacts, it is a marker for the second great interaction sphere of the East, with Hopewell being the first.
TABLE 68
Woodland and Mississippian Topographic Settings

<table>
<thead>
<tr>
<th>Topographic Setting</th>
<th>Woodland</th>
<th>Mississippian</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N  %</td>
<td>N  %</td>
</tr>
<tr>
<td>Terrace</td>
<td>16 70</td>
<td>19 54</td>
</tr>
<tr>
<td>Levee</td>
<td>0 0</td>
<td>1 3</td>
</tr>
<tr>
<td>Bottomland Knoll</td>
<td>0 0</td>
<td>0 0</td>
</tr>
<tr>
<td>River</td>
<td>1 4</td>
<td>1 3</td>
</tr>
<tr>
<td>Bluff</td>
<td>0 0</td>
<td>0 0</td>
</tr>
<tr>
<td>Island</td>
<td>0 0</td>
<td>1 3</td>
</tr>
<tr>
<td>Active floodplain</td>
<td>0 0</td>
<td>0 0</td>
</tr>
<tr>
<td>Ridgetop</td>
<td>3 13</td>
<td>11 31</td>
</tr>
<tr>
<td>Ridgenose</td>
<td>2 9</td>
<td>1 3</td>
</tr>
<tr>
<td>Ridgeslope</td>
<td>1 4</td>
<td>0 0</td>
</tr>
<tr>
<td>Saddle</td>
<td>0 0</td>
<td>1 3</td>
</tr>
<tr>
<td>Upland knoll</td>
<td>0 0</td>
<td>0 0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>23</strong></td>
<td><strong>35</strong></td>
</tr>
</tbody>
</table>

The northeast limit of the intensive Southeastern Ceremonial Complex expression has been suggested as the Savannah River, although rare pieces occur in the Carolinas (Waring in Williams 1977: 91). Farther down the Savannah River, attenuated Complex material is evident at the Irene site. Definite Southeastern Ceremonial Complex evidence is present at Hollywood Mound (DeBaillou 1965; Reid 1965). The presence of a copper-covered celt at site 9EB85 (Lee 1976) is the only project area indication of possible participation in the Mississippian interaction sphere, if not in the Southeastern Ceremonial Complex itself. The two should be distinguished, since scattered traces of Southeastern Ceremonial Complex material have been noted far northeast of the Savannah River, for instance in central South Carolina (Stuart 1970) and even at Town Creek in North Carolina (Reid 1967).

It appears probable that some of the accoutrements of the Complex spread far beyond the complex, redistributing Mississippian society type into areas characterized by an essentially Late Woodland diffuse adaptation (see Cleland 1976; for a Midwestern analog of Mississippian trappings without adaptive substance, see Ford 1974: 407).

It has been argued for theoretical reasons that the Southeastern Ceremonial Complex may be an indicator of chiefdom level societies. Ford (1974) points out the increased vulnerability of a society focalized on maize cultivation to the vagaries of the total environment, and would see the Southeastern Ceremonial Complex as the archeological expression of harvest-time ceremonies concerned with redistribution in societies of sufficient scale that at least one district will manage a crop. Brain (1976) would go so far as to say that maize-dependent Late Woodland societies of the Lower Mississippi, lacking the Southeastern Ceremonial Complex, were in some ways less well adapted than their more diffusely oriented ancestors. It can thus be argued that long-
term Mississippian-level adaptations must be sustained by integration and maintenance subsystems of the culture, which for chiefdoms (Service 1962) often take the form of religiously-rationalized redistributive systems with social ranking.

Clear local significance attaches to elucidation of the Southeastern Ceremonial Complex's role at the two intensive mound occupations. To the extent that this study is generalizable to the large areas of the continent which lie on the margins of the full Southeastern Ceremonial Complex/Mississippian expression, national research significance accrues as well.

Local--actually regional--research significance can be envisioned from studies concentrating on the role of the project area in relation to two widespread Mississippian ceramic styles, the Chicora and York ware-groups, which have recently been defined based on ongoing research in South Carolina (South 1976, n.d.; Ferguson n.s.). These ware-groups may be defined on several dimensions of variability (Ferguson n.d.), but one of their useful features is the fact that certain rim appendages, which the Russell survey shows are very durable, are among the most characteristic features. These attributes enabled crude subdivision of the Mississippian period to be made from Russell data at some sites. In a preceding section it was argued from juxtaposed chronologies of the South Appalachian area (Fig. 18) that Chicora could be regarded as reaching its apogee in the span A.D. 1200 to 1500, whereas York belongs for the most part to the post-A.D. 1500 interval.

Three interrelated benefits would derive from the elucidation and refinement of these ware-group concepts. First, the confused taxonomic position and cultural significance of such late prehistoric ceramic series as Lamar may be clarified. Through the historical accident whereby early definitive Southeastern archeology was done in Georgia, researchers ever since have worn Georgia-colored eyeglasses when observing their own archeological sequences. In particular, terms like Lamar, Lamar-like, Lamaroid, and Lamar-Mulberry variant have been used from North Carolina to Florida. Not only is the meaning of the legitimate Lamar type diluted, but the understanding of other archeological sequences is obfuscated also (South n.d.; Perlman 1976; Russell 1976). Observations of the real similarities in these ceramics were valid, however, and the ware-group concept attempts to allow the perception of more general relationships without compromising the integrity of previously well-defined and useful types within their local sequences.

A second benefit from the study of these ware-group concepts is their possible utility as archeological horizon styles. This has yet to be established, for the originators of the concept have suggested that Chicora and York attributes have a greater temporal dispersion over their entire spatial ranges than that assumed here (Ferguson n.d.; South n.d.). Studies of stratified sites with stylistic elements attributable to both ware-groups would test the estimates given here, particularly in the presence of radiometrically datable material. Such sites do occur in the Russell area.
A final research benefit of the study of these styles is the interpretation of the significance of their spatial-temporal distribution. One obvious suggestion would correlate ceramic style with the variable of ethnicity. In this connection, the concept of Cofitachique as a redistributing chiefdom in South Carolina (Baker 1974) is of some interest. Centered in the area of Camden, South Carolina, which is the location of the McDowell site, its authority may have run from Fall Line to coast and from the Savannah to the Pee Dee River. The fairly good distributive fit between Cofitachique and the heartland of the Chicora ware-group (see preceding section on Mississippian Chronology) suggests the possibility of Chicora being the ceramic stylistic expression of Cofitachique. This is clearly an unusually significant domain of research on the local level, as the ethnohistory of the South Carolina Coastal Plain would be related to an archeological manifestation dispersed through much of the Southeast. The degree and nature of Russell manifestations of these style horizons might contribute evidence bearing on such questions from a "marginal" area. For instance, extremely strong Chicora affiliations above the Fall Line would appear to mitigate against any equation of Chicora with the Cofitachique concept, as presently understood.

Several sites occur in the Russell project which appear to exhibit a degree of influence from York, Chicora, or both ware-groups. The several research domains indicated would apply most immediately at those sites which have both significant stratification and good preservation.

Research Value of Late Prehistoric Settlement-Subsistence Work:
The Possibility of Seasonal and Extensive Utilization

Culture may fruitfully be regarded as an adaptive system used by human beings to assure continuing access to vital resources that exhibit variable distributions over space as well as predictable (e.g., circadian and seasonal) and random variability through time (cf. Ford 1974: 386). A settlement system can then be regarded as a seasonally varying spatial arrangement of culture-shares motivated by changing availability of important resources. Such a settlement system can be usually defined in terms of the number and distribution of sites of a given occupational system, degree of specialization, and relative complexity, particularly as these variables are arguably related to others of significance in the general theory of anthropology. Variations in site complexity appear to correlate with sociocultural complexity (Brown 1977: 164).

In the context of the Russell report, no detailed treatment of this theme can be given, simply because the chronology is controlled only to the order of several century spans. A rigorous treatment of prehistoric settlement systems requires a much higher degree of contemporaneity than that. At this time, however, we can suggest areas reflecting segments of a balanced holistic approach to the problem of man-land-time adaptations in the later prehistory of the Russell study area.
**TABLE 69**

**COMPARISON OF SURVEY RESULTS IN THE SOUTH CAROLINA AND GEORGIA PIEDMONT**

<table>
<thead>
<tr>
<th></th>
<th>R.B. RUSSELL (S.C.-Ga.)</th>
<th>WALLACE (Ga.)a</th>
<th>LAURENS-ANDERSON(S.C.)b</th>
<th>INTERSTATE 77(S.C.)c</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early Archaic</td>
<td>5.25% 43</td>
<td>4.6% 16</td>
<td>12.3% 27</td>
<td>6.6% 6</td>
</tr>
<tr>
<td>Middle Archaic</td>
<td>12.35% 101</td>
<td>20.6% 72</td>
<td>24.1% 53</td>
<td>12.1% 11</td>
</tr>
<tr>
<td>Late Archaic</td>
<td>6.48% 53</td>
<td>3.1% 11</td>
<td>4.1% 9</td>
<td>5.5% 5</td>
</tr>
<tr>
<td>Woodland</td>
<td>3.18% 26</td>
<td>7.4% 26</td>
<td>9.1% 20</td>
<td>0.0% 0</td>
</tr>
<tr>
<td>Mississippian</td>
<td>3.79% 31</td>
<td>40.9% 143</td>
<td>4.5% 10</td>
<td>2.2% 2</td>
</tr>
<tr>
<td>Unidentified Prehistoric</td>
<td>43.15% 353</td>
<td>16.6% 58</td>
<td>33.1% 73</td>
<td>57.1% 52</td>
</tr>
<tr>
<td>Historic</td>
<td>25.79% 211</td>
<td>6.9% 24</td>
<td>12.7% 28</td>
<td>16.5% 15</td>
</tr>
<tr>
<td>Total Sites</td>
<td>490 239</td>
<td>125</td>
<td></td>
<td>50</td>
</tr>
<tr>
<td>Total Components</td>
<td></td>
<td>818 350</td>
<td>220</td>
<td>91</td>
</tr>
<tr>
<td>Represented</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ratio of Components</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>to Sites</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a) Goodyear 1978
b) DePratter 1976
c) House and Ballenger 1976
TABLE 70

TEMPORAL DISTRIBUTION OF COMPONENTS FOR LATER PREHISTORY

<table>
<thead>
<tr>
<th>Division</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross Divisions:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Late Archaic</td>
<td>53</td>
<td>48</td>
</tr>
<tr>
<td>Woodland</td>
<td>26</td>
<td>24</td>
</tr>
<tr>
<td>Mississippian</td>
<td>31</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>110</td>
<td></td>
</tr>
<tr>
<td>Mississippian Subdivisions:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Early</td>
<td>15</td>
<td>48</td>
</tr>
<tr>
<td>Late</td>
<td>8</td>
<td>26</td>
</tr>
<tr>
<td>&quot;Protohistoric&quot;*</td>
<td>8</td>
<td>26</td>
</tr>
</tbody>
</table>

* Very late prehistoric and early historic; probably overlaps with "late" category; diagnosed by corn-cob impressed pottery and Caraway arrowheads.

The fine breakdown of Wallace results is shown for contrast (Table 71) (DePratter n.d.: 456-464).

TABLE 71

WALLACE RESERVOIR--LATE PREHISTORIC

<table>
<thead>
<tr>
<th>Period</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early Woodland (Cartersville)</td>
<td>19</td>
</tr>
<tr>
<td>Middle Woodland (Swift Creek)</td>
<td>8</td>
</tr>
<tr>
<td>Late Woodland (Napier)</td>
<td>0</td>
</tr>
<tr>
<td>Early Mississippian (Etowah)</td>
<td>7</td>
</tr>
<tr>
<td>Late Mississippian* (Lamar)</td>
<td>128</td>
</tr>
<tr>
<td>Protohistoric (Ocmulgee Fields)</td>
<td>20</td>
</tr>
</tbody>
</table>

* DePratter would attribute an initial date of A.D. 1300 to Lamar.

There is such a striking difference that it must be argued that the course of cultural evolution was far different in the two areas.

Considering the patchiness of the good evidence for Mississippian maize, an obvious explanation for this contrast in two closely proximal areas is that settlement was light for Russell because maize was absent or, more likely, not intensively cultivated.

Further evidence of a change in intensity of occupation between Early and Late Mississippian can be presented. Two mounds were recorded, and eight prehistoric sites were judged by field survey teams to be "possible village" sites. The most precise Mississippian affiliations known are listed below for these sites. Intensively occupied early components number 4; late ones number 2.
A quick examination of a few characteristics of Late Archaic, Woodland, and Mississippian settlement is in order. Table 66 shows an increasing clustering of settlements about major streams throughout prehistoric time; however, there is a rather sharp discontinuity in the archeological record between the Late Archaic and Woodland times. It is suggested here that such a drastic change reflects a major reorientation in subsistence strategy. It may, but need not, reflect the coming of agriculture. One alternative to this may be suggested by considering the potential for aquatic resources suggested in Chapter I. Multi-component sites showing good preservation with Late Archaic and Woodland components are especially likely to address this locally significant problem of whether the shift in riverine orientation does relate to the farming of alluvial soils. The demonstrable difference between Woodland and Mississippian is of lesser magnitude and so is harder to interpret.

There is a longstanding assumption made by archeologists to the effect that pottery in substantial quantities is an indicator of a relatively sedentary existence at a given site, due to the weight and fragility of ceramics. This idea may be applied very simplistically to the data at hand. We learn that the ratio of Woodland sites bearing pottery to those without is 5:9, or 0.55. However, the corresponding ratio for Mississippian sites is 28:7, or 4.0. This comparison may imply that limited Mississippians were less mobile than the Woodlanders. This, of course, assumes similarity of function and cultural disposal of ceramics for the two periods.

Table 69 points out simple temporal distribution of sites in late prehistoric times in relation to those of some other recent and large-scale surveys. A compelling difference is evident between the Wallace Reservoir results from the Piedmont Oconee basin and each of the three surveys to the east. The percentage representation of Mississippian (represented by a Lamar "explosion") for Wallace is a full order of magnitude greater than that for any of the other surveys. Thus far we may regard this as an indication of a vast difference in cultural trajectories east and west of the Savannah River for the Mississippian period; little or no Mississippian florescence can be read into the Russell figures, although the crudity of using components as a measurement is obvious.

Table 70, utilizing the finest temporal contours for the Mississippian period, gives an indication of whether the anomalous segment of the cultural trajectory can be further isolated. It is of interest that the Late Mississippian representation, even when summed with the "protohistoric," is only barely equal to the Early Mississippian occupation.
TABLE 72

INTENSIVELY OCCUPIED LATE SITES

<table>
<thead>
<tr>
<th></th>
<th>Mississippian</th>
<th>Early and Late Mississippian</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mounds</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Possible Villages</td>
<td>Unidentified</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Ceramic prehistoric</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Mississippian</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Early and Late</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Early</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Late</td>
<td>0</td>
</tr>
<tr>
<td>Sums of Components</td>
<td>Early</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Late</td>
<td>2</td>
</tr>
</tbody>
</table>

While a systematic discussion of the important elements of Russell area settlement systems could not be presented, enough has been said to indicate that even our survey data discriminate a decline in the intensity of Russell Mississippian occupations—one which probably occurred fairly late in that period. Research on this topic is plainly of the greatest local significance.

Contact and Early Historic Subsistence-Settlement

The following account of the subsistence round of the early historic Indians of the Russell vicinity draws heavily upon Canouts' (1971) thesis reconstructing the cultural ecology of the Creek. It should be noted, as Canouts points out, that observers such as Swanton and Bartram emphasized the uniformity of Southeastern subsistence regimes.

The Creek were agriculturalists, but insufficient quantities of their corn-beans-squash crops were grown and stored to last through winter until the next harvest. The major supplement to agriculture was a late fall and winter hunt (November to February), during which they might range in search of deer and bear, 120 miles or more from a town. Less important subsistence activities included wild plant gathering, a short spring and early fall hunt, and fishing. As described, this subsistence strategy does not necessarily pertain to a Mississippian subsistence level, as a coordinate, but no primary role in the basic
food supply appears to have been cultigens. As integrated with archæological lines of evidence, this suggested strategy may be argued to apply to the late Mississippian period of prehistory as well as the earliest documented eras (see section on late prehistoric subsistence and settlement).

Late Prehistoric Evaluation: Cultural Values

The concept that significance of historic properties derives in part from the participation of a resource in the heritage of an ethnic group. This type of significance is labeled cultural value, and it appears to be potentially operative with regard to certain late prehistoric sites in the project area.

While not attempting an extensive review of the possible historic-arheological linkages in the vicinity of the project area, it is clear that this is a topic of considerable local research value. The most frequently discussed question appears to be related to Lamar phase, in relation to the Creek tribes and the Cherokee (Russell 1975; Penman 1976; Caldwell 1955; Fairbanks 1952, 1958; Sears 1955). The most defensible approach seems to be Sears (1955), who examined closely the ceramics of the late historic Creek site of Kasita and compared them with Cherokee pottery from Tugalo, Georgia. The conclusion was that Lamar ware is unlikely to have been the developmental precursor of the known Creek ceramic complex, and that Lamar arheological material probably pertains to the prehistoric Cherokee. Because of the taxonomic ambiguity of the Lamar designation, this type was not used in the Russell project ceramic classification; however, material related to that category, or to Qualla types, was present and it constitutes the bulk of the "Late Mississippian" category here reported (Appendix D). Whether this "Late" material relates more closely to the Lamar of Georgia or Qualla of North Carolina, there is now little doubt that these are arheological expressions of the prehistoric and early historic Cherokees in the project area.

The lively concern and interest of the Cherokee Nation with respect to its heritage is obvious to anyone who visits the new Cherokee Museum, in Cherokee, North Carolina. This concern was voiced by the recent tribal sponsorship and participation in the first Cherokee-Iroquoian Symposium in 20 years in Cherokee, North Carolina. There is an obligation to consider and define the cultural value of the Cherokee-affiliated arheological resources to their modern descendents on the Qualla Boundary and in other reservations.
In 1961, a symposium on "Ceramics and Man" was held under the auspices of the Wenner-Gren Foundation for Anthropological Research (Matson 1965a). One of the overriding messages at this symposium was the potential utility of ceramic artifacts in the study of their wider cultural context. There have traditionally been three reasons given for archeological emphasis on the study of pottery: (1) the short life of fragile pots, implying large quantities of material entering the archeological record; (2) near-indestructibility of potsherds after breakage; and (3) the innumerable possibilities for technological, functional, and stylistic variability which derive from the fact that the clay minerals undergo drastic changes in plasticity, porosity, and color, when subjected to the firing process. Such comments as these too frequently precede a discussion of "ceramic cultures," with little regard for the human cultures responsible for their production. This problem is perhaps especially evident in the Southeast (Sears 1964).

Matson suggests the fruitfulness for archeology of a viewpoint called "ceramic ecology." This concept "attempts to relate the raw materials and technologies that the local potter has available to the functions in his culture of the product he fashions" (1965b: 203). In effect, Matson points out some of the many aspects of the total natural and cultural environment with which the potting process interacts: water transport, food storage and preparation, fuel procurement (and its environmental impact), the societal position of potters, and so forth. Several avenues are open to advance studies relating to these matters. One is the attempt to identify functional associations of vessel types, using variables such as form, wear marks on excavated sherds, surface treatment (for instance in its relation to porosity), and degree of firing (Matson 1965b).

Another avenue inadequately utilized has been the thoughtful study of intentional and accidental surface impressions. A glance at a list of Southeastern pottery type names reveals at once the potential for study of perishable classes of material culture such as fabric (cf. Hurley 1978), basketry, and even subsistence items (corncob impressed types). Other questions may be addressed by judicious experimental work. Hodges (1965) has argued this for pre-Roman Europe, an area which shows analogies to the Eastern United States context: little technical examination has characterized ceramic analysis, and on-the-spot opportunity for technical ethnography on hand-built vessels is uncommon. The topics on which Hodges reports experimental results are methods of forming, surface treatment, paste composition, and firing conditions. Anna O. Shepard's treatment of the technical analysis of ceramics (1976) offers considerable scope for more refined studies. Although many of the discussed techniques require expensive instrumental analyses, very promising results have been demonstrated. One prominent example is the possibility of tracing a plastic tempering material in sherds to its point of procurement, thereby enabling the study of trade and exchange systems in mineralogically known areas. There is thus much potential for attacking archeological problems other than accounting for space-time distributions of pottery types. The several suggestions broached here
are clearly relevant to the study of almost any Southeastern archeological locality, and certainly to the Russell project in particular. This is not an empty suggestion that all pottery-bearing sites are significant. Rather it is a comment that much potential significance for sites otherwise worthy of work will be lost if these approaches are neglected.

*Lithic Raw Material Use and Procurement*

Within the project area, there are data relevant to the study of the use and procurement of different types of lithic raw materials. In other sections of this report (Chapter IV) and in earlier sections of this chapter, mention has been made concerning the patterns of raw material usage during the Early, Middle and Late Archaic for the manufacture of diagnostic artifacts. During the Early Archaic, both Coastal Plain and Ridge and Valley cherts were employed. During the Middle Archaic locally available quartz was far and away the most frequently used raw material. During the Late Archaic, the first substantial use of slate is indicated (see Table 38). These data can potentially inform us about the means of procurement of these non-local raw materials through the analysis of morphological attributes and technological attributes in an effort to monitor economizing behavior which may evidence the costs of procurement or distribution. These studies would, in turn, be useful for modeling efforts which would attempt to determine the geographical scale of the prehistoric adaptations of this area. As has been suggested above, some current formulations of settlement patterning during the Archaic argue for year-round occupation of the Piedmont, and if this is the case, then the acquisition of non-local raw materials would have to be accomplished by trade between groups who are presumably also restricted to the zones where these raw materials occur. On the other hand, there are indications, at least during the Late Archaic for extensive, perhaps seasonal, movements between different physiographic zones. It may be possible to resolve this seeming paradox through further data recovery and analysis.

The use of quartz as a raw material for the manufacture of chipped stone tools is also an area that requires further investigation. It has been mentioned that quartz, in terms of its flaking properties "leaves a lot to be desired," but there are indications that, at certain times it was the raw material of choice. That this is the case is clear from Tennessee and Virginia, where quartz was introduced and used for tool manufacture in areas where "high" quality lithic raw materials are locally available (Chapman 1977; Faulkner and McCollough 1973; Gardner 1974). If quartz is more suitable for certain kinds of tasks than for others, investigation of this will inform on shifts in subsistence activities that require the use of different kinds of raw materials. Interesting in this light is the use of slate during the Late Archaic. The use of this raw material may also have functional implications that may inform us about interassemblage differences among sites from this time period.
Settlement Patterns

Preceding sections have established that the Russell project area offers a time perspective of some 10,000 years or more of human occupation. The usual viewpoint of modern archeology stresses culture as a collective, extrasomatic human adaptation to a given environment (e.g., see Ford 1974). Clearly, a corollary of this definition is that environmental changes across the territory utilized by a given culture will occasion differences (for instance, in seasonality, resources exploited, and tools used in exploitation) in the way a given culture utilizes different areas.

Binford (1972) has proposed that the content and spatial distribution of material remains depend on both the specific activities conducted and on the social composition of the group performing them. Brown has suggested that:

When projected on a larger area than the site, Binford's propositions can be usefully employed to define a settlement system in the number and distribution of sites according to differences in season of occupation, degree of specialization, and relative complexity (1977: 164).

Current knowledge of the Russell area indicates the great potential for trend analyses of settlement patterns, although problems with the chronological framework and with our survey collections as assemblage samples have precluded application of them at this stage. One feature of the study area that suggests the potential for such approaches is the significant variability in environment between the bottomland areas and the elevated ridgetops behind them. The provision for extensive public recreational areas adjacent to the actual basin in project planning has given the study area a topographic sample which is representative of its region to a degree unusual for reservoir studies in the Southeast. That the bottomland-upland dichotomy is significant may be argued from the observed correlation with biotic factors such as vegetation (see Chapter I), as well as from the archeological record itself (e.g., see Table 66). Offered in the Russell area, then, is the study of human adaptation to at least two distinct microenvironments over a time span long enough to show cultural evolution from hunting and gathering to food production and mound building.

A factor of considerable importance to the study of diachronic variation in settlement pattern is the resolution of the problem of "unidentified prehistoric lithic scatters," which lack the diagnostic artifacts that would be needed to pigeonhole them chronologically. The extent of the problem can be judged from the fact that 40% (Table 35) of all prehistoric sites fall into this category. A substantial segment of the archeological record is involved, and to merely dismiss it as useless in the light of current knowledge would be quite remiss. At least two explanations can be posited to explain the presence of these undiagnosed sites. These are not mutually exclusive, as each could account in part for the data. First we may suggest simple sampling error. Our survey assemblages are possibly unrepresentative
of the cultural assemblages they purport to represent and the undiagnosed sites constitute a subset of the archeological record identical to those that could be diagnosed except that the diagnostic artifacts present did not happen to be collected. Second, it may be that certain settlement systems of certain periods included site type(s) at which diagnostic artifacts (typically hafted bifaces and ceramics) were not employed and at which they did not enter the archeological record. The number of sites in this category among Russell prehistoric sites suggests that these sites are a significant element in the archeological record, and their study with these and other possible explanations in mind is one of many prerequisites for developing an accurate "picture" of the archeological record of this area.

There is, as might have been expected, an observable correlation in the choice of site locations throughout prehistoric time. Of the prehistoric components that could be ascribed to a culture-historical period (362 of a total 607), only 64 (17.7%) were apparently single component sites. Thus the tendency for many criteria of human locational choices to be unchanged through time can be easily seen. In terms of evaluating significance, both a benefit and challenge derive from the existence of such a strong tendency toward locational re-use. The benefit derives from the opportunity presented at such sites, particularly those with some stratification of deposit, to observe the utilization of a given locus through time while the environmental factor is held relatively constant. Such situations constitute partly controlled experiments in the past human use of space. The challenge of multicomponent sites in the project area is due to the pattern of intensive historic use of agricultural land. Archeological sites in upland settings probably never had a thick topsoil, and the current typical setting of upland sites is one which up to 10,000 years of human occupations have been compressed into two dimensions. There are grave methodological problems inherent in content or assemblage analyses at such loci where segregation by the principle of superposition is not possible. This is particularly true at sites small in surface area where horizontal post-depositional artifact movements have had a greater relative effect in confounding different occupations. The significance evaluations previously submitted on individual sites as part of the Cultural Resource Inventory Forms considered both effects of "multicomponency" in enhancing settlement study significance in a given environment, and in exacerbating the difficulty of study of sites, especially smaller ones, whose stratificational integrity is already in question.

Aquatic Resources

Substantial evidence exists for the utilization of aquatic resources within the project area during both the prehistoric and historic periods. To this end, further data recovery can contribute to our understanding of aquatic resources into the subsistence base of hunter-gatherers. This is currently a subject of some debate (Osborn 1977; Schalk 1977; Perlman n.d.) with provocative theoretical implications for monitoring systems and organizational responses. Osborn, for example, argues that the introduction
of aquatic resources into the diet will be a response to stress, because, in the case of shellfish, the protein return is substantially less than that available from terrestrial mammals (1977). Perlman, on the other hand, argues that the introduction of aquatic resources into the diet is simply a function of least effort principles which dictate maximizing amount of return per unit of effort (n.d.) and that the use of these resources in no way implies anything about the state of the system (personal communication). Schalk has suggested that a threshold relationship exists in the exploitation of anadromous fish (1977). He indicates that, above a certain level of dependence on anadromous fish, a very dramatic change will occur in the entire subsistence-settlement system which relates to labor organizational requirement necessary to efficiently exploit a resource whose availability is spatially and temporally restricted. The changes that occur will in no way resemble the gradual changes that are characteristic of many cultural sequences.

Because the Savannah River is the only river in the Southeast where anadromous fish penetrate above the Fall Line (Leggett 1973), the project area is uniquely suited to the evaluation of these arguments. Currently, little archeological evidence exists for the presence of shellfish in the project area. The only known specimens are from Beaver Dam Creek Mound (9EB85) (Lee 1976). It is doubtful that shellfish middens as impressive as those at Stalling's Island (Clafin 1931) will be present. As a result, Late Archaic sites in the project area will most likely furnish a body of data which contrasts with that available from the classic Stalling's Island culture area downstream. This will permit an evaluation of the role of technology in the exploitation of shellfish through comparison of assemblage differences between sites in the two areas.

Investigation of fish weirs in the project area, along with the sites associated with them, will permit assessment of their chronological position. Available data from the more northerly parts of the Broadpoint Tradition area (Turnbaugh 1975) seem to indicate that the Late Archaic may have been the period when anadromous fish were first used, although no direct archeological evidence for this proposition exists at the moment. In any event, it will be possible to evaluate Schalk's (1977) argument by examining the archeological record in the sites adjacent to the weirs for evidence of the dramatic shifts that he predicts.

The use of aquatic resources by historic period populations is virtually unknown in this area, but, notwithstanding, early settlers strongly resisted the building of dams because they interfered with fish runs. Fish could also have been a very important supplement to the diet of slaves, who experienced severe nutritional deficiencies even though their diets included enough bulk (Genovese 1967; and see the section on diet in the historic overview in Chapter I). Factual information exists indicating that early 20th century groups in this area did some fishing, but this aspect of the historic economy is poorly known and further study is necessary.
The significance of studies of agriculture, with its concomitant cultural features, does not lie in the perception of agriculture as a discrete "event" that led inevitably to the advancement of human society and then to civilization. Rather, as for any important subsistence subsystem, this aspect of culture is important because of the shifting systemic relationship with elements both within and without the immediate cultural system. Related to agricultural practices are such factors as the biotic effects of fire (as in slash-and-burn systems) and such cultural factors as the social system (e.g., in task group composition, population density, and the intensity of labor input required as we know from studies of contemporary "agrarian ecology") (Netting 1974).

Both ethnographic (Netting 1974) and archeological (Brain 1976) evidence indicates that the simple presence of maize or other cultigens is not significant because this information, along with its ramifications, is assessed independently.

As a working hypothesis, developments occur in different regions, at different times, toward a general trend from tentative management of native plant resources, to a more sophisticated horticulture of these same resources, to the acceptance and integration of introduced foreign cultigens (such as cucurbits), to an incipient maize agricultural subsistence base, to its intensive development, to the final successful multi-cultigen (corn-beans-squash) agriculture so well known in the ethnohistoric accounts (Brain 1976: 57).

A finer-grained treatment of agricultural types may have special applicability in the Russell project area, where trajectory of agricultural technology was probably of a form differing considerably from that of such apparently highly comparable areas as the Wallace Reservoir basin in north Georgia. If a rough but direct correlation between intensity of agriculture and intensity of occupation exists, then the two areas diverge quite strongly at the Late Mississippian cultivators (Ward 1965), this divergence of cultural development is very interesting.

Agricultural trajectory may also be available from study of the five Middle Woodland sites represented in the Russell study area, which comprise a "boom" period relative to Early or Late Woodland times. No sites could be diagnosed for these periods, although a total hiatus seems doubtful. The possible relationship of the Hopewellian florescence to subsistence technology, and the possible role of the latter in the Middle Woodland "boom," deserve examination.

At a later time, the relationships of the Southeastern Ceremonial Complex, the relatively limited intensive Mississippian manifestations of the project area, and food production techniques deserve similar treatment. A diachronic perspective which ties these various questions together will augment generalizable treatments of the evolution of food production.
Two hundred and eleven components, which represent 25.79% of the 818 components found during the surveys of the project area, can be assigned to the period of European colonization and occupation (see Table 34). A chronology has been developed for this period based on diagnostic artifacts and their date of manufacture. The use of this device resulted in the identification of 331 components (see Table 36). Sites representative of all the major periods of the European occupation are present in this sample, from initial colonization of this area in the 1760's to the present.

This sample of sites represents an unparalleled opportunity for the conduct of historic sites archeology. Until the onset of federally mandated and financed cultural resource management studies, the vast bulk of historic sites archeology was sponsor-initiated with goals often at variance with the needs of a scientific archeology (see South 1977: 317-330). Studies were, for the most part site-specific, and the sites that were chosen for investigation were spectacular and not necessarily representative of the range of variability of those cultural systems (Colonial Williamsburg, Bethabara, etc.). This is not to deny the importance of these studies, because much useful knowledge has resulted from them. This concentration of effort, however, has ignored the "vernacular" archeological record of this period—the unspectacular and mundane record of those events, which, although they constitute the major portion of the record, are out of the mainstream of the history of the United States. These site-specific studies have also been, for the most part, temporally specific as well, so that a diachronic picture of developments must be constructed from a number of areas from sites that are perhaps unrepresentative of the trends in each individual.

The investigation of historic sites in the project area can do much to address this shortcoming in our understanding of the dynamics of Historic period adaptations. Present here is the opportunity to conduct a regionally based and integrated program of investigations that can focus on the study of site complexes isolated for various purposes—diachronic changes in settlement patterns, for example.

The archeological record of the project area has been characterized as poorly known, but for the archeological record of the Historic period, this can be stated more strongly, as completely unknown. For this reason, a very important contribution to knowledge comes from the discovery process, as additional data recovery operations uncover the record of these adaptations. Also of interest during this process is the assessment of the quality of the resources. It has been mentioned a number of times that the intensive use of the land during the Historic period has had a detrimental effect on the integrity of archeological resources. Until this impact is fully assessed archeologically, we can only be hopeful of the true potential of these resources to contribute in meaningful ways to archeological science and an appreciation of the heritage of the people who made this record. The peculiar nature of historic sites—the presence of documentary evidence about some facets of the record—gives historic sites archeology unique potential for contributing to the development of archeology as a science (South 1977: 125).

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Although addressing the scientific significance of the prehistoric archeological record in the project area has been possible, the same will not be possible for the historic sites because research and model building here are in their nascent phases, with ideas being developed and evaluated, otherwise. The nature of the history of this area and the region is such that it is possible to recognize the potential of a few provocative areas. In the discussion to follow, some areas will be identified as being of potential relevance. These treatments will be brief, but brevity should not be equated with importance, because they really require monography length treatment. Also presented below will be the tentative formulation of the Piedmont Survey Pattern which was isolated by Richard Brooks.

Testing of the Frontier Model (Lewis 1976)

Sites relevant to the evaluation of this model are present in the sample of historic sites in the project area. The Frontier model is an archeological model of the sites that would be expected on the frontiers of a European colonization effort. Major components of this model include the entrepot, which is a major commercial center (in this instance, Charleston or Savannah) in the frontier town which receives goods from an entrepot and distributes them to dispersed settlements; and homesteads or plantations, which are economically dependent on goods from the frontier town (Lewis 1976). Sites in the project area will be of the dispersed settlement type, and these will be most relevant to the study of the dynamic relationships between the major components of the model, the entrepot and the frontier towns. Charleston and Savannah are the entrepots for this area, and Camden, Columbia, and Augusta are the frontier towns associated with them. Sites of the dispersed settlement type (which have not been studied archeologically [K. Lewis, personal communication]) from this area may shed light on the competitive relationships of the entrepots as they attempted to dominate access to markets and the role of developing transportation networks to facilitate this access. It is not possible at this time to define within which sphere of influence sites in the Russell area were associated because previously determined trade routes, and not simple measures of distance from point to point, were the major determining factors. This would suggest a Charleston-Camden-Columbia sphere initially, later supplanted by the Savannah-Augusta sphere. Analysis of archeological assemblages from these sites in terms of determining which entrepot was the origin of the materials could perhaps answer this question. Study of this phenomenon could also contribute to the study of post-frontier developments in the Piedmont.

Study of the Plantation Economy

The project area is located within one of the major upland cotton plantation areas in the South. There are a number of sites in the sample that will be relevant to the archeological study of the plantation system. Five sites have been tentatively identified as plantations and many of the tentatively identified homesites may represent tenant occupations from the post-Civil War period. Prunty (1955) and Thompson
(1975) have discussed forms of the plantation system and it appears that two of the major forms, the antebellum plantation and the fragmented plantation were present in the project area. The antebellum plantation is a nucleated settlement centered on the landowner's residence, with the slave cabins, barns, tool sheds, and gin nearby. The fragmented plantation, which developed after the Civil War, is represented by a dispersed settlement with the tenant residences located closer to the fields which each individual tenant farmer.

The literature on the plantation economy is full of provocative implications for patterning in the archeological record. An exhaustive treatment is not possible here, but as one example, the communal organization of labor during the antebellum period caused tools and implements to be kept in central sheds. Also, during this period, it is suggested that slaves were fed communally. In contrast, during the fragmented plantation period, tenants kept their own tools, implements and animals at their residences. This implies that the assemblages from tenant residences should be easily distinguishable from a slave cabin by the presence of artifacts indicative of the performance of a wider range of activities at these locations. As another example, it has been suggested that it was difficult to maintain tools and implements on antebellum plantations (Genovese 1967). Because of this, the planter had choices, either to use very durable tools—hoes, for example, that weighed three times as much as a regular hoe—or to use very shoddily made and inexpensive tools that would lessen the cost of replacement. Genovese (1967) notes that sectors of the northern manufacturing economy were devoted to producing tools and implements for this market. This implies that archeological identification of site types might be made on the basis of durability of tools and implements.

The literature on the plantation economy also has a Coastal Plain bias, where the stereotypic notion of the plantation arose. Archeological research in the Piedmont of this phenomenon would, in this case, augment the historic record by providing means for evaluating the generalizations which are made from a Coastal Plain perspective.

Settlement Patterns

Settlement patterns, because they are sensitive to systems determinants, are useful archeological indicators of the operation of cultural processes. In the present instance, the patterns of site location during the historic period can be seen to be responsive to types of agriculture, dominant modes of transportation and commercial centers which are located outside the project area. A number of hypotheses have been advanced concerning settlement patterns during the historic period and they will be briefly reviewed.

It has been hypothesized that high status individuals will occupy high ground away from the river, while low status individuals will be located in alluvial settings (Ferguson and Widmer 1976: 113). This was derived from data from the upper Coastal Plain and it would be of interest to evaluate this idea with data from a Piedmont setting to see if this pattern is a feature only of Coastal Plain settlement or if it may be generalized to the Piedmont also.
South (personal communication) has suggested that early settlement will tend to be located on high ground adjacent to large bottomlands, while later settlements will be located on ridgetops farther from the river. A corollary of this (South, personal communication) is that sites will be located with respect to the major modes of transportation. Within the project area, this would imply that early settlement would be river-oriented or located on roads which led to the nearby commercial centers of Lowndesville, South Carolina or Ruckersville, Georgia. After the building of the railroads in this area (1870-1880, see Chapter I), settlements would have shifted to take advantage of this more economical mode of transportation. The evolution of the road network in this area would be of great interest, and would facilitate the study of the evolution of settlement patterns.

Architecture

Although the field study team did not include an architectural historian, it is possible to suggest that the analysis of the standing architecture in conjunction with the associated archeological record would have several benefits. First, an analysis of the archeological record would aid in the evaluation of architectural styles by providing site-specific chronological information. Second, it may be possible to demonstrate a set of relationships between the types of archeological assemblages and the architectural styles which may allow for the architectural assessment of nonstanding structures. Also the spatial analysis of archeological assemblages will be facilitated, when standing structures are present, by permitting the determination of the placement of various deposits in relation to architectural features such as doors and windows. This could then be generalized to sites where no architectural features are present in order to delineate activity patterning at these locations.

Other Research Values

The sample of historic sites from the project area contains relatively unique sites that would permit investigation of certain domains that would not normally be possible. For example, there are archeological indications of a Revolutionary War fort, Fort Independence (38AB218). Archeological examination of this fort would be unique in that it was not chosen for investigation simply because it was the scene of a major battle. This would provide useful comparative data for the evaluation of the more spectacular sites in this category. One river ferry has also been located, and investigation of this would facilitate study of the transportation networks in this area. A resort hotel has been located and the study of this would permit some insight into the archeological record of high status leisure. A number of mills were in use at various times during the historic period, and four of these have been found. Archeological investigation of these would provide comparative data for the study of mills in other areas. Three historic period hamlets are known and two have been found. The survey team was not permitted access to the area where the third, Edinburg, was located. Archeological study of these locations would provide data on a number of
service and mercantile activities that contributed to the economic vitality of this area during the heyday of upland cotton. Studies in these locations would also be of use to community patterning studies and also, the abandonment of areas. The Gregg Shoals Dam was an early 20th century hydroelectric project, and study of the powerhouse would allow the investigation of the archeological record of engineering. It is with these rare types of sites that the values of the discovery process will be realized, because excavation of these will provide models for future studies.

Cultural Significance

The archeological study of the plantation economy, in addition to having scientific significance, can be argued to have cultural significance as a record of the heritage of Blacks, who were slaves in the antebellum form of plantations and then tenants or sharecroppers in the fragmented plantation. The archeological record of this culture is little known, as is evidenced by an annotated bibliography of the subject prepared by the Interagency Archeological Services-Washington (Salwen and Gyrisco 1977). The large and diverse sample of sites in the project area will permit the first large-scale archeological investigation of this aspect of the heritage of Blacks. Archeological studies in conjunction with oral history studies will greatly illuminate our understanding of the role of Blacks in the plantation economies of the South. Knowledge of this will likely be of great educational value of all Americans.

The Piedmont Survey Pattern

Analysis of the surface collections of artifacts from 205 historic sites by Richard Brooks has resulted in the tentative identification of the Piedmont Survey Pattern (Table 73).

<table>
<thead>
<tr>
<th>Artifact Group</th>
<th>Mean %</th>
<th>Range %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kitchen</td>
<td>85.4</td>
<td>79-100</td>
</tr>
<tr>
<td>Architecture</td>
<td>12.0</td>
<td>0-100</td>
</tr>
<tr>
<td>Arms</td>
<td>.02</td>
<td>0-.2</td>
</tr>
<tr>
<td>Clothing</td>
<td>.91</td>
<td>0-15.0</td>
</tr>
<tr>
<td>Personal</td>
<td>1.47</td>
<td>0-10</td>
</tr>
<tr>
<td>Activities</td>
<td>.2</td>
<td>0-100</td>
</tr>
</tbody>
</table>

(Artifact groups from South 1977: 95-96)

This pattern contrasts with both the Carolina Artifact Pattern and the Frontier Artifact Pattern. It differs from the Carolina Artifact Pattern by having a higher representation of the Kitchen group—85.4% versus 63.1% (South 1977: 107)—and a lower representation of the
architecture group--12.0% versus 25.5% (South 1977: 107). It differs from the Frontier Artifact Pattern in the same general way. South has described the Carolina Artifact Pattern as representing the refuse deposits outside of a structure (1977: 106-107) and the Frontier Artifact Pattern, which is high in architecture group artifacts, as representing the deposit from within a structure (1978: 230).

Two factors, surface visibility and amount of site damage, appear to be responsible for the Survey Pattern. In general, the greater the surface visibility, the larger the number of artifact groups represented, and the higher the percentage of kitchen group artifacts present. The greater the amount of damage to a site, the fewer the number of artifact groups represented and the higher the percentage of kitchen group artifacts present. The common thread through both of these relationships is that of the durability of the kitchen artifact group. Kitchen group artifacts are primarily represented by ceramics which will be little affected by depositional contexts, at least for the period of time for which they have been deposited (less than 200 years). Artifacts in the architecture group are much less durable than those of the kitchen group. Only windowglass would be as durable as kiln fired ceramics. The metal artifacts in this group--nails, construction hardware, and door lock parts--might be likely to decompose quickly, lying on exposed clay (acid soils). Relative visibility of different artifact classes might also contribute to the composition of the survey pattern. Ceramics are either white or brightly colored, and would be more visible than rusted metal items. At present, it is not possible to suggest which of these two situations is more likely.

The fact that a Survey Pattern exists has provocative implications for future research. Of interest would be the determination of whether or not the Survey Pattern is representative of excavated patterns that would be recovered during further archeological operations. It may well be that preservation strongly conditions the composition of the survey pattern. It should be remembered that the Carolina and Frontier Artifact Patterns were isolated from a small number of sites and that these sites were characterized by favorable preservation of the archeological record.

If it is determined through further data recovery that the Survey Pattern is the result of survey conditions and that the excavated patterns differ substantially from it, then it may be possible to isolate a series of relationships between variability in the Survey Pattern and the types of patterns that result from excavation. For example, if excavated data from sites in this area are found to conform to the Carolina and Frontier Artifact Patterns and regular relationships are found between these patterns and the varieties of the Survey Pattern, it would be possible to suggest, based on these relationships, which part of the site space was being sampled. This would be a great aid to the functional interpretation of survey data, both in initial modeling efforts and the design of further sampling and excavation strategies.
Another factor that must be considered is the fact that a century separated the sites from which South (1977) isolated the Carolina and Frontier Patterns and the majority of the sites recovered during the survey. The Survey Pattern, therefore, may be found to represent cultural change during that century. Comparison of the Survey Pattern data with that collected in future excavations will allow this question to be examined.