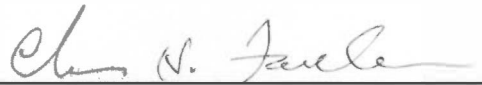


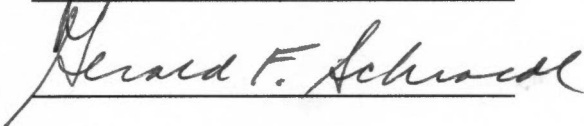
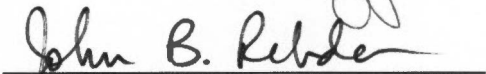
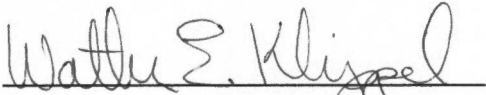
To the Graduate Council:

I am submitting herewith a dissertation written by William Rowe Bowen entitled "An Examination of Subsistence, Settlement, and Chronology During the Early Woodland Kellogg Phase in the Piedmont Physiographic Province of the Southeastern United States." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Anthropology.



Charles H. Faulkner, Major Professor

We have read this dissertation
and recommend its acceptance:



Accepted for the Council:



Vice Provost
and Dean of the Graduate School

AN EXAMINATION OF SUBSISTENCE, SETTLEMENT, AND
CHRONOLOGY DURING THE EARLY WOODLAND KELLOGG
PHASE IN THE PIEDMONT PHYSIOGRAPHIC PROVINCE
OF THE SOUTHEASTERN UNITED STATES

A Dissertation
Presented for the
Doctor of Philosophy
Degree
The University of Tennessee, Knoxville

William Rowe Bowen

August 1989

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In conducting research for this study, it was necessary to have access to the archaeological collections from the Garfield and Kellog sites. For making these collections available and for providing study space and research assistance, I would like to thank Dr. David J. Hally of the Department of Anthropology, Laboratory of Archaeology at the University of Georgia (Kellog site), Dr. Jerald T. Milanich of the Florida State Museum, University of Florida (Garfield site), and the Department of Anthropology, Laboratory of Archaeology, Georgia State University (Garfield site--Chapman and Criscoe collection).

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financed ethnobotanical and radiocarbon analyses during my original research of 9CK(DOT)7.

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ABSTRACT

The Early Woodland Kellogg Phase of north-central Georgia is known primarily from survey and excavation data collected during the 1930s, 1940s and 1950s. Knowledge and synthesis of the Kellogg Phase was restricted to site specific and cultural historical analysis. Data analysis and interpretation were based on method and theory in vogue at that time. More recent investigations indicate that Kellogg was a much more dynamic and diverse cultural manifestation than originally interpreted.

The purpose of this study is to define subsistence and settlement patterning and refine chronological placement of the Kellogg Phase by reevaluating earlier data in light of contemporary method and theory and integrating this with more recently gathered information. The results of these analyses indicate that earlier views of Kellogg were too simplistic and limited.

The present study suggests several refinements for interpreting Kellogg subsistence, settlement, and chronology.

- 1) There is little evidence to support the idea that a temporal hiatus exists between the Late Archaic Savannah River Phase and the Early Woodland Kellogg Phase. Kellogg resulted either from a movement of people who absorbed or displaced the resident Archaic occupation, or by the incorporation of diffused ideas from the north by the Archaic population.

- 2) Kellogg subsistence and settlement cannot be defined by singular, limiting concepts such as "new acorn economy" and "residential stability". The existing data support the idea of a very diffuse economy revolving around site specific riverine and upland loci, located so as to optimize seasonal exploitation of diverse habitats and their attendant resources.
- 3) Regional distributions of Kellogg components can no longer be considered co-extensive with the eastern deciduous forest solely on the criteria of vegetation type. Evidence suggests that internal and external cultural and social forces were working in concert with natural environmental parameters in influencing settlement distribution.
- 4) Examination of relative and absolute chronologies reinforce the earlier temporal sequence for the lower Etowah River drainage and suggest temporal precedence of the Swannanoa Phase over the Watts Bar, Long Branch and Kellogg phases which temporally overlap.
- 5) The Kellogg Phase dates from the mid-eighth century B.C. to the mid-second century B.C., achieving optimum occupation around 450 B.C.

PREFACE

This study is the result of ten years of research stemming from an academic interest in the relationship of humans with their environment and a prehistoric cultural phenomenon. Shortly after beginning my employment with the Georgia Department of Transportation as staff archaeologist in January 1978, I was given the opportunity to conduct the salvage excavation of 9Ck(DOT)7 in the spring of that year. This initial introduction to a Kellogg Phase site became a special interest to me as I conducted the excavation, analyzed the artifacts, and wrote the final report.

After the 9Ck(DOT)7 excavation, other transportation projects provided additional contact with the Kellogg Phase. The Cagle site, which has yielded one of the earliest radiocarbon dates for the Kellogg Phase, was initially tested by me in January 1980, and the scope of work for intensive examination was developed by me and Ray Crook. I also participated in the initial testing of the Rush site in spring 1985, and administered the contract under which it was excavated by Southeastern Archaeological Services in fall 1986.

This personal involvement with the excavation of Kellogg components has been enhanced by the study of collections from the Kellogg site at the University of Georgia and the Garfield site at Georgia State University and the Florida State Museum. The sum of these investigations has allowed a personal appreciation for the Kellogg Phase and the archaeological background which has lead to its

definition. For these reasons, this study is not only a venture into academic research, both original and re-evaluative, but also a personal fulfillment.

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CHAPTER I

RESEARCH ORIENTATION

Purpose and Background

The purpose of this study is two-fold. First is to present a synthesis of existing data pertaining to the Early Woodland Kellogg Phase of north central Georgia. Second is to evaluate these data against certain key research problems using various lines of theory and methods. Data cover some 50 years of archaeological research and will be used to provide answers to questions of both cultural historical and processual concern; approaches which, after years of debate, have been accepted as complimentary (cf. Taylor 1948, 1972; Flannery 1967; Binford 1962).

Until recently our only knowledge of the Kellogg Phase came from the survey work and excavations carried out by Robert Wauchope and Joseph Caldwell during the late 1930s through the early 1950s. Wauchope (1940, 1948, 1966) conducted his survey of northern Georgia as part of the Works Progress Administration (WPA) program. Between 1938 and 1940 his survey work identified 57 components in the Ridge and Valley, Piedmont, and Blue Ridge physiographic provinces which contained a ceramic type characterized by a fabric impressed or marked design. He termed this pottery type "Dunlap" based on its similarity to that found in the Macon area of central Georgia (Wauchope 1948:201; Fairbanks 1956:9). How ironic that the type

should receive its name from one of its more peripheral areas of distribution.

At the Two Run Creek site in Bartow County, Wauchope carried out excavations which revealed a village with "refuse pits, flexed burials in apsidal graves, and a circular house pattern" (1966:224). Associated artifacts included fabric impressed pottery and stemmed concave base projectile points. Commenting on the distribution of these Early Woodland components, Wauchope stated that they were generally located next to the narrow bottoms of streams (1966:11).

From 1946 until 1950, as part of the Smithsonian Institution's River Basin Surveys, Joseph R. Caldwell conducted the most demonstrative fieldwork and research involving the Early Woodland Period of northern Georgia (Caldwell n.d., 1950:4-21). In the survey prior to inundation of the Allatoona Reservoir, Caldwell identified 33 Kellogg components, including the Kellogg site (9CK62), the type site for the Kellogg Phase. Excavations conducted at this site, as well as others in the reservoir, provided a basic trait list for Kellogg and insights into lifeways, culture history, and chronology.

Caldwell's (n.d.:290, 1950:17-18) investigations disclosed numerous large silo- and bell-shaped subterranean pits containing carbonized acorn, hickory nut, and walnut fragments. A storage function for these features was suggested based on size and content. Postholes were also located at Kellogg, but were scattered and formed no apparent structure patterns.

On the upper reaches of Stamp Creek in Bartow County, Caldwell (n.d.:291) excavated another Kellogg Period site and discovered

features which he termed "cooking pits". These were small circular basins averaging about two feet in diameter and less than one foot in depth. In some cases, these features were characterized by a layer of broken pebbles underlain by a zone of charcoal. Artifacts, in addition to Dunlap Fabric Impressed pottery, identified as typical of Kellogg included biconcave mortars, manos, solid and hollow boatstones, and chert and quartz small-to-medium stemless points.

In the published version of his dissertation, Caldwell included the Kellogg Phase in his Middle Eastern Tradition of the eastern United States (1958:23). The spatial limits of the tradition, recognized by the presence of fabric impressed pottery, were believed to be generally coextensive with the eastern deciduous forest and include the Colbert Focus of northern Alabama, the Badin Phase of North Carolina, the Miller I and Early Bynam Foci of northern Mississippi and the Baumer and Crab Orchard Foci of Illinois.

Caldwell (1958:23-27, n.d.:298) further suggested that Kellogg may represent a movement of people from eastern Tennessee who, because of their dietary preference for acorns, were restricted to the deciduous forests of the Piedmont. He supports his emigration theory by pointing to a temporal and cultural hiatus between Kellogg and the preceding Archaic peoples and several trait similarities between Kellogg and the Watts Bar Phase of eastern Tennessee.

The aforementioned presumed subsistence focus on acorns led Caldwell (1958:26) to formulate what can be termed the "new acorn economy" hypothesis. Caldwell states,

We can suggest now why the Kellogg and presumably the other foci of the Middle Eastern Tradition were restricted to the deciduous forest zone. An economy so thoroughly based on the acorn could not have been maintained in the evergreen regions of the forest, where limited acorn supplies were to be found only along the streams [For] the Kellogg people autumn must have been the season of plenty. During acorn season and immediately after, the hunting must have been good, the meat fat, and the pelts glossy (Caldwell 1958:25-26).

Caldwell paints a picture of the entire community (men, women and children) collecting and bringing in vast quantities of acorns to store for use when the food supply was not so good (p. 26). From this, Caldwell concluded that the "new acorn economy" may have resulted in "greater residential stability." To support this claim, Caldwell (1958:26) pointed to the large fabric impressed pottery vessels which would have been difficult to transport, the size of sites (an "acre or so in extent"), and the accumulation of debris to several feet.

We do not know how important may have been a yearly economic cycle or whether it was necessary to move at all. The acorn supply in season was abundant, and under a large oak one may walk on a thick carpet of seeds. Yet, if the game were hunted out, it might in a few years become necessary to move to a new location (Caldwell 1958:26).

In summarizing the Kellogg Period in the middle Etowah River valley, Caldwell described the Kellogg settlements as representative of a pre-agricultural, semi-sedentary hunting-gathering people who focused their economy on fall nut gathering (Caldwell n.d.:283).

Concerning the chronological placement of Kellogg in northern Georgia and indeed within the framework of southeastern prehistory, Caldwell and Wauchope, lacking radiocarbon (C-14) technology, relied on limited stratigraphic testing information. Both he (Caldwell

n.d.:149) and Wauchope (1948: 201) point out the near total absence of Late Archaic fibre tempered pottery within the primary distribution area of Kellogg ceramics. Noting that fibre tempered wares constitute the earliest ceramic types of nearby areas (e.g. Wheeler series of northern Alabama and Stalling's Island and St. Simon's of the central Savannah River area and the Georgia coast), they concluded that northern Georgia was abandoned during the Late Archaic and that Dunlap Fabric Marked ceramics denote the earliest pottery of the area.

At Two Run Creek, Wauchope (1948), referring to stratigraphic tests, stated that fabric impressed pottery was the earliest ware "encountered in strength," comprising 98 percent of the pottery from the lowest levels. Mossy Oak Simple Stamped comprised the other two percent. In higher strata Dunlap decreased in frequency, while check stamped ware grew in strength. Mossy Oak remained a minority ware.

Caldwell's work in Allatoona corroborated Wauchope's stratigraphic sequence from Two Run Creek and provided evidence that a cultural continuation existed from Kellogg through Cartersville times. At site 9Br73 on upper Stamp Creek and at the Kellogg site itself, stratigraphic excavations yielded a sequence of pure Dunlap pottery at the lowest levels followed by the addition and gradual increase of Cartersville Check Stamped and Cartersville Simple Stamped, respectively. Caldwell divided this sequence into three periods:

- 1) Kellogg--defined by the nearly exclusive production of sand tempered Dunlap Fabric Marked Pottery;
- 2) Post-Kellogg--marked by the introduction of Cartersville Check Stamped, and continuing until the appearance of Cartersville

Simple Stamped (Dunlap Fabric Marked continued to be the main type during this period); and

- 3) Cartersville--distinguished by the introduction of Cartersville Simple Stamped with the continued production of Cartersville Check Stamped and Dunlap (Caldwell n.d.:278-304 and 1958:45).

Caldwell also recognized variants within the Cartersville Period which lacked Dunlap ceramics (Caldwell n.d.:297-300). One such instance would be the Forsyth Period of the upper Chattahoochee River (Caldwell 1958:45).

Investigative Method and Theory

The ideas and information presented in the publications of Caldwell and Wauchope were actually formed back in the forties and early fifties. What these studies have left us regarding Kellogg is basically a trait list, a generalized regional and local inter-site settlement pattern, a fragmentary subsistence economy, and a regional and local relative chronological placement. Since that time, little has been done to develop our knowledge of Kellogg. One can only guess that Early Woodland, and Kellogg in particular, became a victim of research bias which has focused on the more exotic and "visible" Mississippian Period, and later, the protohistoric with its celebrated journeys of Spanish explorers. Recent research, aided by cultural resource management studies and a plethora of new method and theory, has now provided new data and insight into the Kellogg culture.

There are several reasons why, at this point in time, a reevaluation of the Kellogg Phase is justified. These reasons may be divided into theoretical and methodological categories.

Theoretically, at the time the Kellogg "Focus" was originally conceived, the major classificatory scheme in practice was the Midwestern Taxomic, or McKern, system (McKern 1939). The basis for classification within this system was trait comparison which formed a genetic-taxonomic framework and minimized the opportunity for temporal-spatial systemic analyses (Willey and Sabloff 1980:106). This type of classification is in direct opposition to current theoretical trends which focus on a regional/developmental perspective.

While Caldwell and Wauchope were both keenly aware of developmental trends, a trait comparison framework made it impossible to give holistic, regional perspective to any cultural phenomenon. Accordingly, although a single cultural unit may have been responsible for two functionally different loci, the sites could conceivably have been placed in two separate foci (belonging to culturally distinct people) because certain artifact types present at one site were lacking at the other.

In conjunction with this is the "type site" concept used as the basic criteria to define a new cultural phenomenon. The "type site" often became synonymous with the "culture." Therefore, the voluminous trait lists set forth as characterizing a particular culture were actually characterizing only a single site. In the case of Kellogg, three sites were actually used in developing a trait list (Kellogg, Two Run, and 9Br73), but even at that time (ca. 1950) some 100 Kellogg components were known. Obviously, this presented a skewed view of the culture and masked the variations which existed from one site to

another and from one time period to another, not to mention interactions between two or more loci. In essence, a regional, processual approach was ruled out by the theoretical construct in vogue.

Methodological advances present a second reason for reevaluating Kellogg. These advances may be generally grouped into the areas of dating and subsistence. In the year Caldwell was completing his work in Allatoona, Willard F. Libby was producing the first radiocarbon (C-14) dates for archaeological contexts. Without absolute dating, Caldwell and Wauchope were limited in giving chronological placement to, and thus suggesting inter-period development of, Kellogg within both an inter- and intra-site context. While suggesting a hiatus existed between Late Archaic and Early Woodland in northern Georgia, Caldwell had no way of proposing a beginning date for Kellogg and thus dispelling the possibility that the hiatus may exist in our knowledge rather than actually being a cultural reality. Additionally, the temporal duration of Kellogg could not be ascertained, thereby handicapping the ability to 1) measure development within the period, 2) assess contemporaneity among components, and 3) compare spatially distinct occupation units within a single site.

At the time of these initial studies, ethnobotanical and zooarchaeological analyses were seldom employed, having no developed method and theory of their own and no standardized recovery procedures. With the recent growth of academic and research oriented paleobotany and zooarchaeology programs, significant method and theory have developed as has a professional approach to and expertise in

field recovery and laboratory identification (e.g. Grayson 1984; Wing and Brown 1979). Perhaps the most significant contribution in these areas was the development of the flotation technique for the recovery of macro-floral remains in conjunction with a shift to fine screening of cultural matrices (Struever 1968).

Palynology has also contributed greatly to prehistoric subsistence studies through the recovery of microscopic evidence of botanical remains. Its use has been particularly important by palynologists working on paleo-environmental reconstructions (e.g., Watts 1975, 1980a, 1980b; Whitehead 1973; Delcourt and Delcourt 1981). Such data are essential in developing concepts pertaining to people's patterned and predetermined use of their surrounding environment.

Site catchment analysis has taken advantage of palynological data. Through the use of this method and its attendant theory, major contributions have been made concerning resource use and scheduling, energy expenditure, and space utilization (cf. Findlow and Ericson 1980).

The initial researchers of the Kellogg Phase left us with little by which to exercise the new theories. However, recent research-oriented survey and data recovery projects have added to our Kellogg data base. These recently acquired data can be integrated with those already collected to enhance present knowledge through multiplication of, variation from, and negation of previous results and theories, or to extend our knowledge into areas not yet explored. By using the data gathered by Caldwell and Wauchope and combining them

with more recently gathered information, it is possible to view Kellogg in a more regional, holistic, and systemic perspective.

Recent studies through the eastern United States have identified the Early Woodland Period as something more than "archaic with the addition of pottery," and suggest a period of dynamic change in which plant domestication, regional adaptations, and cultural/social differentiation were all taking place. By using all of the available Kellogg data and applying new theoretical concepts to them, the present study attempts to:

- 1) focus on presenting a more thorough and less speculative culture history of Kellogg than thus far presented;
- 2) refine regional and local chronological placement of Kellogg from both a relative and absolute standpoint; and
- 3) define subsistence and settlement strategies as they apply on both site specific and regional levels.

These issues will be addressed through stratigraphic, seriation, and C-14 analyses, analyses of food remains, and site catchment analysis. Although the goal is something less than a holistic view of Kellogg, the data and results presented should provide an improved platform from which future problem-oriented research programs can be launched.

CHAPTER II

ENVIRONMENTAL BACKGROUND

Any study which attempts to define cultural patterns involving subsistence and settlement, must define the environmental matrix in which the culture existed. The matrix, in this study, consists of both the greater region which encompassed the distribution of all Kellogg loci and specific site locations. These areas are defined by the known geographic distribution of sites. Environmental data defining the background come from publications which present regional syntheses, paleoenvironmental reconstructions, floral, faunal, and soil surveys, climatological studies, and the descriptions left by early explorers.

Kellogg Period sites are found throughout the Georgia Piedmont, less frequently in the Ridge and Valley, and sparsely in the Appalachian Highlands. The heaviest area of site concentration is near the physiographic divide separating the Ridge and Valley and Piedmont at the southeastern corner of the Ridge and Valley Province. Roughly, this area runs east-west from the city of Rome in the Ridge and Valley to Canton in the Piedmont and from Fairmont on the north to Marietta on the south (Figure 1).

Physiography

Piedmont

Fenneman (1938:121 and 131) describes the Piedmont as an eroded upland plain in various stages of development and destruction with a

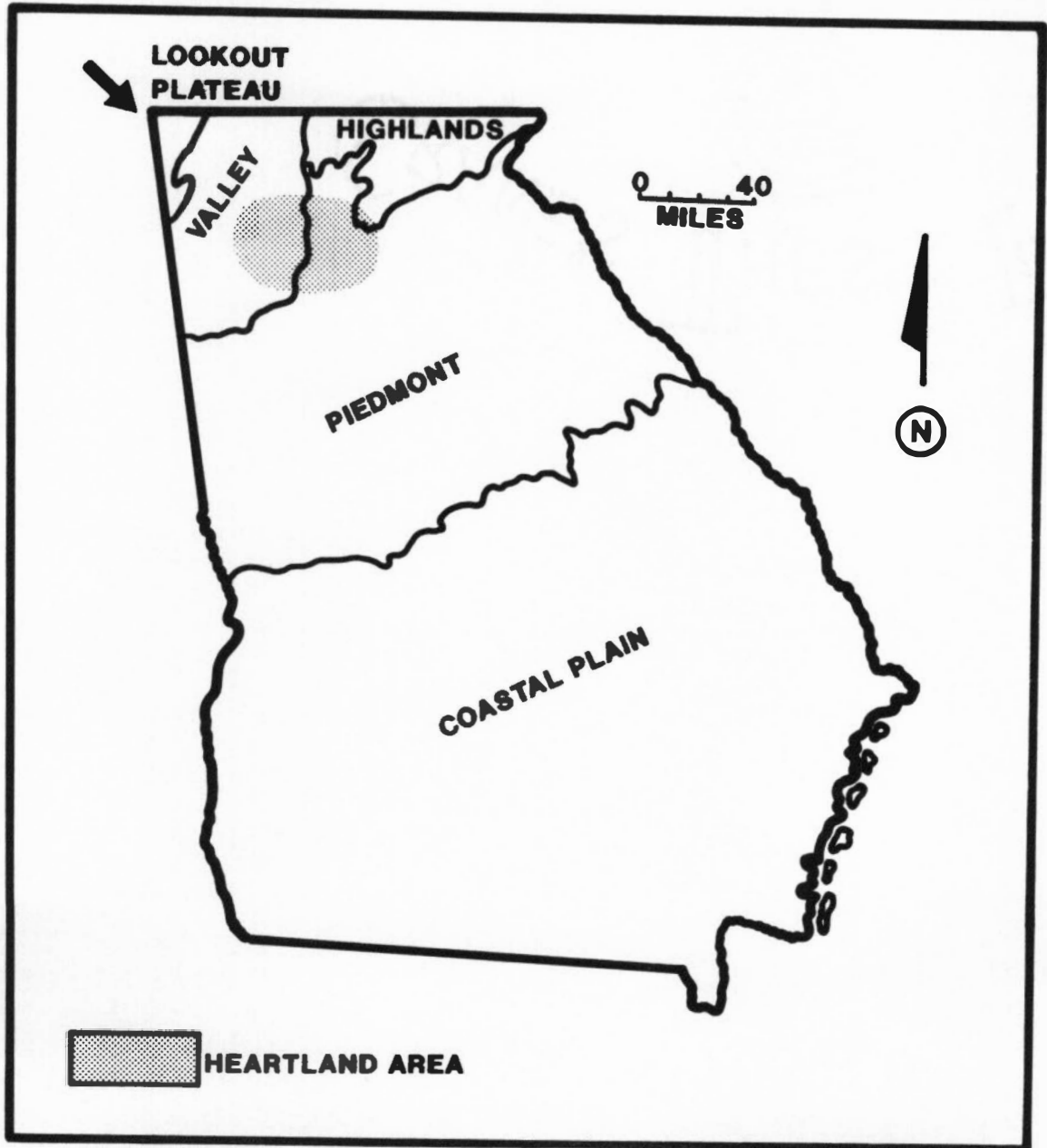


Figure 1. Physiographic Location of the Kellogg "Heartland" in North Georgia.

typical landscape characterized by rolling surfaces and gentle slopes. Relief is generally moderate--50 or so feet--except where streams and other drainages bisect the terrain and form steep, narrow valleys. Near stream sources, valleys widen and are shallow with a gentle gradient. Rejuvenated streams produce the deeper valleys. In Georgia, the Piedmont covers an area approximately 100-120 miles north/south by 160-170 miles east/west and is bounded by the Fall Line to the south and the Blue Ridge Mountains to the north.

LaForge (1925) subdivides the Piedmont into two major plateaus: the Dahlonga, which is the highest and occupies the northeastern portion of the province, and the Atlanta. The Atlanta Plateau encompasses that area within which Kellogg sites are most frequently located. This plateau occupies the central portion of Piedmont Georgia and is characterized by broadly rolling upland. The Atlanta Plateau is physiographically divided into two platforms which are distinguished by an elevation difference of about 250 feet. The lower of the two divisions is named the Fairburn Platform, which ranges roughly from 1,000 to 1,100 feet above mean sea level (AMSL). The higher platform is the Gainesville with a general elevation of 1,300 feet and greater.

The Atlanta Plateau is a rather homogeneous area with no major topographic differences among its various subdivisions. With the exception of a narrow strip along its southeastern margin which drains to the Atlantic, the plateau is drained by the Etowah and Chattahoochee rivers of the Gulf Slope. While the Etowah flows on more of a westward course, crossing the Piedmont/Ridge and Valley

Physiographic divide and joining the Oostanaula in Rome to form the Coosa, the Chattahoochee takes a more direct route to the Gulf flowing southwesterly until just north of the Fall Line where it turns south.

Ridge and Valley

Fenneman (1938:195) defines the Ridge and Valley Province of North America as a strip 1,200 miles long and from 80 to 14 miles wide running from New England on the north to the Coastal Plain on the south. The Ridge and Valley Physiographic Province of northwest Georgia is bounded by the Piedmont to the east and south. Distinctive features are broad, nearly level valleys underlain by limestone and shale divided by resistant sandstone and sandy shale ridges rising to the elevation of several hundred feet. The valley floor averages about 600 to 800 feet above mean sea level. The limestone base soils are generally rich and well suited for agriculture and provide numerous chert outcroppings. Between Cartersville and Rome the primary geologic formation is the Knox dolomite which underlies about half of the region and yields, upon weathering, large quantities of a gray chert which is universally distributed over the landscape as boulders and smaller chunks. Exposures of the dolomite are rare, but several small exposures occur along the Etowah (Butts and Gildersleeve 1948:16-17). The other half of the valley is underlain by Cambrian limestones and schists (Fenneman 1938:274).

The Rome Valley, which is the largest division of the Ridge and Valley Province and is of most concern to us, ranges in width from 13 miles at the Tennessee state line to 25 miles at Cartersville. This

valley constitutes the lowest land of the province and contains all the major streams. The Conassauga River, which flows south from Tennessee, joins the Coosawattee River, which flows westward from the northwest Piedmont, near Calhoun to form the Oostanaula. The Oostanaula joins with the west flowing Etowah from the western Piedmont to form the Coosa at Rome. From Rome the Coosa flows westward into Alabama where it joins the Tallapoosa River to form the Alabama River, which enters the Gulf of Mexico at Mobile (Campbell 1975:133-147).

The Armuchee Ridge section of the Ridge and Valley is located just north and west of the Rome Valley and is underlain by the Fort Payne cherty limestone formation (Fenneman 1938:272). This is in sharp contrast to the geologic formations of the Piedmont which are wholly crystalline and deformed, yielding numerous metamorphic types such as quartz, phyllite, schist and slate and volcanic rocks and ultramafics such as granite and soapstone.

Flora

One of the major theoretical/logistical problems which has plagued the ecological approach to archaeology has been the use of present-day environmental situations to interpret subsistence and settlement patterns of cultural groups that existed hundreds and thousands of years ago. Geological processes have caused little impact to the basic configuration of the earth's surface here over the past few thousand years. Even the landscape has not changed topographically, except for local alterations by alluvial processes of erosion and deposition.

Problems of prehistoric subsistence/settlement interpretation by modern environmental association more commonly lie with the biotic rather than geologic sphere. Climatological fluctuations through time dictate regional floral regimes, while climatological as well as floral patterns influence faunal assemblages. It is essential, therefore, to have exact knowledge of the prehistoric environment to reconstruct ecological patterns. The most noteworthy attempts at paleo-environmental reconstruction have come from studies based on the analyses of pollen samples extracted from the beds of ponds and the Pleistocene terraces along rivers. A number of such studies have been conducted in Georgia and surrounding states (e.g., Watts 1975).

Over the past twenty years the Southeast has been the focus of regional and specific environmental reconstructions based on the examination of these pollen diagrams. In a study of pollen from a core of sediments from Pigeon Marsh in northwest Georgia, Watts (1975:291) contends that modern flora were established early in the Holocene Epoch and continued with little change to the present. The pollen rain from this portion of the column represents an oak-chestnut-hickory-blackgum forest with locally occurring pine. In the later Holocene, and at least by around 7000 B.P., pine increased at the expense of oak and an essentially modern forest was established (Watts 1980a:404, 1980b:194).

In compiling vegetational maps for the eastern United States over the past 40,000 years, Delcourt and Delcourt (1981:150) surmise the restriction of the oak-hickory-southern pine forest to the Piedmont physiographic province from as early as 5000 years B.P.

(mid-Holocene) to pre-settlement (ca. 200 years B.P.). In essence, these studies indicate that forests existing in the Piedmont/Southern Appalachian/Ridge and Valley provinces (ca. 1000 B.C.-900 A.D.) were essentially much the same in character as those encountered by sixteenth century European explorers and during Indian removal (ca. 1830s). For this reason, it is appropriate to utilize modern reconstructions of virgin forests in a general sense for these areas.

Localized natural phenomena as well as cultural practices such as wild fires and clear cutting would have resulted in a number of successional forest environments in various stages of development throughout the Piedmont (Wharton 1978:158-159). Certainly as culture is never static, neither should the environment be so considered. Rather, a cultural ecological approach to the study of prehistoric cultural systems must adhere to the axiom that culture and environment must be viewed as mutually interactive. As such, the focus must be on the interactive component--the niche--rather than the periphery.

From a vegetative perspective, Braun (1967) has placed the area of focus within the Gulf Slope Section of the Oak-Pine Forest Region. This is roughly equivalent to Shelford's (1963:57) Oak-Hickory forest and post oak-turkey-hickory faciation. The Oak-Pine Forest Region extends from southern New Jersey southward to Georgia and westward to the Mississippi basin and beyond. In Georgia, this forest is co-extensive with the Piedmont, but does not extend northward into the Great Valley of northwest Georgia. The region is seen as transitional between the central deciduous forest and the evergreen forests. The

most common and widespread trees of the region are oaks (white, black, post, red and southern red) and hickories (white, or mockernut, and pignut); consequently the region is referred to as the Eastern Oak-Hickory Forest.

Other significant nut-bearing species of the southern Piedmont forest are shagbark, shellbark and butternut hickories, black walnut and butternut and, formerly, the American chestnut (Schopmeyer, et al. 1974:269, 454, and 273). Sourwood and sweet gum, occurring with the dominant oaks and hickories, and pines, which were prominent in the original forest cover, persist in areas less suitable to the deciduous species. An abundance of loblolly pine and an infrequency and localization of long leaf pine characterize the pine species (Braun 1967:259-260).

The Gulf Slope Section is a transition zone where the range of trees of the central hardwood forest and the evergreen forest of the Southeast overlap. In Georgia, however, the inner boundary along the foot of the Blue Ridge Province is fairly well defined and the outer boundary follows the Fall Line.

In Georgia, the greater part of the Oak-Pine Region is on the Piedmont. Species for this region include chestnut oak, chestnut, pines (*Pinus taeda*, *P. palustris*, and *P. echinata*), oaks (*Quercus falcata*, *Q. stellata*, *Q. velutina*, and *Q. marilandica*), and hickories (*Carya tomentosa* and *C. glabra*). Dogwood is an abundant understory and beech, tuliptree, white ash, maple, white oak, holly, redbud, bigleaf magnolia, and Carolina silverbell--representing a more mesophytic forest--occur on ravine slopes. Lowland forests include

mixed hardwood communities composed of lower slope mesophytes and trees of alluvial bottoms with pines. These are oaks (white, cow, post, chestnut, black, Spanish, red, water and willow), three or four species of hickory, beech, ash, tuliptree, sourgum, sweetgum, two or three species of magnolia (Magnolia virginiana, M. macrophylla, M. tripetala), dogwood, sourwood, red and sugar maple, blue beech, elm (Ulmus alata), basswood, holly, hornbean, and river birch. These trees greatly predominate over the pines. In assessing the content of the oak-hickory climax forest of the Georgia Piedmont, Wharton (1978:153-156) substantiates the presence of most of the species, but emphasizes species localization in association with varying soil types.

Two researchers have attempted a general reconstruction of the original forests of the Georgia Piedmont. Nelson (1957: 390-397), in reviewing the accounts of a number of eighteenth and nineteenth, as well as early twentieth century explorers, travelers, and scholars who made various observations on soil type/vegetation type correlations, concludes that the distribution of original forests of the Georgia Piedmont was by no means uniform. Rather areas termed redlands (defined by soil color and clay content) supported predominant hardwood forests with very little pine. These comprised 35 to 40 percent of the physiographic region. Nelson (1957:394) quotes Loughridge (1883) in characterizing the makeup of redland forests:

The growth is red or Spanish, white, and post oaks, hickory, chestnut, dogwood, and some short leaf pine. The proportion of hickory is much larger, and that of pine much less, than on gray sandy soil. The relative unimportance of pine on redlands is emphasized.

The gray, sandy lands, on the other hand, supported a mixture of pine-hardwood forest at the time of settlement. This division comprised some 45 percent of the Piedmont Region and supported "generally short-leaf pine, post, Spanish (red), and white oaks, hickory, dogwood and persimmon" [Loughridge (1883) in Nelson (1957:395)].

A third division, granitic lands (comprising 14 percent of the Piedmont), supported a predominance of long and short leaf pine with oak, chestnut, hickory, and black-jack, while the bottomlands and stream bottoms supported poplar, oak, maple, sweetgum, and walnut. Although by no means dominant, walnut is most often mentioned in a lowlands context.

Nelson's paper is a pines vs. hardwoods distributional essay and he concludes by saying that pines are more prevalent in the Gulf than Atlantic Slope region and tend to decrease in frequency from south (near the Fall Line) to north (near the Appalachian Province). Although the hardwood-dominant redlands appear generally distributed throughout the Piedmont, the Piedmont counties immediately adjacent to the southeastern corner of the Ridge and Valley Province all report the presence of redlands.

Plummer (1975:1-19) used witness tree counts and distributions from the original land survey maps to determine forest composition in Georgia. Plummer (1975:14) states that

Georgia's forests at the time of settlement [1733-1832] were quite varied. The 'deciduous' forest north of the Fall Line had extensive oak-pine communities with more hickory westward and more chestnut eastward.

Northwest Georgia (including the Ridge and Valley Province) was an oak-pine-hickory forest with relative frequencies of 50:18:8 percent, respectively, with post oaks occurring two to three times more frequently than other oaks.

Soils correlate well with vegetation type. In areas where shallow soils are derived from acidic shales, red oak predominates, while deeper, richer soils support both red and black oaks. These two species were second in importance to the post oak which dominated higher terrain, and hickories and chestnuts could be found on the ridges (Plummer 1975:5).

For northeastern Georgia the community composition is oak-chestnut-pine with a ratio of 51:12:14 percent. Overall, the dominant vegetation for the Piedmont is defined as oak-pine-hickory with ratios of 53:23:8 percent with post oak occurring most frequently in the northwest and red oaks occurring most frequently in the northeast.

Fauna

In a survey of mammalian remains identified in the field or in collections throughout the state, Golley (1962) lists the following species that occur in the study area: opossum (Didelphis marsupialis), cottontail rabbit (Sylvilagus floridanus), swamp or cane cutter rabbit (Sylvilagus aquaticus), cotton mouse (Peromyscus gossypinus), old field mouse (Peromyscus polionotus), wood mouse (Peromyscus leucopus), cotton rat (Sigmodon hispidus), muskrat (Ondatra zibethicus), wharf rat (Rattus norvegicus), house mouse (Mus musculus), red fox (Vulpes fulva), gray fox (Urocyon cinereoargenteus), raccoon (Procyon lotor), bobcat (Lynx rufus), white-tailed deer (Odocoileus virginianus), mink (Mustela vison), short-tailed shrew (Blarina brevicauda say), eastern chipmunk (Tamias striatus), grey

squirrel (Sciurus carolinensis), fox squirrel (Sciurus niger), southern flying squirrel (Glaucomys volans), beaver (Castor canadensis), golden mouse (Peromyscus nuttalli), and pine mouse (Pitymys pinetorum). These species are generally common to this area and occupy a wide variety of habitats.

Avifauna are dominated by perching varieties among which are the Carolina wren, brown thrasher, cardinal, blue jay and wood thrush. Other species are the redbreasted, pileated, downy, and hairy woodpeckers, the crow, and red-tailed hawk (Wharton 1978:158). Significant game species would include the wild turkey, ruffed grouse, and bob white quail.

For the Piedmont Plateau Province of the Southern Appalachian Region, Martof (1956) lists some 49 species of reptiles and amphibians including a number of salamander, toad, frog, turtle, lizard, and snake species.

In tabulating the freshwater fishes of Georgia, Dahlberg and Scott (1971) list some 90 species as native to the Alabama drainage (including the Coosa, Oostanaula, and Etowah rivers) and 75 species native to the Appalachicola drainage which includes the Chattahoochee. Some of the more important species and their location(s) are the lake sturgeon (Acipenser fulvescens)/Coosa and Oostanaula, spotted gar (Lepisosteus oculatus)/Chattahoochee, long-nose gar (L. osseus)/river, gizzard shad (Dorosoma cepedianum)/river and creek, threadfin shad (D. petenense)/river, redbfin or grass pickerel (Esox americanus)/Etowah and Chattahoochee and the chain pickerel (E. niger)/Chattahoochee, seven varieties of suckers/creek and river, eight varieties of

catfish, nine bream, red eye bass, spotted bass, and large mouth bass (Micropterus coosae, M. punctulatus, and M. salmoides), white and black crappie (Pomoxis annularis and P. nigromaculatus), fresh water drum (Aplodinotus grunniens)/Alabama system (Coosa) and creeks, bowfin (Amia calva)/Chattahoochee, and striped bass (Morone saxatilis)/Chattahoochee. Anadromous species such as the striped bass and sturgeon may not have ventured as far north as the Piedmont, but if they did, their presence was seasonal.

Because prehistoric people modified their environment either intentionally (e.g., forest burn-off, stream damming, irrigation, etc.) or as a consequence of their occupation (e.g. timber cuts, clearing, etc.), the successional forest may have been a special type of environment exploited by man. Wharton (1978:158) states that in successional forest stages

. . . . the fauna appear in successional stages, from the insects through the mammals. If the ground stays bare long enough, the beach mouse may take up residence, or in the weed stage the seed-eating harvest mouse may predominate. In the grass stage the cotton rat moves in, but disappears in the shrub stage as grass cover thins out. If the grass stage is prolonged by pasturage, the cool, moist microenvironment may prove acceptable for meadow mice. . . . As the hardwood understory builds with storable food, such as acorns or nuts, and as leaf litter forms, pine voles and deer mice become dominant small mammals.

Wharton (1978:158) notes that some birds (e.g., the blue grosbeak) are limited to secondary successional areas and animals such as quail, doves, rabbits and foxes are very common in these areas. The dominant bird species by successional stage as noted by Wharton (1978:158) are: Forb-grass stage--grasshopper sparrow and meadow lark; Grass-shrub stage--field sparrow, yellow-throat, and meadow

lark; Young Pine Forest (25-60 years)--pine warbler, towhee, and summer tanager; Old Pine Forest (with well developed deciduous understory)--pine warbler, Carolina wren, hooded warbler, and cardinal; and Oak-Hickory Climax--red-eyed vireo, wood thrush, and cardinal.

In his characterization of abandoned fields in Georgia and North Carolina, Shelford (1963:62) states that insects of cultivated fields occur in great numbers during the first year along with the least shrew, old field mouse, and harvest mouse. These attain their maximum population during the second year and also during this time the bob white and eastern meadow lark appear. During the third year cottontail rabbits and cotton rats appear. Shelford (1963:62) goes on to say that when the succession becomes "forest edge" in similarity the cotton rat disappears, the cottontail rabbit population declines, and different bird groups appear. Also, during this time forest species appear.

Climate

Horace S. Carter states that

. . . due to its latitude and proximity to the warm waters of the Gulf of Mexico and Atlantic Ocean, most of Georgia has warm, humid summers and short, mild winters. In the northern part of the state, however, altitude becomes the more predominant influence with resulting cool summers and colder, but not severe, winters (Carter 1974:73).

The average annual rainfall in Georgia ranges from 75 inches in the northeast to 40 inches in the east-central section of the state. The

yearly average on the lower east coast is 53 inches and the southwestern part of the state averages 54 inches. Rainfall tends to be twice as heavy in wet months (winter and early spring) as in dry months (autumn), but basically, the rainfall distribution, areally speaking, can be very erratic. The largest number and most severe floods occur during the winter and early spring and snowfall is usually light and of no significance (pp. 72-73).

For the state the average summer temperatures range from 75°F in the north to 82°F in the south. Average "freeze" days range from 110 in the north to 10 in the southern portion of the state with an approximate four-month difference in the frost-free growing season from north (170 days) to south (300 days) (Carter 1974:73).

Temperatures recorded for north central Georgia over the period 1936-1965 reveal an average of 77.9°F in July (hottest month) and an average of 43.9°F in December/January (coolest months) (p. 78). The July temperatures range from a minimum average of 66-68°F to a maximum average of 88-90°F and the January temperatures range from a minimum average of 32-34°F to a maximum average of 52-54°F (pp. 84-87).

Maximum temperatures reach over 100°F and minimum temperatures may go below 0°F.

For the specific study area, measurements taken in Canton, Georgia, at the eastern end of the Allatoona Reservoir in the Piedmont Province, over the 30-year period 1931-1960, revealed the highest mean rainfall occurring in March (5.99 inches) and again in July (5.18 inches), with the lowest mean rainfall taking place in October (2.78 inches) and September/November (3.28 inches). The mean yearly average in this area for this time span is 51.96 inches (p. 78).

The mean date of the first freeze in autumn (recorded near the physiographic divide at Cartersville) is November 2nd and that of the last freeze April 5th, for a total of 211 frost-free days (p. 75). Carter (1974:72) states that "the mild, sunny weather of autumn is usually ideal for harvesting. . . ."

In the Ridge and Valley Province, several miles to the west, readings taken at Rome in the Rome Valley show temperatures ranging from 42.1°F in January (coldest month) to 79°F in July (hottest month), with a yearly average of 60.4°F. Precipitation ranges from 5.87 inches in March (wettest month) to 2.93 inches in October (driest month) with an annual average of 52.26 inches. The first frost in this area occurs around October 19th and the last about April 12th. These figures compare favorably with those of the western Piedmont area.

Such lists of facts may seem boring and superfluous, but when taken together, they suggest a similar environmental setting for the time period that the area was aboriginally occupied (cf. Watts 1975, 1980). These data become especially important when considering the optimum time(s) of the year for exploitation of the various resource(s). Thus, the evaluation of the organic and inorganic environment, when viewed from the particular cultural perspective of the aborigine, may lead to an understanding of human decisions concerning the use of natural resources.

CHAPTER III

DATA BASE

One of the primary approaches of this study is to provide a regional view of the Kellogg Phase which is comprised of individual site data. Some of these data, such as that from Kellog and Garfield, have not been presented previously elsewhere. These sites were selected because of the extensiveness of both the excavations and remains. Other sites which have yielded only minor Kellogg components or received only minor testing will be discussed under those topics for which they provide specific data (e.g., relative dating).

The Kellog Site (9Ck62)

The Kellog site, the type site for the Kellogg focus, was discovered and investigated by Joseph R. Caldwell during his archaeological investigations of Allatoona Reservoir (Caldwell n.d.:127, 1950:17-18). Although reported in his manuscript of the Allatoona investigations and used in developing his doctoral dissertation, the Kellog site data were never actually published (e.g., Caldwell 1958). The site, prior to its inundation, was situated on a natural rise at the confluence of Kellogg Creek and the Etowah River (Figure 2) and was surrounded by forested wetland. This hummock rose some 15 feet above the river and six or seven feet above the surrounding low area. The distribution of cultural debris was co-extensive with the topography of this rise, extending approximately 600 feet north/south by 200 feet east/west (ca. 2.75 acres). The

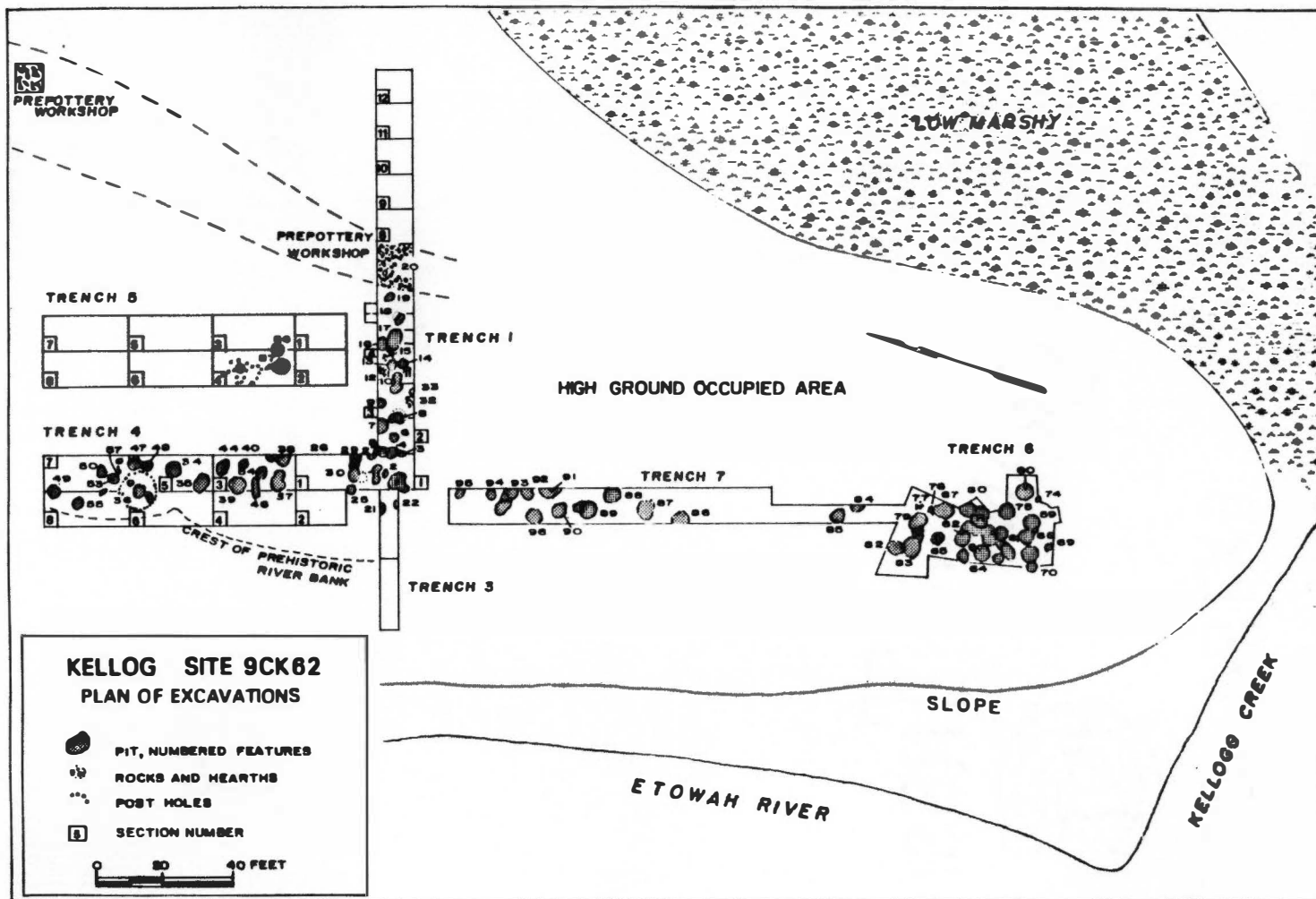


Figure 2. Kellog Site Topographic Location and Excavation Plan.

Etowah River, rather stable in this area of its course, may have once flowed on the opposite side of the knoll which was an apparent erosional remnant associated with the valley slopes to the east. Soils were sandy clay.

Caldwell's excavations at Kellogg consisted of seven trenches divided in sections of five, ten, and 20 feet and excavations proceeded in six-inch arbitrary levels (Figures 2 and 3). The entire excavated area covered 7,550 square feet or about six percent of the total site. Stratigraphically, the site yielded three distinct layers: a silty plow zone upper deposit; a dark brown sandy midden characterized by charcoal flecks, broken rocks, potsherds, and debitage; and the clay subsoil. Originating within the midden zone was found a number of features including postholes, pits, and rock clusters (Figure 4). The midden zone was homogeneous showing no internal separations and ranged in thickness from one foot near the crest of the knoll to five feet near the edge of the old river bank.

Stratigraphic separation of pottery types was evident in Caldwell's six-inch arbitrary levels. Dunlap Fabric Impressed pottery was clearly the earliest occurring type followed by Cartersville Check Stamped and, finally, Cartersville Simple Stamped. Cordmarked pottery, represented by only a few sherds, tended to be stratigraphically associated with Dunlap ceramics.

Stone implements associated with the Kellogg occupation at 9Ck62 included items of steatite such as a tubular pipe, a pendant, bowl fragments and two-hole boatstones. A variety of the typical small-to-medium triangular points (e.g. Greenville and Nolichucky)



Figure 3. Looking North up Trench #4: 9CK62.



Figure 4. Looking Southeast in Trench #6, Pit Cluster #1, with Low, Marshy Area in Background: 9CK62.

were recovered. These were manufactured of both chert and quartz in about equal numbers. Other items included shallow biconcave mortars and disk-shaped manos of granite (probably hornblend) and quartzite, ovate knives and side scrapers.

The most frequently occurring features at the Kellog site were subterranean pits, of which there were 60. These pits were basically silo-shaped with straight sides and flat to slightly rounded bottoms (see Figure 4). Minority types included bell- and barrel-shaped pits. Pit diameters ranged from two to five feet with depths approximating width dimensions. Actual pit depth was difficult to determine since the exact level of feature origin within the midden was difficult to determine. Pit contents included carbonized vegetable remains, pottery and quartz and chert lithics (of which the medium-to-small triangular with indented base point is predominant). Table 1 gives a complete inventory of the features. The manner in which the excavations were carried out--long, narrow trenches--made it difficult to establish an overall community pattern at Kellog although the excavation plan maps suggest that perhaps features fall into four or five clusters (see Table 1).

A second type of feature at Kellog identified by Caldwell was a rock lined hearth generally formed by a thin layer of small, broken quartzite pebbles (Figure 5). These roughly circular features ranged from 1.5 to 3.0 feet in diameter and from one to four inches in thickness. While the rocks themselves showed evidence of heating and fire cracking, the earth around them displayed little evidence of heating and there was a general lack of ash or charcoal build-up among

TABLE 1
FEATURE/PIT SUMMARY:
9Ck62

Feature Number	Dimensions	Type/Function	Cultural Affiliation	Contents	Pit Cluster
1	(Double Pit) Diameter: 5 Feet Depth: 3 Feet Diameter: 2.5 Feet Depth: 1.3 Feet	Silo-Shaped Storage Pit	*Kellogg	Dunlap, Cartersville Check Stamped, bone Lithics, Watts Bar	3
2	Width: 3.0 x 1.5 Feet Depth: 0.25 Foot	Hearth/Rock Lined Pit	Kellogg	Dunlap, bone, Steatite boatstones, fire cracked rock	3
3,4, & 5	(Intrusive) (3) Diameter: 2.5 Feet Depth: 0.3 Foot (4) Diameter: 3.5 Feet Depth: 1.0 Foot (5) Diameter: 3.5 Feet Depth: 0.5 Foot	Silo-Shaped Storage Pits	*Kellogg	Dunlap, Simple Stamped, Check Stamped, Lithics	3
6	Diameter: 2.5 Feet Depth: 1.0 Foot	Bell-Shaped Storage Pit	Kellogg	Dunlap, Plain, Lithics	3
7	Diameter: 4.0 Feet Depth: 0.5 Foot	Silo-Shaped Storage Pit	Kellogg	Dunlap, Plain, Watts Bar, Lithics	3

TABLE 1 (Continued)

Feature Number	Dimensions	Type/Function	Cultural Affiliation	Contents	Pit Cluster
8	Diameter: 3.2 Feet Depth: 1.5 Feet	Bell-Shaped Storage Pit	*Kellogg	Dunlap, Cartersville, Check Stamped, Plain, Steatite, Lithics	3
9	Diameter: 2.0 Feet Depth: 1.25 Feet	Silo-Shaped Storage Pit	Kellogg	Dunlap, Lithics, Watts Bar	3
10 (10)	(Double Pit) Diameter: 3.5 Feet Depth: 1.25 Feet	Silo-Shaped Storage	*Kellogg	Dunlap, Watts Bar, Plain, Check Stamped, Cord Marked, Lithics	3
(10A)	Diameter: 2.25 Feet Depth: 1.25 Feet				
11	Diameter: 3.0 Feet Depth: 0.25 Foot	Hearth(?) or Lithic Workshop/Rock Cluster	*Kellogg and Archaic	Dunlap, Watts Bar, Cartersville Check Stamped, Lithics, Fractured Quartz Pebbles	3
12	Diameter: 2.0 Feet Depth: 0.25 Foot	Hearth/Rock Cluster	Archaic (?)	Fire Cracked Rock	3
13	Diameter: 4.0 Feet Depth: 0.25 Foot	Basin(?)—Shaped Storage Pit	Archaic (?)	?	3

TABLE 1 (Continued)

Feature Number	Dimensions	Type/Function	Cultural Affiliation	Contents	Pit Cluster
14	Diameter: 1.75 Feet Depth: 0.3 Foot	Silo/Basin-Shaped Storage Pit	Kellogg	See F.11	3
15	Diameter: ca. 4.0 Feet Depth: 0.3 Foot	Hearth/Rock Cluster	Archaic (?)	Fire Cracked Rocks, Lithics	3
16	Diameter: 3.0 Feet Depth: 1.5 Feet	Silo-Shaped Storage Pit	Archaic (?)	Lithics	3
17	Diameter: 5.5 Feet Depth: 1.5 Feet	Silo-Shaped Storage Pit	*Kellogg	Dunlap, Plain, Simple Stamped, Fired Clay, Lithics	3
18	Width: 4.0 x 3.0 Feet Depth: 0.8 Foot	Silo-Shaped Storage Pit	Kellogg	Dunlap, Watts Bar, Lithics	3
19	Diameter: 2.3 Feet Depth: 0.5 Foot	Silo-Shaped Storage Pit	Archaic	No pottery	3
20	Width: >120 Feet Depth: 0.1-0.5 Foot	Lithic Workshop/ Rock Cluster	Archaic	Dunlap, Check Stamped Plain, Lithics	-
21	Diameter: 4.0 Feet Depth: 1.0 Foot	Silo-Shaped Storage Pit	*Kellogg	Dunlap, Watts Bar, Cordmarked, Check Stamped, Lithics	3

TABLE 1 (Continued)

Feature Number	Dimensions	Type/Function	Cultural Affiliation	Contents	Pit Cluster
22	Diameter: 3.0 Feet Depth: 0.75 Foot	Silo-Shaped Storage Pit	Archaic (?)	No pottery	3
23	{Missing}				
24	-	Cache	Cartersville	Cache of 3 stone celts Dunlap, Cartersville Check Stamped, Simple Stamped, Plain, and a two-hole bar gorget	-
25	Diameter: 3.0 Feet Depth: 0.75 Foot	Silo-Shaped Storage Pit	*Kellogg	Dunlap, Cartersville Check Stamped, Plain, Lithics	3
26	Diameter: 2.0 Feet Depth: 0.5 Foot	?	?	?	3
27	Diameter: 3.0 Feet Depth: 1.0 Foot	Silo-Shaped Storage Pit	Kellogg	Dunlap, Lithics, Fired Clay	3
28	Diameter: 3.0 Feet Depth: 0.5 Foot	?	?	Lost	3

TABLE 1 (Continued)

Feature Number	Dimensions	Type/Function	Cultural Affiliation	Contents	Pit Cluster
29	(Double Pit) Diameter: 7 Depth: 1.30 Feet	Silo-Shaped Storage Pits	Kellogg	Dunlap, Watts Bar, Lithics	3
	(B) Diameter: 3.0 Feet Depth: 1.80 Feet		*Kellogg	Dunlap, Cartersville Check Stamped, Watts Bar, Plain, Lithics	3
30	Diameter: 2.0 Feet Depth: -	Lithic Scatter/Hearth	?	Quartz Flakes	3
31	(Misnumbered F.29A)				
32	?	Hearth	Kellogg	Dunlap, Simple Stamped, Bone Fragments	3
33	Diameter: 1.5 Feet Depth: ?	Basin-Shaped Storage Pit	Kellogg	Dunlap, Watts Bar, Lithics	3
34	Diameter: 4.0 Feet Depth: 2.0 Feet	Silo-Shaped Storage Pit	*Kellogg	Dunlap, Plain, Check Stamped, Lithics	4
35	Width: 7.0 x 4.0 Feet Depth: 1.5 Feet	Silo-Shaped Storage Pit	Kellogg	Dunlap, Plain, Steatite Sherd, Lithics	4

TABLE 1 (Continued)

Feature Number	Dimensions	Type/Function	Cultural Affiliation	Contents	Pit Cluster
36	Diameter: 10.0 Feet	House with Interior Central Hearth	Cartersville	Dunlap, Check Stamped, Simple Stamped, Plain, Lithics	4
	(Double Pit)				
37 (A)	Diameter: 4.5 Feet	Silo-Shaped Storage Pit	Kellogg	Dunlap and Lithics	4
(B)	Diameter: 3.0 Feet Depth: 0.67 Foot				
38	(See F.42 and F.43)				
39	(Also F.45) Diameter: 5.0 Feet Depth: 1.5 Feet	Silo-Shaped Storage Pit	Kellogg	Dunlap, Plain, Simple Stamped, Fired Clay, Lithics	4
40	Diameter: 3.0 Feet Depth: 0.5 Foot	Silo-Shaped Storage Pit	Kellogg	Dunlap, Simple Stamped, Steatite Boatstone, Lithics	4
41	?	?	Cartersville	Dunlap, Plain, Simple Stamped, Check Stamped, Lithics	4
42	Diameter: 5.0 Feet Depth: 0.67 Foot	Silo-Shaped Storage Pit	Kellogg	Dunlap and Lithics Watts Bar	4

TABLE 1 (Continued)

Feature Number	Dimensions	Type/Function	Cultural Affiliation	Contents	Pit Cluster
43	Diameter: 2.0 Feet Depth: 1.25 Feet	Silo-Shaped Storage Pit	Kellogg/ Cartersville	Check Stamped Vessel, Dunlap, Plain, Lithics Watts Bar	4
44	Diameter: 3.5 Feet Depth: 0.5 Foot	Silo-Shaped Storage Pit	?	?	4
45	(See F.39)				
46	(Unknown)				
47	Diameter: 3.5 Feet Depth: 0.67 FOOT	Silo-shaped Storage Pit	*Kellogg	Dunlap, Cartersville Check Stamped, Plain, Mano and Grinding Stone, Lithics	4
48	Diameter: ? Depth: 1.5 Feet	Silo-Shaped Storage Pit	*Kellogg	Dunlap, Check Stamped, Plain, Lithics	4
49	Diameter: 3.5 Feet Depth: 0.5 Foot	Silo-Shaped Storage Pit	Kellogg	Dunlap, Simple Stamped,	4
50	Width: 3.5 x 2.5 Feet Depth: 1.0 Foot	Silo-Shaped Storage Pit	Kellogg	Dunlap, Plain, Lithics	4

TABLE 1 (Continued)

Feature Number	Dimensions	Type/Function	Cultural Affiliation	Contents	Pit Cluster
51	Diameter: Depth: 1.2 Feet	Root	Kellogg	Dunlap, Plain, Lithics	4
52	-	Root	Kellogg	Dunlap, Lithics	4
53	-	Root	*Kellogg	Dunlap, Check Stamped, Lithics	4
54	Diameter: 3.5 Feet Depth: 0.5 Foot	Basin-Shaped Storage Pit	Kellogg	Dunlap, Lithics Watts Bar	4
55	Diameter: 3.0 Feet Depth: 1.67 Feet	Silo-Shaped Storage Pit	Kellogg	Dunlap and Lithics	4
56	Diameter: 3.5 Feet Depth: 0.5 Foot	Silo-Shaped Storage Pit	Kellogg	Dunlap and Lithics	-
57	(Double Pit) Diameter: 4.0 Feet Diameter: 2.0 Feet Depth: 1.1 Feet	Silo-Shaped Storage Pits	Kellogg	Dunlap	-
58	-	Hearth	-	-	1
59	Diameter: 5.0 Feet Depth: 1.8 Feet	Silo-Shaped Storage Pit	Kellogg	-	1

TABLE 1 (Continued)

Feature Number	Dimensions	Type/Function	Cultural Affiliation	Contents	Pit Cluster
60	Diameter: 5.0 Feet Depth: 2.5 Feet	Silo-Shaped Storage Pit	Kellogg	Dunlap, Simple Stamped, Plain, Lithics	1
	(Three Pits)				
61 (A)	Diameter: 3.5 x 5.0 Feet Depth: 1.9 Feet	Silo-Shaped Storage Pits	*Kellogg	Dunlap, Simple Stamped, Cord Marked, Watts Bar, Steatite Sherd, Lithics	1
(B)	Diameter: 9.0 Feet Depth: 1.7 Feet				
(C)	Diameter: 2.5 Feet Depth: 1.0 Foot				
62(A)		Silo-Shaped Storage Pit	Kellogg/ Archaic(?)	1 Dunlap Sherd and Lithics	1
62(B-E)	Multiple Intrusions	Silo-Shaped Storage Pit	*Kellogg	Dunlap, Watts Bar, Plain, Simple Stamped, Steatite, Fired Clay, Lithics	1
63	-	-	-	Stone Mortar	1
64	Diameter: 4.5 Feet Depth: 1.25 Feet	Silo-Shaped Storage Pit	Kellogg	Dunlap, Plain, Steatite Sherd, Lithics	1
65	Diameter: 3.5 Feet Depth: 1.5 Feet	Silo-Shaped Storage Pit	Kellogg	Dunlap, Fired Clay, Lithics	1

TABLE 1 (Continued)

Feature Number	Dimensions	Type/Function	Cultural Affiliation	Contents	Pit Cluster
66	Diameter: 2.0 Feet Depth: 1.0 Foot	Basin-Shaped Storage Pit	Kellogg	Dunlap and Lithics Watts Bar	1
67	Diameter: 5.0 Feet Depth: 1.25 Feet	Silo-Shaped Storage Pit	Kellogg	Dunlap, Watts Bar, Lithics Plain and Cordmarked	1
68	Diameter: 4.0 Feet Depth: 0.8 Foot	Silo-Shaped Storage Pit	Kellogg	Dunlap and Lithics	1
69	Diameter: 2.5 Feet Depth: 0.5 Foot	Silo-Shaped Storage Pit	Archaic(?)	Lithics	1
70	Diameter: 4.5 Feet Depth: 2.0 Feet	Silo-Shaped Storage Pit	?	?	1
71	Width: 6.0 x 5.0 Feet Depth: 3.1 Feet	Silo-Shaped Storage Pit	Kellogg	Dunlap, Plain, Lithics Steatite Boatstone	1
72	Diameter: 3.5 Feet Depth: 0.5 Foot	Silo-Shaped Storage Pit	Archaic(?)	Fired Clay and Lithics	1
73	Diameter: 2.5 Feet Depth: 0.5 Foot	Silo/Basin-Shaped Storage Pit	Archaic(?)	Fired Clay and Lithics	1
74	-	-	Kellogg	Biconcave Stone Mortar	1

TABLE 1 (Continued)

Feature Number	Dimensions	Type/Function	Cultural Affiliation	Contents	Pit Cluster
75	Diameter: 4.5 Feet Depth: 1.25 Feet	Silo-Shaped Storage Pit	Kellogg	Dunlap, Plain, Lithics	1
76	18 Inches Square	Rock Cluster	Kellogg(?)	Quartzite Pebbles	1
77	Diameter: 1.5 Feet	Rock Cluster	Kellogg(?)	Quartzite Pebbles	1
78	Diameter: 3.0 Feet Depth: 0.5 Foot	Silo-Shaped Storage Pit	?	?	1
79A	Width: 5.0 x 3.5 Feet Depth: 1.0 Foot	Silo-Shaped Storage Pit	Kellogg	Dunlap and Lithics	1
79B	-	Rock Cluster	Kellogg	Quartzite Pebbles, Dunlap, Plain, Fired Clay, Steatite Sherd, Lithics	1
80	Width: 3.5 x 4.5 Feet Depth: 3.0 Feet	Silo-Shaped Storage Pit	Kellogg	Dunlap, Watts Bar, Plain Simple Stamped, Lithics	1
81	Diameter: 3.0 Feet Depth: 0.75 Foot	Silo-Shaped Storage Pit	?		1
82	Width: 3.75 feet Depth: 1.0 Foot	Silo-Shaped Storage Pit	?		1

TABLE 1 (Continued)

Feature Number	Dimensions	Type/Function	Cultural Affiliation	Contents	Pit Cluster
83	Diameter: 5.0 Feet Depth: 1.8 Feet	Silo-Shaped Storage Pit	?		1
84	Diameter: 4.0 Feet Depth: 1+ Feet	Silo-Shaped Storage Pit	?		1
85	Width: 4.5 Feet 3.5 Feet Depth: 1.0 Foot	Silo-Shaped Storage Pit	Kellogg	1 Dunlap Sherd and Lithics	1
86	Diameter: 5.0 Feet Depth: 1.5 Feet	Silo-shaped Storage Pit	Kellogg	Dunlap, Hammerstone, Lithics, Bone	2
87	Width: 5.0 x 5.5 Feet Depth: 1.5 Feet	Silo-Shaped Storage Pit	Kellogg	Dunlap and Lithics	2
88	Diameter: 5.0 Feet Depth: 1.5 Feet	Silo-Shaped Storage Pit	Kellogg	Dunlap, Steatite Sherd, Lithics, Possible Cremated Human Bones	2
89	Diameter: 5.0 Feet Depth: 2.0 Feet	Silo-Shaped Storage Pit	Kellogg	Dunlap, Plain, Simple Stamped, Lithics	2
89A	Diameter: 3.0 Feet Depth: 1.0 Foot	Cremation Pit	Kellogg	Calcined Bone, Grape Seeds, Dunlap	2

TABLE 1 (Continued)

Feature Number	Dimensions	Type/Function	Cultural Affiliation	Contents	Pit Cluster
90	Width: 5.0 x 4.0 Feet Depth: 1.0 Foot	Silo-Shaped Storage Pit	Kellogg	Dunlap, Simple Stamped, Bone, Lithics	2
91	Diameter: 7.0 Feet Depth: >1.0 Foot	Silo-Shaped Storage Pit	Kellogg	Dunlap, Plain, Lithics	2
92	Diameter: >3.5 Feet Depth: >1.0 Foot	Silo-Shaped Storage Pit	Kellogg	Dunlap and Lithics	2
93	(Two Pits?) Diameter: ? Depth: 1.0 Foot	Silo-Shaped Storage Pit	Kellogg	Dunlap and Lithics	2
94	Diameter: 3.0 Feet Depth: 1.33 Feet	Silo-Shaped Storage Pit	Kellogg(?)	Grinding Stone and Lithics	2
95	Diameter: 3.0 Feet Depth: <1.0 Foot	Silo-Shaped Storage Pit	Kellogg	Dunlap	2
96	Diameter: 5.0 Feet 4.0 Feet Depth: 1.0 Foot	Silo/Basin-Shaped Pit	?	?	2

* The inclusion of small frequencies (ca. <10.0 percent of later ceramics in a Kellogg context is due to post-depositional disturbances including natural and cultural phenomena (i.e., rodent burrows, root intrusions, bioturbation, intrusive features, and surface disturbances). In all other respects, including form, function, chronology, and content, these contexts belong to the Kellogg Phase.



Figure 5. Rock Clusters--Features 76 and 77--at 9CK62.

the rocks. A few pottery sherds (Dunlap and Cartersville) and lithic debris formed the main artifactual contents of these 10 features.

Although the map of the excavation plan at Kellogg illustrates postholes--both scattered and in alignment--associated with several of the features, Caldwell mentions only a circular pattern which he states represents a Cartersville Period house (Figure 6). This cultural determination was made on the basis of the predominance of Cartersville Check Stamped pottery associated with the structure which outnumbered Kellogg sherds about two to one. The structure was circular in plan with a diameter of approximately eleven feet. Postholes were about five inches in diameter (Figure 7).

The site plan illustrates semi-circular alignments of postholes in association with Features 18, 8, and 30, as well as a number of scattered postholes near Feature 57. The function(s) of these is speculative, but it is not unreasonable to assume they represent the remains of structures (e.g., racks, windbreaks, etc.) which functioned in conjunction with pit use.

The Garfield Site (9Br99, 9Br20, and 9Br57)

The Garfield site is situated on a narrow alluvial ridge along the inside of a broad meander of the Etowah River and at the confluence of this stream with Macedonia Slough, a northward flowing tributary (Figure 8). The ridge/levee, measuring some 1000 by 300 feet, rises sharply 10 to 15 feet above the river to an elevation of 650 feet and is bounded on three sides by water: the Etowah River to the north and by Macedonia Slough to the west and south. Prehistoric



Figure 6. Cartersville Period House Looking Northwest: 9CK62.

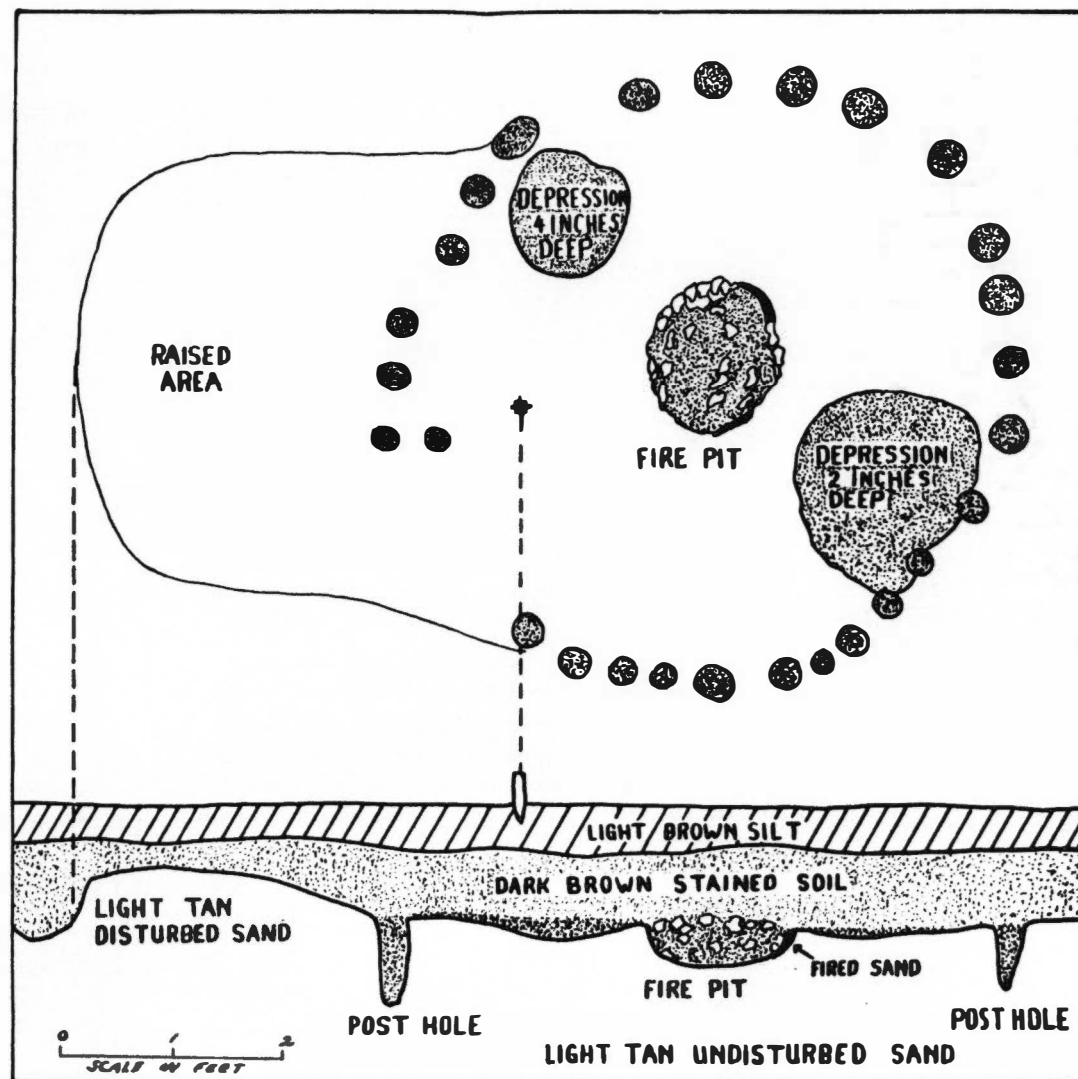


Figure 7. Cartersville Period House: 9Ck62.



Figure 8. Aerial Photograph of the Garfield Site.

occupation of the ridge is restricted to an approximate 150 by 300 foot area (slightly greater than one acre) on the ridge's broad summit (Figure 9). Soils comprising this ridge/levee are Cumberland Clay Loam and Huntington Silt Loam, both of which are well drained and some of the most productive agriculturally in the county (Fuller and Shores 1926:50 and 55). Today the ridge is thickly vegetated in undergrowth interspersed with numerous small pine and hardwood species. Several open pits scattered over the ridge testify to recent and past vandalism.

The Garfield Site has undergone two periods of archaeological excavation. At the time of its discovery in 1960 by amateur archaeologists James H. Chapman and Richard C. Criscoe, the Garfield site was under cultivation in watermelons and was last plowed in 1961. Chapman and Criscoe's excavations at Garfield took place from October 1968 until November 1971 and it appears from dates recorded on excavation forms that they may have returned in the summer and fall of 1972 to conduct additional work. During this time, working primarily on weekends, they excavated twenty-nine ten-foot square units, representing 2900 square feet or about 6.5 percent of the site, along the north-central edge of the site overlooking the river. In their excavations numerous features were identified including large pits, rock clusters, human and dog burials, a wide variety of lithics (both chipped and ground stone) and a large quantity of pottery sherds dominated by fabric marked. Chapman and Criscoe produced seven notebooks of raw data on their efforts and submitted soil, faunal, human skeletal, and carbon-14 samples to professional specialists for

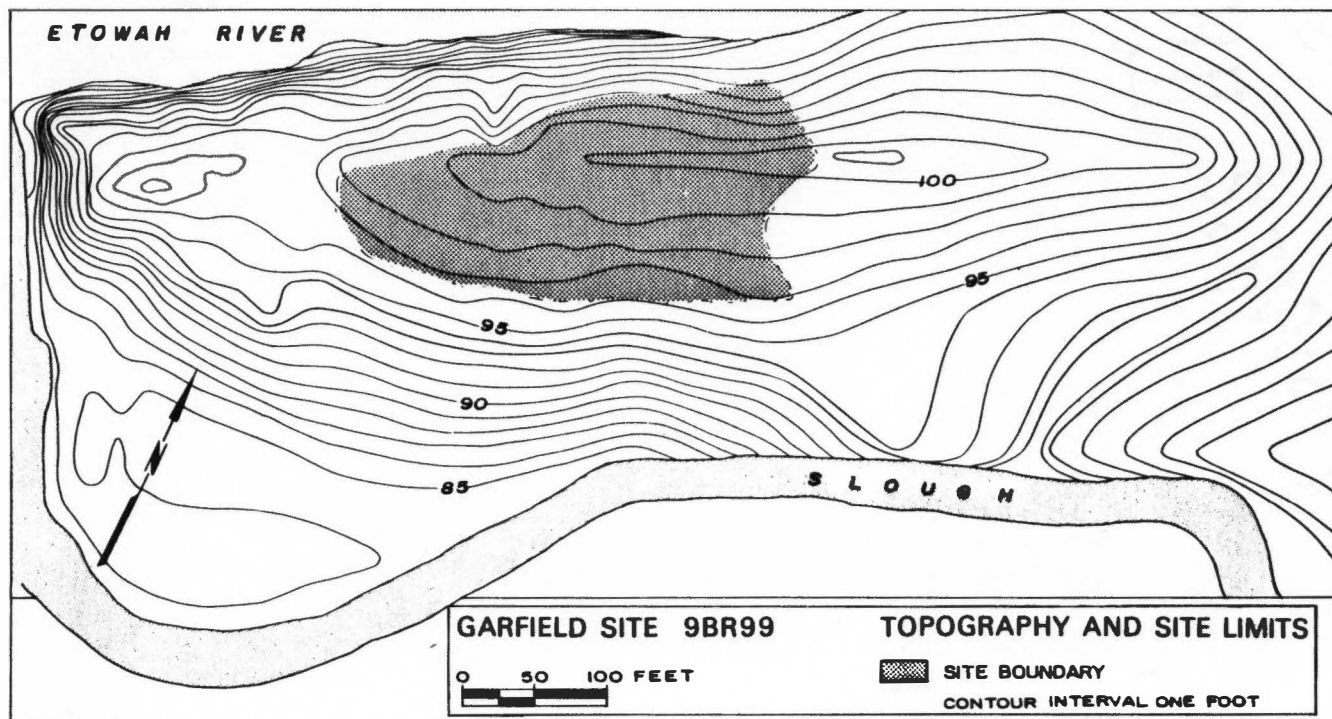


Figure 9. Topographic Location of the Garfield Site.

analysis. They note that the cultural deposit, excluding the twelve-inch plow zone, is approximately 36 inches thick and that the shell and most bone are restricted to the bottom portion. Excavations were carried out in six-inch arbitrary levels.

In the spring of 1972 (March 20th to April 18th), Jerald T. Milanich, then with the Smithsonian Institution, conducted additional excavations at Garfield (Milanich 1975). Milanich found the site overgrown in "broom straw" and cane. Milanich's excavations were composed of 15 contiguous 10x10, 10x15, and 10x5 foot units which formed a 110 foot long trench running north/south through the center of the midden deposit (Figure 10). A single 5x10 foot unit (not shown on Figure 10) was excavated 135 feet west of the trench. A total of 1320 square feet was excavated representing three percent of the total site. Combined with Chapman and Criscoe's work, approximately 9.5 percent of the site has been excavated while an unknown quantity has been destroyed by relic collectors.

Milanich's excavations uncovered numerous features including pits, postholes, hearths (11), rock clusters, and burials (4) (Figures 11 and 12 and Table 2). The storage pits were of both silo- and bell-shaped types. The silo-shaped pits, of which there were four, were generally circular to oval in plan with straight to slightly sloping walls and flat bottoms. Diameters ranged from 5.9 to 2.2 feet (3.75 foot average) and depths from 4.5 to 1.0 foot (2.35 foot average). The fill was typically dark brown to grey in color with little evidence of charcoal staining.

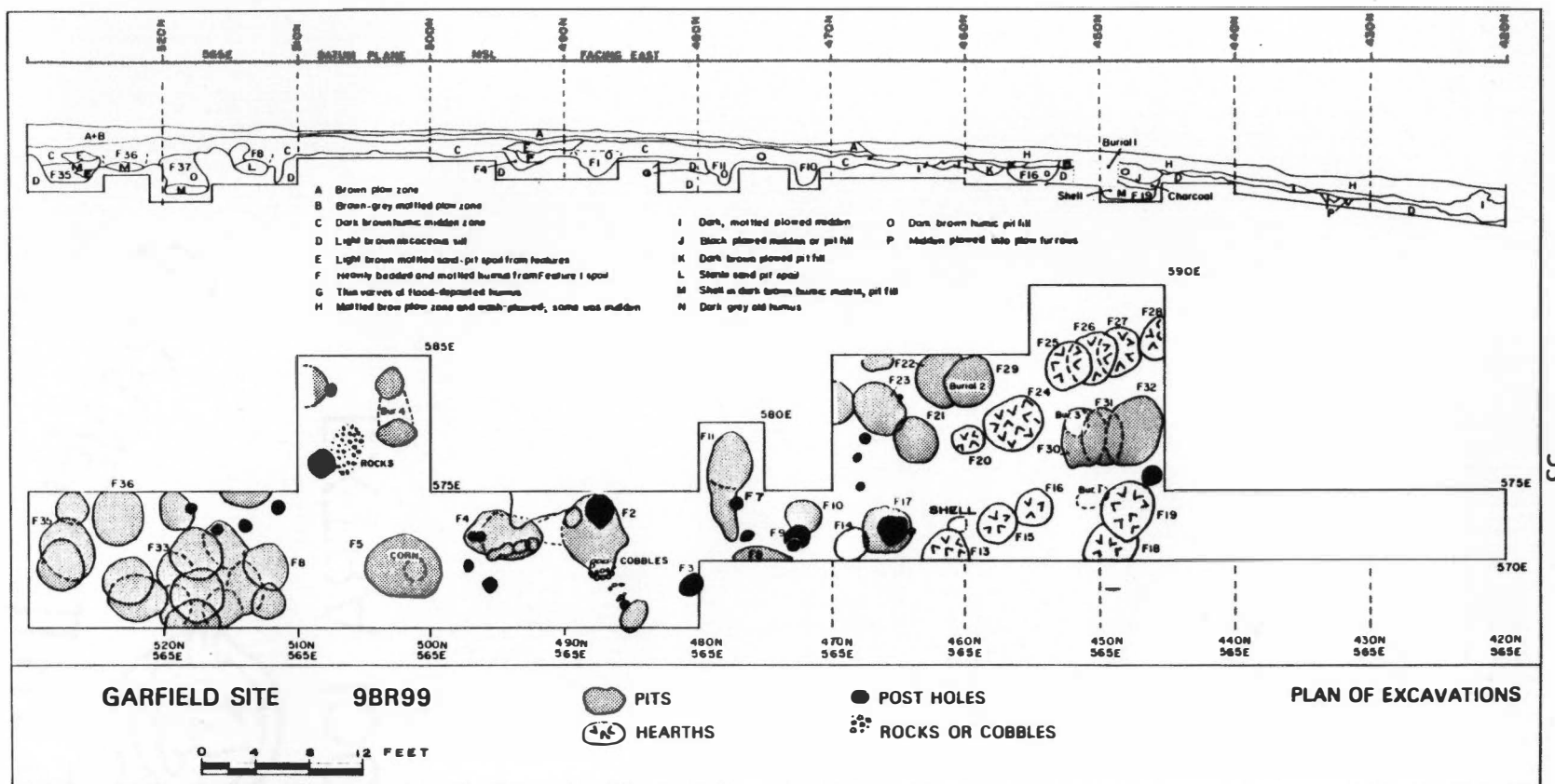


Figure 10. Milanich's Excavation Plan and Profile: Garfield Site.



Figure 11. Looking South at Features 20-24 and Burial #2:
Garfield Site .



Figure 12. Burial #2: Garfield Site.

TABLE 2

FEATURE/PIT SUMMARY:
GARFIELD SITE

Feature Number	Dimensions	Type/Function	Cultural Affiliation	Contents	Pit Cluster
1	Width: 6.3 Feet Depth: 1.5 Feet	Rock Pile	Kellogg	Fire cracked rock, Dunlap, lithics.	-
2	Width: 1.9 x 1.9 Feet Depth: 2.0 Feet	Silo	Cartersville	Cartersville Simple Stamped, bone, Dunlap, shell, Lithics	-
3	Width: 2.0 x 2.0 Feet Depth: 2.0 Feet	Posthole	Kellogg	Dunlap, few Lithics	-
4	Multiple Intrusion	Silo Shaped Storage Pit and Fire Basin	*Kellogg	Napier, Dunlap, Carters- ville Check Stamped, Watts Bar bone, Lithics	-
5	Width: 5.2 Feet Depth: 3.7 Feet	Bell Shaped Storage Pit	Kellogg	Corn,	-
6	Width: 1.5 Feet Depth: 1.0 Foot	Rock Pile	Kellogg	Dunlap, Lithics	-
7	Diameter: 1.0 Foot Depth: 1.3 Feet	Small Pit or Posthole	Kellogg	Dunlap, Plain, Lithics	-

TABLE 2 (Continued)

Feature Number	Dimensions	Type/Function	Cultural Affiliation	Contents	Pit Cluster
8	Multiple Intrusions	Bell-Shaped Storage Pit	Kellogg	Dunlap, Watts Bar, Mossy Oak, Lithics, bone, shell	North
9	Diameter: 1.8 Feet Depth: 1.3 Feet	Basin-Shaped Pit or Posthole	Kellogg/ Cartersville	Cartersville Check Stamped, Dunlap, Lithics	-
10	Diameter: ca. 3 Feet Depth: ?	?	Kellogg	Bone, Watts Bar Lithics	-
11	Diameter: 3.4 Feet Depth: 3.4 Feet	Bell-Shaped Storage Pit	Kellogg	Mossy Oak, Lithics, Dunlap bone	-
12	Diameter: 1.8 Feet Depth: 1.3 Feet	Basin-Shaped Pit or Posthole	Kellogg	Bone, Watts Bar, Lithics	South
13	Diameter: ca. 2.7 Feet Depth: .9 Foot	Hearth	Kellogg	Dunlap, Watts Bar bone, Lithics	South
14	Diameter: 2.3 Feet Depth: .6 Foot	Hearth	Kellogg	Dunlap, bone, Lithics	South

TABLE 2 (Continued)

Feature Number	Dimensions	Type/Function	Cultural Affiliation	Contents	Pit Cluster
15	Width: 2.5 x 2.8 Feet Depth: .6 Foot	Hearth	Kellogg	Bone, Dunlap, Watts Bar, Lithics	South
16	Diameter: 2.4 Feet Depth: .3 Foot	Hearth	Kellogg	Lithics, Dunlap	South
17	Diameter: ? Depth: 2.4 Feet	Bell-Shaped Storage Pit	*Kellogg	Dunlap, Cartersville Simple Stamped, Watts Bar, bone, Lithics	South
18	Diameter: 2.8 Feet Depth: 1.6 Feet	Hearth	Kellogg	Bone, Dunlap, Watts Bar, Lithics	South
19	Diameter: 4.0 Feet Depth: 1.6 Feet	Hearth	Kellogg	Bone, shell, Lithics, Dunlap, Watts Bar, Mossy Oak, Burial 1	South
20	Diameter: 2.2 Feet Depth: 1.1 Feet	Hearth	Kellogg	Dunlap, Watts Bar, Lithics	South
21	Diameter: 3.2 Feet Depth: 2.2 Feet	Bell-Shaped Storage Pit	Kellogg	Dunlap, Mossy Oak, Watts Bar, bone, Lithics	South

TABLE 2 (Continued)

Feature Number	Dimensions	Type/Function	Cultural Affiliation	Contents	Pit Cluster
22	Diameter: 3.8 Feet Depth: 1.9 Feet	Bell-Shaped Storage Pit	Kellogg	Long Branch, Watts Bar, Dunlap, Lithics	South
23	Width: 3.2 x 4.0 Feet Depth: 2.1 Feet	Silo-Shaped Storage Pit	Kellogg	Bone, Dunlap, Watts Bar, Lithics	South
24	Diameter: 3.7 Feet Depth: ?	Hearth	Kellogg	Dunlap, Mossy Oak, Watts Bar, bone, Lithics	South
25	Diameter: 3.6 Feet Depth: 1.4 Feet	Hearth	*Kellogg	Bone, Dunlap, Cartersville Simple Stamped, Lithics	South
26	Diameter: 4.2 Feet Depth: 0.9 Foot	Hearth	Kellogg		South
27	Diameter: 3.2 Feet Depth: 0.8 Foot	Hearth	Kellogg/ Cartersville	Bone, Dunlap, Cartersville Simple Stamped, Lithics	South
28	Diameter: 3.2 Feet Depth: 1.0 Foot	Hearth	Kellogg	Bone, Dunlap, Watts Bar, Lithics	South

TABLE 2 (Continued)

Feature Number	Dimensions	Type/Function	Cultural Affiliation	Contents	Pit Cluster
29	Diameter: 3.4 Feet Depth: 2.3 Feet	Bell-Shaped Storage Pit	Kellogg	Bone, Dunlap, Watts Bar, Lithics, Burial 2	South
30	Diameter: 4.5 Feet Depth: 2.4 Feet	Bell-Shaped Storage Pit	Kellogg	Bone, Lithics, Watts Bar, Mossy Oak, Dunlap, Burial 3	South
31	Diameter: 4.5 Feet Depth: 1.9 Feet	Bell-Shaped Storage Pit	Kellogg	Dunlap, Watts Bar, bone, Lithics	South
32	Diameter: 4.7 Feet Depth: 1.0 Foot	Hearth	Kellogg/ Cartersville	Dunlap, Cartersville Check Stamped, Watts Bar, bone, Lithics	South
33	Width: 10.2 x 3.2 Feet Depth: 3.1 Feet	Bell-Shaped Storage Pits (7 or 8 in a Cluster)	Kellogg	Bone, Lithics, Watts Bar, Dunlap	North
34	Width: 3.5 Feet Depth: 4.5 Feet	Bell-Shaped Storage Pits (2)	*Kellogg	Bone, Lithics, Dunlap, Cartersville Simple Stamped, Watts bar	North

TABLE 2 (Continued)

Feature Number	Dimensions	Type/Function	Cultural Affiliation	Contents	Pit Cluster
35	Diameters: 3.4 & 4.6 Feet Depths: 2.8 & 2.3 Feet	Bell-Shaped Storage Pits (2 or 3)	Kellogg	Bone, shell, Lithics, Watts Bar, Dunlap	North
36	Diameter: 3.8 Feet Depth: 1.2 Feet	Hearth	Kellogg	Bone, Lithics, Watts Bar	North
37	Diameter: 2.2 Feet Depth: 2.6 Feet	Bell-Shaped Storage Pit	Kellogg	Bone, Lithics, Dunlap, Watts Bar, Burial 4	-

* The inclusion of small frequencies (ca. <10.0 percent) of later ceramics in a Kellogg context is due to post-depositional disturbances including natural and cultural phenomena (i.e., rodent burrows, root intrusions, bioturbation, intrusive features, and surface disturbances). In all other respects, including form, function, chronology, and content, these contexts belong to the Kellogg Phase.

The bell-shaped pits were the most frequent in occurrence. Although 13 pits were numbered, the pit clusters formed by Features 33, 34, and 8 may well represent about a dozen pits, all intrusive and intersecting and, therefore, difficult to separate. Also, Feature 35 represents no less than three features. It appears, therefore, that there may have been as many as two dozen bell-shaped pits represented in the excavations. Dimensions of these features ranged from 6.0 to 2.2 feet (3.9 foot average) in width to 4.5 to 1.9 feet (2.8 foot average) in depth. Bottoms were flat, while sides were usually straight at the top before sloping outward toward the bottom. Pit fill appeared to be general village midden/refuse containing shell and bone and a variety of tools and was dark brown to gray in color with little charcoal. In addition to being used as refuse receptacles as a terminal function, these pits also appear to have been favored as graves. Of the four burials identified by Milanich, three were made in, or in association with, bell-shaped pits.

The next most frequent feature at Garfield was the hearth. Approximately thirteen were identified although one or two may have served as storage pits based on feature depth and content. These features were designated hearths based on evidence indicative of their use in cooking. These pits were generally small and circular, averaging 3.1 feet in diameter (2.2 to 4.0 foot range) and 1.0 foot deep (0.3 to 1.6 foot range). It should be noted, however, that these features occurred in two spatially distinct clusters, about ten feet from one another, and the depth and diameter measurements appear to be cluster specific. Walls are straight and bottoms are flat. Fill from

these features varied, but generally contained charcoal, fire-cracked rock, shell, and bone in a dark gray/brown to black matrix. One hearth, Feature 19, contained a human burial.

Only two rock clusters were noted in the excavations. One was associated with a linear depression and was about 1.5 feet thick. The second was a pile of river cobbles about 1.5 feet in diameter and one foot high. Neither appeared to have any particularly significant associations or function.

Postholes at Garfield were similar in distribution to postholes found at other Kellogg Period sites. They were generally scattered and few in number. At Garfield, some two dozen were noted on the site plan with possibly three or four semi-circular alignments recognizable.

Four burials were excavated by Milanich at Garfield. Burial 1 was a midden inhumation which had been badly disturbed by plowing. From the fragments of skull, long bone, and ribs which remained, a determination was made that the burial was that of a subadult who had been buried in a loosely flexed position on the right side. Burial 2 was an elderly adult female, tightly flexed in a face-up position. Arthritic lipping is present on the lumbar vertebrae and the teeth show extreme wear. Interment was made in Feature 29, a bell-shaped storage facility, and the head was oriented to the north, as was that of Burial 1. The burial was underlain by a layer of rocks. Grave associations were a knife and deer ulna awl and a projectile point appears to have been imbedded in the right temporal area of the skull (see Figure 12).

Burial 3 was intrusive into Feature 30, a bell-shaped storage pit, and appears to represent a female child. The head was oriented to the north and a turkey spur appears to have been the only grave accompaniment. Burial 4 appears to have been a cremation made in a 3.1 by 4.2 foot oval pit about 2.5 feet deep. The fill of the pit, a dark brown to black soil with shell, contained a lump of hematite, a broken bar gorget and a large portion of a fabric marked pot.

Cremation appears to have taken place in the pit. Feature 37, a bell-shaped storage pit, was located immediately west of the burial and contained a portion of the ceramic vessel interred with Burial 4.

Artifactual materials from Garfield were numerous; Milanich's collection alone numbered almost thirty-four thousand specimens. In addition to the large amount of debitage, shell, and bone fragments were a number of ceramic and lithic items. Although Dunlap was by far the dominant ware present at Garfield, Watts Bar Fabric Marked was well represented, as was Mossy Oak Simple Stamped, Long Branch Fabric Marked and Cartersville Simple and Checked Stamped to a lesser extent. Minor types include Woodstock, Napier and unidentified plain, cordmarked, simple stamped and incised sherds.

Lithics were represented by a variety of chipped and ground stone items. Chipped stone tools were both bifacial and unifacial and included knives, scrapers, perforators, drills and projectile points. These points included Big Sandy, Kirk, Clovis, Culbreath-like, Mississippian triangular, and the medium triangular concave base-type represented by Greenville, Candy Creek, Copena, Camp Creek and Nolichucky.

Ground stone items included a number of gorgets (flat, bar and reel-shaped), slate hoes, celts, whetstones, metates, pestles, boatstones, pendants, pipes (biconical and tubular), and beads. A variety of bone items was represented by beads, awls (deer ulna and splinter), scrapers/reamers, and punches. Red and yellow ochre was also found.

9Ck(DOT)7

This site was excavated in spring of 1978, as part of an archaeological salvage program precipitated by the construction of interstate highway I-575 in Cherokee County (Bowen 1978, 1981, 1982). The site, destroyed by the construction of the I-575/S.R. 92 interchange just west of Woodstock, Georgia, was situated on a toe slope/bench overlooking the northwest floodplain of Noonday Creek. From the site, the creek flows approximately four miles northwest where it joins the Little River. This stream, in turn, flows into the Etowah River about four miles from its confluence with Noonday Creek (Figure 13).

Soil types and location indicate that the toe slope upon which the site was situated may actually have been an ancient alluvial deposit covered by a veneer of colluvial wash from the surrounding uplands. The toe slope was essentially a gradual break between the creek floodplain and the sharply rising uplands. This break was much more severe in the areas immediately surrounding 9Ck(DOT)7, and this may have served to restrict occupation on the toe slope to the specific site location. The area of the slope upon which the site was



Figure 13. Aerial Photograph of 9CK(DOT)7.

situated was approximately 350 by 200 feet with an elevation of 892 to 900 feet above mean sea level (AMSL). The elevation of the floodplain at the base of the slope was 886 feet (AMSL) (Figure 14).

At the time of excavation, the site had been grubbed and cleared of all vegetation (Figure 15), but examination of past aerial photography and conversations with local informants revealed that the site was cultivated up until 1950/1960 and since allowed to lay fallow, creating an old field situation of immature pine and hardwoods with thick undergrowth. The surrounding terrain was vegetated in a hardwood/pine forest.

Initial investigations of the site consisted of surface reconnaissance, one-foot square shovel testing, and the excavation of two five-foot square units. These investigations revealed materials scattered over an approximate 150 foot square area, a 0.5 foot thick plow zone overlying a firm red clay and the presence of features in the form of subterranean intrusions. No midden was noted and because of this, investigations proceeded by mechanically removing the disturbed plowzone to expose all intrusions into the yellow/red clay subsoil. Sixty-three features were exposed including 14 pits, 21 postholes, 5 shallow stains, and 23 root disturbances (Figure 16).

The fourteen pits excavated at 9Ck(DOT)7 were divisible into three formal types: 1) bell-shaped, 2) silo, and 3) basin-shaped (Table 3). The three bell-shaped pits were circular in plan with an average diameter of 2.86 feet (ranging from 2.10 to 3.45 feet) and depth of 2.24 feet (1.86 to 2.50 foot range). Each pit began with

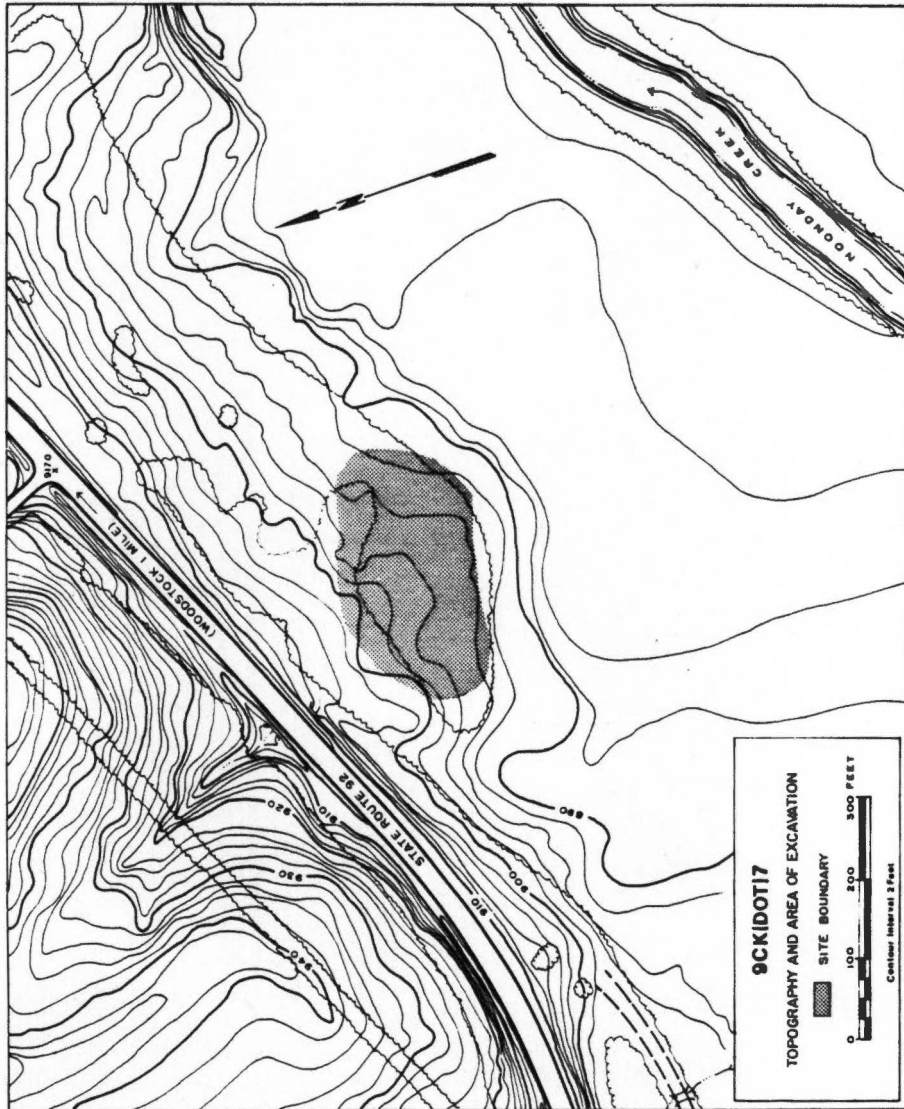


Figure 14. Topographic Location of 9CK(DOT)7.



Figure 15. View of 9CK(DOT)7 from the Uplands looking South. S.R. 92 is in the Foreground and Noonday Creek is in the Tree Line, Background left.

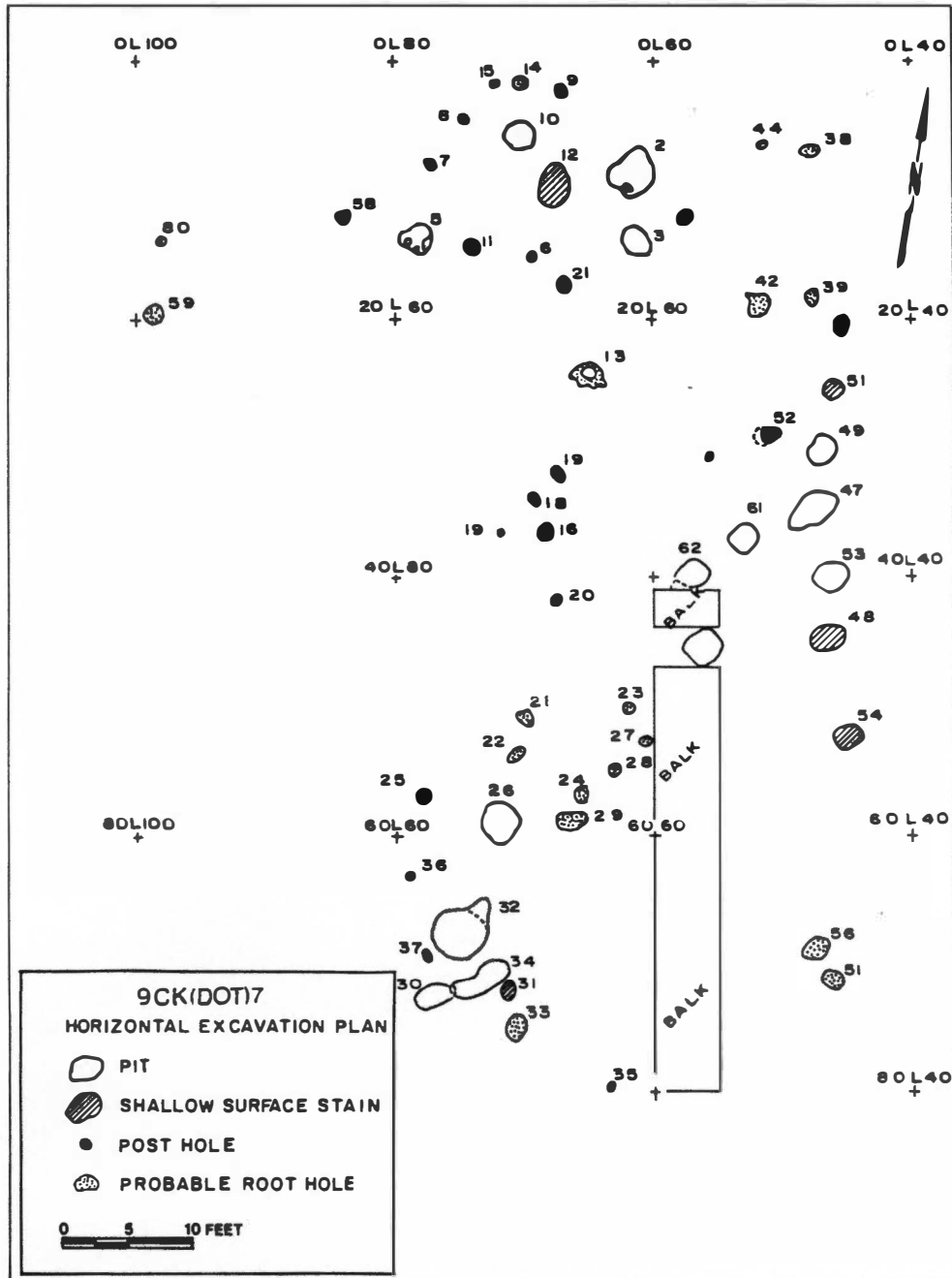


Figure 16. Excavation Plan: 9CK(DOT)7.

TABLE 3

FEATURE/PIT SUMMARY:
9Ck(DOT)7

Feature Number	Dimensions	Type/Function	Cultural Affiliation	Contents	Pit Cluster
1	Width: 3.05 x 3.00 Feet Depth: 2.35 Feet	Bell-Shaped Storage Pit	Kellogg	Dunlap Fabric Marked and Plain Sand-Tempered Pottery, Med-Triangular Pts., Bifaces, Hammer-stone, Hoe, Debitage.	East-Central
2	Width: 3.90 x 2.75 Feet Depth: 2.20 Feet	Silo-Shaped Storage Pit	*Kellogg	Dunlap Fabric Marked, Simple Stamped, Cord Marked Pottery, Steatite, Debitage.	North-Central
3	Width: 2.42 x 2.10 Feet Depth: 1.86 Feet	Bell-Shaped Storage Pit	Kellogg	Dunlap Fabric Marked Pottery and Debitage.	North-Central
5	Width: 2.60 x 2.10 Feet Depth: 0.80 Foot	Shallow Basin-Shaped Pit	Kellogg	Dunlap Fabric Marked Pottery and Debitage.	North-Central
10	Width: 2.50 x 2.10 Feet Depth: 1.38 Feet	Silo-Shaped Storage Pit	Kellogg	Dunlap Fabric Marked Pottery.	North-Central
26	Width: 3.45 x 3.15 Feet Depth: 2.50 Feet	Slightly Bell-Shaped Storage Pit	*Kellogg	Dunlap Fabric Marked and Simple Stamped Sand-Tempered Pottery, Lithics and Debitage.	South-Central

TABLE 3 (Continued)

Feature Number	Dimensions	Type/Function	Cultural Affiliation	Contents	Pit Cluster
30	Width: 2.90 x 1.85 Feet Depth: 1.50 Feet	Basin/Silo-Shaped Storage Pit	Kellogg	Dunlap Fabric Marked Pottery, Med-Triangular and Wide-Stemmed/Stubby Blade Pts., Biconcave Mortar, Debitage.	South-Central
32	Width: 4.25 x 3.75 Feet Depth: 3.20 Feet	Silo-Shaped Storage Pit	Kellogg	Dunlap Fabric Marked Pottery, Bifacial Fragment, and Debitage.	South-Central
34	Width: 4.40 x 2.35 Feet Depth: 1.00 Foot	Elongated Basin-Shaped (Function?)	Undetermined Archaic	Quartz Biface Fragments, Pottery, Bifacial Fragment, and Debitage.	South-Central
47	Width: 4.00 x 2.50 Feet Depth: 1.45 Feet	Basin-Shaped Storage Pit	*Kellogg	Dunlap Fabric Marked, Swift Creek, and Plain Sand-Tempered Pottery, Lithics (Including Various Bifaces), and Debitage.	East-Central
49	Width: 2.45 x 2.20 Feet Depth: 0.85 Foot	Shallow Silo-Shaped Storage Pit	Kellogg	Dunlap Fabric Marked Pottery, Project Point Fragment, and Debitage.	East-Central

TABLE 3 (Continued)

Feature Number	Dimensions	Type/Function	Cultural Affiliation	Contents	Pit Cluster
53	Width: 2.75 x 2.75 Feet Depth: 1.55 Feet	Silo-Shaped Storage Pit	Swift Creek	Swift Creek Complicated Stamped and Plain and a Single Dunlap Sherd, Steatite Vessel Sherd, Quartz Biface, and Debitage.	East-Central
61	Width: 2.35 x 2.25 Feet Depth: 0.90 Foot	Shallow-Silo Type Storage Pit	Kellogg	Dunlap Fabric Marked Pottery, Med-Triangular and Savannah River Pts., and Debitage.	East-Central
62	Width: 2.70 x 2.30 Feet Depth: 0.72 Foot	Basin-Shaped Storage Pit/Lithic Workshop	Kellogg	Dunlap Fabric Marked and Sand-Tempered Plain Pottery, Abundance of Quartz Debitage, Quartz Biface Fragments, and Debitage.	East-Central

* The inclusion of small frequencies (ca. <10.0 percent) of later ceramics in a Kellogg context is due to post-depositional disturbances including natural and cultural phenomena (i.e., rodent burrows, root intrusions, bioturbation, intrusive features, and surface disturbances). In all other respects, including form, function, chronology, and content, these contexts belong to the Kellogg Phase.

vertical walls which were undercut to form the bell-shape. Bottoms were flat to very slightly rounded (Figure 17).

Silo pits, of which there were seven, were circular to slightly oval and ranged in diameter from 1.85 to 4.25 feet (2.77 foot average) and in depth from 0.85 to 3.20 feet (1.65 foot average). The walls of these features ranged from slightly inslanting to vertical to slightly outslanting and terminated into a flat to slightly concave base (Figure 18). The four basin-shaped pits were generally oblong with an average length of 3.42 feet (2.6 to 4.4 foot range) and an average width of 2.31 feet (2.1 to 2.5 foot range). Depth averaged 0.99 foot (0.72 to 1.45 foot range). These features generally had sloping walls which continued into a concave base (Figure 19).

The type of feature termed "shallow surface stain" was characterized by a basin- or saucer-shape and shallowness (ranging from 0.36 to 0.80 foot in depth and averaging 0.54 foot). These five features were circular and oblong. The two circular features had diameters of 1.90 and 1.55 feet, while the three oblong features averaged 2.59 feet in length and 1.99 feet in width. Other characteristics of these features included a sparsity of artifactual inclusions, presence of charcoal, and compactness of fill.

Twenty-one postholes were identified at 9Ck(DOT)7. With the exception of a possible structure in the northern part of the site, these postholes form no apparent patterns (Figure 20). Several possible alignments of two or three postholes were noted in conjunction with a feature or feature clusters. As at most Kellogg sites, however, postholes are poorly represented in intra-site settlement patterns.



Figure 17. Bell-Shaped Storage Pit: 9CK(DOT)7, Feature 1.



Figure 18. Silo-Shaped Storage Pit: 9Ck(DOT)7, Feature 53.



Figure 19. Basin-Shaped Storage Pit: 9Ck(DOT)7, Feature 12.



Figure 20. Possible House Structure: 9CK(DOT)7.

Artifactual materials recovered during the Georgia Department of Transportation (GDOT) investigations were primarily restricted to those recovered from subsurface features and were almost exclusively from an early-to-middle Woodland time frame. The examination of surface collections of this site prior to the GDOT investigations, however, indicate the site was occupied, at least intermittently, from Early Archaic through Mississippian times.

Dunlap Fabric Marked pottery was the dominant ceramic type recovered at the site, although the presence of Swift Creek Complicated Stamped in relatively large quantities indicates an occupation of the site during the late Middle Woodland. Cartersville Check Stamped was the only other type identified and a few cord marked and simple stamped sherds were also recovered.

Although a large number of lithic items were recovered from 9Ck(DOT)7, almost 94 percent (1311 of 1401 specimens) were classified as debitage or miscellaneous and over one-third were restricted to quartz debitage from a single feature. Of the 90 tools recovered, 40 were classified as projectile points/knives manufactured of either chert or quartz. Small-to-medium indented base triangular points were the most common, but Savannah River-like specimens were also found. Almost all would fit comfortably into a Late Archaic/Early Woodland time frame. Other chipped stone items of quartz and chert included bifaces, scrapers and perforators. Two quartzite hammerstones were recovered as well as two chipped slate hoes. Ground stone items were restricted to a single biconcave mortar and a pole celt made of horneblend. Three pieces of worked steatite were also recovered.

The Two Run Creek Site (9Br3)

The Two Run Creek site was explored by Robert Wauchope in the late 1930s as part of his survey of northern Georgia (Wauchope 1966:223-231 and 446-450). The site is located on a broad bottom near the confluence of Two Run Creek and a tributary thereof about five miles from its confluence with the Etowah River. At the time of excavation the site was under cultivation and showed signs of being pothunted and used as an historic cemetery. The soils at the site are Huntington Silt Loam, a very productive soil which is subject to flooding but well drained (Fuller and Shopes 1926:55). Site elevation is about 700 feet (AMSL).

Wauchope excavated both a mound and a village area at Two Run encountering materials datable primarily to the Early Woodland through Mississippian cultures. The mound at Two Run was Mississippian and the only evidence for Early Woodland occupation was a few Dunlap Fabric Marked and later Mossy Oak Simple Stamped and Cartersville series sherds.

The village area north of the mound was investigated by the excavation of 13 three-by-ten foot units (390 square feet). Sealed midden deposits were attributed to the Early Woodland and contained predominantly fabric impressed, check stamped, and Mossy Oak ceramics. Long Branch Fabric Marked was also apparently present (Wauchope 1966:225). Associated with this midden was an adult female burial, flexed on her back, head to the east, in an apsidal grave which also contained Dunlap sherds (Figure 21). A circular house pattern was also identified at Two Run (Figure 22). This structure was 26 feet in



Figure 21. Burial 5 at Two Run Creek: 9Br3 (after Wauchope 1966: 223, Figure 157).

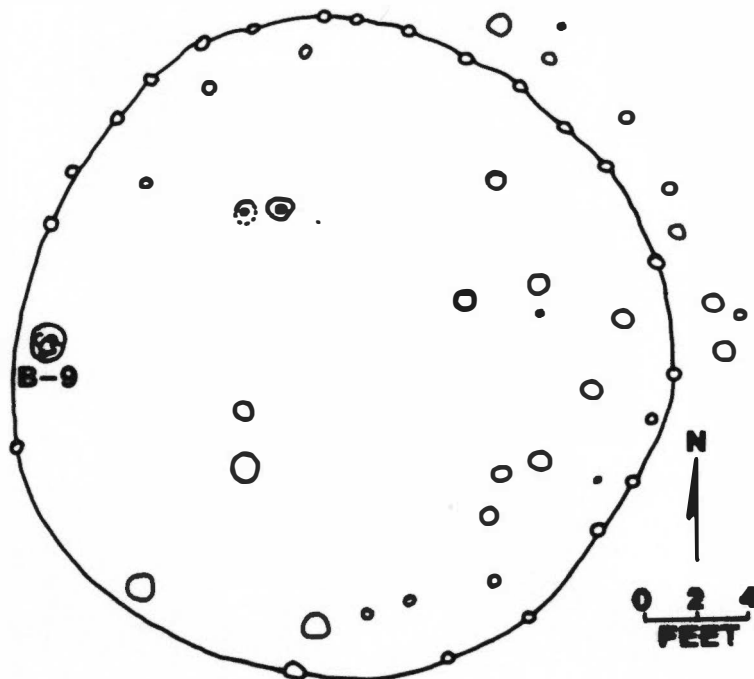


Figure 22. House 6 at Two Run Creek: 9Br3 (after Wauchope 1966: 223, Figure 156).

diameter and contained scattered interior postholes, an infant burial, but no fireplace or other features. No other subsurface features were reported by Wauchope for the village area.

In addition to those pottery types previously mentioned, several other artifact types were recovered which are likely attributable to the Early Woodland occupation. Projectile point types occurring with the greatest frequency in Early Woodland contexts were the indented base isosceles triangular, indented base lanceolate and medium triangular types. Other lithic tools included chipped stone knives, scrapers, drills, perforators and gravers constructed primarily from local cherts. Other objects were a slate hatchet (hoe?), quartzite and greenstone celts, a two-hole gorget, a quartzite hammerstone, a sandstone nutting stone, and sherds from steatite vessels. Awls and punches made from animal bone were also recovered.

9Br73

This site is situated along the broad bottomlands on the west bank of Stamp Creek at its confluence with Boston Creek. The site, located at the maximum pool elevation of 840 feet of the Allatoona Reservoir, is seasonally flooded and at the time of Caldwell's investigations in 1949, was most likely under cultivation or in pasture. Soils are classified as Meadow and are characterized as sand, sandy loam, and silt loams lying along the smaller streams and subject to frequent overflow (Fuller and Shores 1926:57). The site, covering an area of almost 13 acres (1400 feet north/south by 400 feet east/west) occupies one of those Piedmont tributary situations where the

floodplain is severely constricted just above and below the site, thus providing a topographically confined habitation area.

Caldwell (n.d.:55-62) investigated the site by testing at three separate locations. His first excavation was a stratigraphic pit excavated into the creek bank just above its confluence with Boston Creek. This excavation was 20 feet long by 15 feet wide and was carried out by excavation of three inch arbitrary levels. Beneath a 2.0 to 2.5 foot thick layer of silt overburden was a four foot-thick layer of black sandy soil representing the primary occupation zone. This depth and thickness was accentuated by a natural depression and was not representative of the midden thickness for the entire site, which was much less. Beneath this midden was a sterile blue clay subsoil.

The stratigraphic distribution of ceramics at 9BR73 provided the primary data from which Caldwell constructed the relative occurrence of Early Woodland cultures in this area. Dunlap Fabric Marked and "Dunlap Plain" were found at the lowest levels, accompanied by Cartersville Check Stamped at a higher level, and the almost exclusive occurrence of Cartersville Check Stamped and Cartersville Simple Stamped yet higher. Caldwell also noted the presence of an early variety of Swift Creek Complicated Stamped as a minority type in the Cartersville Complex. Mississippian Period Woodstock ceramics were found in the upper-most levels. The stone tool assemblage at the site, although not elaborated upon in the report, was said to have been essentially unchanged from bottom to top.

Approximately 500 feet upstream of the stratigraphic pit, a 10 by 100 foot trench was excavated perpendicular to the stream. While the strata revealed in this trench were virtually the same as those from the initial test, their thicknesses were quite different. The silty overburden was only one foot thick while the dark grey midden deposit reached a maximum thickness of slightly more than two feet and became shallower away from the creek. The underlying sterile soil was a brown sandy clay.

In addition to the midden deposits, thirteen cultural features--subsurface intrusions--were identified in the base of the trench. These included five silo-shaped storage pits, four cooking pits, a single posthole, and three small circular depressions. The storage facilities were all circular in configuration with straight sides and flat bottoms and ranged in diameter from 6.0 feet to 2.5 feet (3.4 foot average) and from 2.0 to 1.0 feet in depth (1.5 foot average). In each case the fill was a dark sandy soil matrix containing cultural debris dominated by fabric impressed sherds and medium isosceles projectile points of both quartz and chert.

The cooking pits were all circular and shallow ranging in diameter from 3.0 feet to 2.0 feet (2.5 foot average) and in depth from six inches to nine inches (seven inch average). All pits contained fire cracked pebbles ranging from three inches to nine inches in diameter and a large amount of charred organic material. In most cases, cultural items were limited to a few Dunlap sherds and lithic debris.

The small circular depressions ranged from 10.5 inches to nine inches in diameter (9.5 inch average) and were six inches deep. All contained darkly stained soil with carbonized nut shells and a few Dunlap sherds and lithic debris.

The third area explored by Caldwell was a "five foot trench dug about 150 feet from the creek bank opposite the stratigraphic pit" (Caldwell n.d.:56). There is no elaboration on this test or what was recovered here, if anything. Caldwell's total excavated area at this site was only 1325 square feet--approximately 0.02 percent of the total site area. Caldwell's intentions of extensive excavations at the site were thwarted by rainy weather which produced unworkable conditions.

CHAPTER IV

SETTLEMENT PATTERNS

Decisions made by prehistoric peoples regarding the locations of particular activities were based on variables peculiar to the specific area and its surroundings. Activity loci may represent multiple activities such as those within a village habitation, a single activity site, or an area within a multiple activity loci. External factors for site selection may include a number of natural features of the environment such as proximity of resources (e.g., water, raw materials, food) and character of the landscape (e.g., topography, slope, drainage or soil porosity,, soil fertility, etc.), while external cultural features participating in loci selection could include the location of other activity loci.

Internal factors involved in loci selection are characteristics which have been defined by the cultural and social parameters which the particular group has chosen to adopt based on their specific wants and needs. These factors may include group size and structure, political organization, family structure, religion, morals, belief systems, personal tastes, etc.

External and internal factors interact to determine where a site will be located in relation to the natural and cultural environment as well as what particular aspects of the environment will be affected by the external expressions of the cultural group and, indeed, how the group itself will be affected. Likewise, these expressions will be reflected in the particular internal site structure maintained by the inhabitants.

Patterns of settlement can rarely be attributed to a single cultural or natural factor. Settlement is generally determined by the interaction of several factors; however, one or more factors are generally more important than others. In complex societies with highly developed systems of commerce, politics, religion and social and cultural stratification, it may be difficult to pinpoint singular reasons for persons to locate where they do. In today's world, convenience of distance to schools, churches, and shopping centers must be weighed against domicile affordability, access to work, neighbor compatibility (differentiation by monetary, racial, cultural, etc. standards) and others. Because the physical necessities (food, shelter, water) required to maintain life are today, for the most part, taken as givens and are generally bountifully available from locations other than their natural sources (e.g., water from a tap instead of a river or creek or even wells), cultural and social "necessities" have taken the dominant role in habitat selection.

This, however, was not the case during Early Woodland times when, due to the lack of technology affording lengthy transportation, commercial cultivation, and long-term storage and preservation, the basic necessities of life were ostensible and assumed the role of key factors in the daily lives of those concerned. For this reason, the basic assumption is made that, due to the ostensible importance of factors (hunger, thirst, exposure) which govern the necessities of life (food, water, shelter) for cultural groups demonstrating a band level of social organization (cf. Lee and Devore 1968 and Service 1962) and a pre-agricultural Neolithic hunter-gatherer technology (cf.

Childe 1951), a dynamic relationship exists between a cultural group's mode of subsistence, or how they obtain their livelihood, and choice of site location (cf. Trigger 1970:246, 251-152). A recurring pattern of settlement for a particular cultural group should give an indication of major subsistence activities; that is, a people's choice of settlement should be directly correlated to their mode of subsistence and, therefore, allow predictive statements concerning paleo-ecology.

Although by no means a statistically valid sample, a compilation of the distribution of Kellogg sites affords the opportunity for looking at how the Kellogg people chose to disperse themselves across the landscape and hypothesizing what these distributions might mean from a subsistence perspective. Determinations of patterned responses to interactions between external and internal factors will be sought at inter-site (regional and subregional) and intra-site levels.

Regional Distributions

In his classic treatise on regional traditions in the eastern United States, Caldwell (1958:23-25) noted the correlation between the distribution of Kellogg sites and the southern extent of the eastern deciduous forest. In Georgia, this correlates to the Fall Line. This, of course, translates into site distribution based on resource preference, abundance and availability. Based on his research at 9CK62, Caldwell suggested that these people were highly adapted for fall nut gathering, and the known distribution of Kellogg sites at this time tended to support his hypothesis.

In the three-decade interim between Trend and Tradition (Caldwell 1958) and the present, numerous archaeological surveys and excavations throughout Georgia and adjacent states have been carried out both north and south of the Fall Line. We now have a much greater volume and diversity of archaeological data through Cultural Resource Management studies emanating from the various federal laws and implementing regulations. A general survey of a number of archaeological reports for the Fall Line and Coastal Plain regions of Georgia tend to support Caldwell's original hypothesis on distribution, since no extensive Kellogg occupation has yet to be identified in these areas. Additional Kellogg sites in Piedmont and Ridge and Valley Georgia are, however, continually being discovered.

This is not to say that the dominant diagnostic Kellogg artifact--Dunlap Fabric Marked pottery--is not found in the Coastal Plain Province; only that it is not found in sufficient quantity or cultural context to indicate that an unequivocal Kellogg occupation existed there. A number of studies have identified Dunlap ceramics from the Fall Line in Georgia to northern Florida and primarily along the Gulf Slope tributaries: the Chattahoochee, the Flint and the Apalachicola (Figure 23).

The Coastal Plain and Florida

In Florida, Dunlap pottery has been recovered from the northwest coastal and central coastal (Gulf) areas of the state in five counties. In the panhandle region, Bullen (1958:324) reports seven Dunlap sherds from site 8J-18 along the Chattahoochee River (Jim

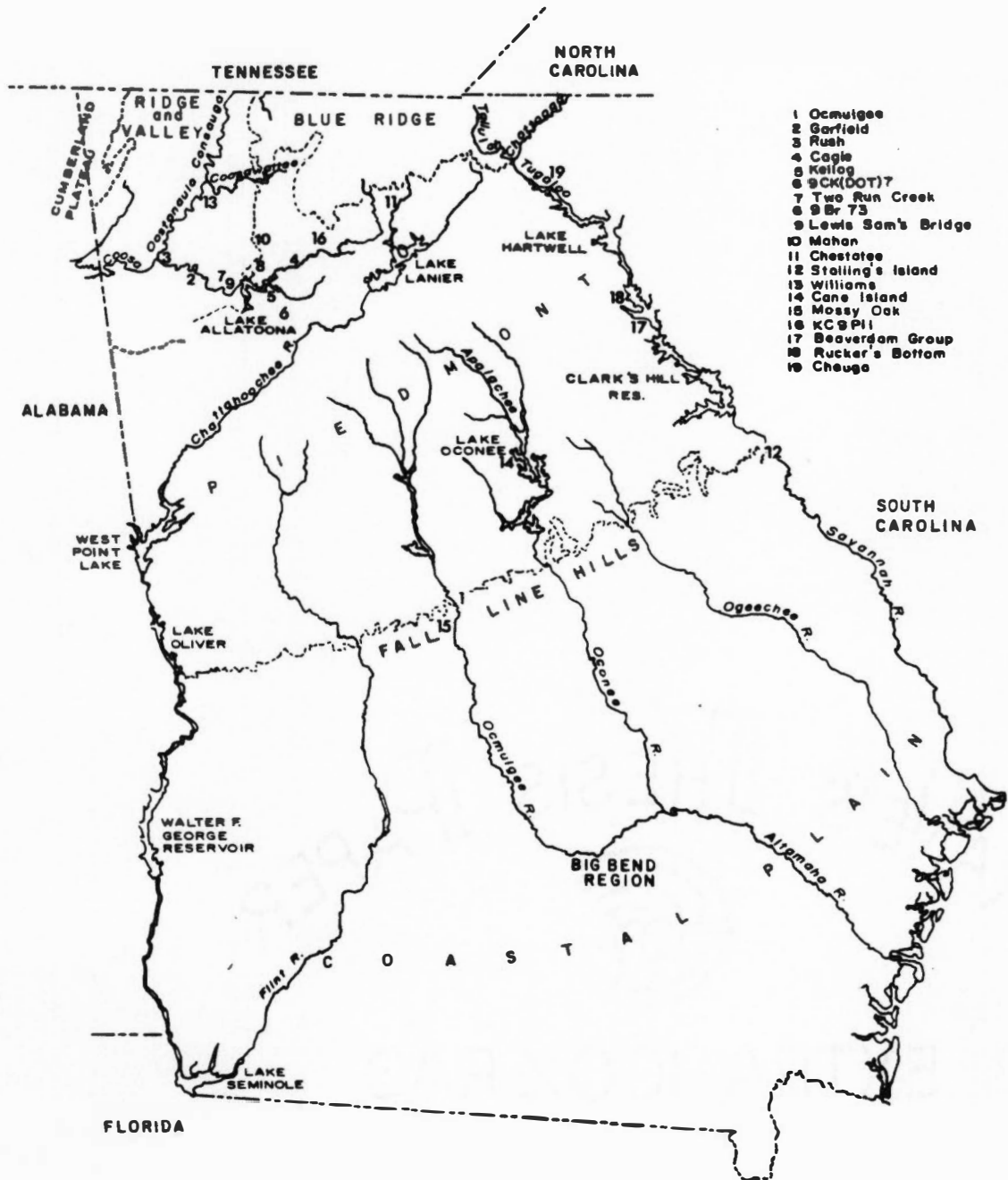


Figure 23. Some of the Areas and Sites where Dunlap Ceramics have been found in Georgia and Neighboring States.

Woodruff Reservoir/Lake Seminole) in Jackson County and Willey (1949:82,86,88) reports three fabric impressed sherds from the Fort Walton Temple Mound in Okaloosa County. Fairbanks' (1965:253-255) later excavations in the Fort Walton mound recovered thirty additional Dunlap sherds.

The Tucker site in Franklin County might also contain a fabric impressed sherd. In Figure 16K of the site report (Phelps 1966:37) the sherd is identified as West Florida Cord Marked, but is strikingly similar to other fabric impressed sherds. Dunlap pottery at this site would not be unusual in light of the Deptford component present there (Willey 1949:269). Also from the panhandle area, a Dunlap tetrapod is illustrated by White (1985:171) from 8Ja186 along the Apalachicola River in Jackson County. This seems unusual since tetrapods rarely occur on Dunlap vessels even at extensive midden sites in northern Georgia. Along the central Gulf Coastal region, Willey (1949:120 and 312) has reported three fabric impressed sherds from the Thomas site (Hi-1), a sand mound and shell midden along the Little Manatee River in Hillsborough County, and two sherds from the Palmetto Island site (Lv-7) in Levy County.

Moving up the Chattahoochee River to the Walter F. George Reservoir area, Dunlap pottery has been identified at seven sites in adjacent areas of eastern Alabama and western Georgia within the 85 mile, 48,600 acre extent of the lake. In his report on the 1947 surveys and 1960-62 excavations of sites within the Alabama boundaries of the reservoir, DeJarnette (1975) reports on three sites containing Dunlap sherds. DeJarnette (1975:31) included Dunlap in his Ceramic

Complex A which is representative of Early Woodland and contains Deptford Linear and Bold Check Stamped, Dunlap, and Seale Plain ceramics.

Site 1Ru16 was an upland site some 13 miles from the Chattahoochee and located on top of a high ridge overlooking Weolustee Creek. Only four Dunlap sherds were collected here. Site 1BR15, the Shorter site, lies some one-half mile from the Chattahoochee on a second terrace. Dunlap pottery was recovered from both village (29 sherds or about two percent of the total) and mound (45 sherds or about two percent) areas. Of special note is that Dunlap tetrapodal supports were among those sherds recovered. The Fontaine Reeves site (1Br37), located in a topographic situation similar to 1Br15, contained only one Dunlap sherd representing 0.08 percent of the total sherd collection.

In late 1983 and early 1984 the Office of Archaeological Research at the University of Alabama carried out an examination of United States Corps of Engineers owned lands at the margins of Walter F. George Lake (Knight and Mistovich 1984). Although 106 sites were identified (including 41 from previous surveys), only two yielded Dunlap sherds. One site, 9Qu58, is a stone mound located on a ridge spur overlooking the north bank of Cool Branch. Only one Dunlap sherd was found here. Site 1BR99 is situated on a first terrace remnant north of Cowikee Creek and yielded only two Dunlap sherds.

Mistovich and Knight (1986) followed up their survey at Walter F. George by testing four sites. Two of these yielded Dunlap sherds, albeit in small numbers. Site 9Sw71 is situated on a first terrace

remnant bordering the lake. Two Dunlap sherds were recovered; one sherd was recovered from the lake bank while the second was a chance inclusion in Feature 1, an elliptical shallow basin-shaped pit of Middle Woodland vintage with a C¹⁴ date of MASCA A.D. 270.

Test excavations at site 9Qu58, previously reported, yielded 13 Dunlap sherds, 12 from the general mound fill and one from Feature #1, a submound fire basin yielding C¹⁴ dates of A.D. 50₊₅₀ and 55 B.C.₊₆₀ (MASCA). Other contents of the mound indicate a ceremonial use as a mortuary (Knight and Mistovich 1986:164).

Another occurrence of Dunlap in Walter F. George was reported by Schnell (1973:23). During a resurvey of areas of the reservoir in 1968, a single Dunlap sherd was recovered from the surface at the Blackburn site (1Br25).

Other studies conducted in conjunction with Walter F. George Lake which yielded Dunlap pottery were the Mandeville site excavations in Clay County, Georgia, and a series of excavations in Stewart County, Georgia. At Mandeville (9CLA1) two Dunlap sherds were recovered from the initial layer of Mound A (Kellar et al. 1962:14-17). In Stewart County, Kelly et al. (n.d.) reported Dunlap pottery from at least four sites which were excavated during their investigations (9Sw10,12,34 and 50). Of these, 9Sw34 presented the strongest Dunlap occurrence with 28 sherds in stratified deposits.

A final survey associated with Walter F. George was a study of seven sites in Clay and Quitman counties (Kelly et al. 1962). Here, Kelly et al. recovered "a few Dunlap sherds" from three sites (9Cla7,15, and 28) (Kelly et al. 1962:16, 24).

Moving to the central Coastal Plain region of Georgia, Dunlap pottery has been recovered in the Ocmulgee Big Bend area. In a study that examined 320 sites located along the Ocmulgee River and its tributaries from Pulaski and Wilcox counties on the west to Toombs and Appling counties on the east and Laurens County on the north to Atkinson and Ware counties on the south, Snow (1977) reported Dunlap pottery from four sites. One site was reported for each of four counties: Telfair, Laurens, Wheeler and Coffee. As is the case for other Coastal Plain occurrences of Dunlap, the type represents only a minor percentage of the overall pottery assemblage.

Completing the cross section of the Coastal Plain is an examination of archaeological remains from the 22,471 acre Groton Plantation bordering the Savannah River in Allendale and Hampton counties approximately mid-way between Augusta (on the Fall Line) and Savannah (on the coast) in South Carolina. Of the twenty-one sites examined by Stoltman (1974) only three contained Dunlap ceramics. Again, these were in extremely small quantities (a total of 11 sherds in a sample of 8917 from the three sites). It should also be noted that C. B. Moore (1899) failed to mention any Dunlap sherds in his discussion of mound excavations along the Savannah River in Chatham, Screven, and Burke counties, Georgia, and Barnwell County, South Carolina.

Taking a final look at the Coastal Plain, several survey reports were randomly chosen and reviewed for occurrence of Dunlap ceramics along the Georgia Coast. Unlike the Gulf Slope drainages which produced, albeit sparse, occurrences of Dunlap along the

northwest Florida coast, no Dunlap ceramics were noted from the Irene site near Savannah (Caldwell and McCann 1941) in Chatham County (Caldwell refers to a sherd illustrated in Figure 24J as "net impressed"), at several sites on St. Catherines Island (Thomas and Larsen 1979) in Liberty County, or at some thirty-four sites within the King's Bay Naval Submarine Support Base in Camden County (at site 9Cam188 one sherd was identified as St. Johns Fabric Marked) (Smith 1978). Additionally, Antonio J. Waring's work at numerous sites in the Savannah area failed to disclose any fabric marked sherds (Williams 1968). The only reference to Dunlap Fabric Marked pottery from this area came from the beach at Mulberry Grove Plantation located on a bluff overlooking the west bank of the Savannah River about 9.5 miles above the city of Savannah. From a surface collection of 375 prehistoric ceramic sherds, eleven (three percent of the total) were identified as Dunlap (Smith and Honerkamp 1976:83-84 and Table 1).

The Fall Line and Southern Piedmont

The Fall Line, or sand hills, region of Georgia extends completely across the state passing roughly through the cities of Columbus along the Chattahoochee River, Macon along the Ocmulgee River, and Augusta along the Savannah River. Other major streams cutting through the sand hills flowing from the Piedmont onto the Coastal Plain are the Flint River roughly between the Chattahoochee and Ocmulgee, the Oconee River just south of Milledgeville, and the Ogeechee River near Sparta. Only the Chattahoochee and Flint rivers flow to the Gulf of Mexico.

The Fall Line, which varies in width from 80 miles at Columbus to only three or four miles just east of the Flint, forms the physiographic divide between the southern edge of the Piedmont and the Upper Coastal Plain. Here elevations drop several hundred feet in the course of a few miles forming characteristic rapids and waterfalls within the rivers which change suddenly from relatively narrow, straight-flowing, stable courses to wide, meandering patterns. Also characteristic of the divide is the vegetational shift from the pine dominated southern evergreen forests of the Coastal Plain to the oak-hickory dominated oak-pine forest of the Piedmont (Braun 1967).

The first extensive survey is that of the Oliver Basin which lies on the Chattahoochee River immediately north of Columbus and the Fall Line (McMichael and Kellar 1960). In late 1958 and early 1959 archaeological surveys by the University of Georgia identified 51 sites in Alabama and Georgia. Dunlap ceramics were found at fourteen of the sites, but only four contained more than three sherds and only one more than nine sherds. There are no indications for substantial Kellogg components at any of these sites.

Moving north up the Chattahoochee River to Troup County is West Point Reservoir. A review of the literature on archaeological explorations in this area indicate that test excavations and other studies have focused on the Late Mississippian/proto-historic/historic components (Husher et al. 1972). Because of this and since no overall sherd counts were given for sites investigated, no sites containing Dunlap sherds were noted; however, several "woodland" components were mentioned as well as Deptford/Cartersville ceramics. Because of this, it is likely that Kellogg sites are present in the reservoir area.

Just north of Troup County in Heard County, Wauchope (1966:410) noted one site (He-1) which contained two Dunlap sherds. Unfortunately, all locational data on this site were lost.

Along the Ocmulgee River and its tributaries at the Fall Line in Macon, fabric impressed ceramics, later to be named Dunlap, were originally defined (Kelly 1938:22,24,36 and 39). Here pottery sherds from "vessels built up inside of nets or baskets" were identified at the Ocmulgee site on Macon Plateau, Brown's Mount to the south overlooking the Ocmulgee River and Stones Creek to the west, and Stubbs Mound near the confluence of Tobesofkee Creek and the Ocmulgee River. In his report of the excavations at the Funeral Mound at Macon Plateau, Fairbanks (1956:41) identified only 143 Dunlap sherds from over 20,000 excavated.

Just north of Macon, Georgia, and about one mile west of the Ocmulgee River, the University of Georgia conducted archaeological surveys of the 12,000 acre Plant Scherer site in Monroe County (Fish, Fish, and Jefferies 1978). The survey, which located 327 sites, was focused in the uplands away from the river bottoms along Berry and Rum creeks. Sixty-nine sites yielded over 2600 pottery sherds representing several Woodland and Mississippian components. No Dunlap sherds were noted, however, in the collections.

Wauchope's survey of northern Georgia identified several sites in this area which did contain Dunlap Pottery. In Monroe County (Wauchope 1966:410), a single sherd was recovered from the Towaliga site (Mo-1) situated on a bluff near the right (west) bank of the Ocmulgee River and the north side of the Towaliga River. Also in

Monroe County a single fabric marked sherd was recovered from the Brent site (Mo-14) at the confluence of Tobesofkee Creek and one of its small tributaries (Wauchope 1966:425).

In Jasper County just north of Monroe County, Wauchope (1966:387) identified one site (Ja-1) which contained a single Dunlap sherd. The Jackson Lake site is situated on the first terrace of the Alcovy River near the confluence of a creek. Wauchope (1966:386-388) also identified two Dunlap-bearing sites in Newton County located just north of Jasper County. At Waters Bridge (Ne-1), on a ridge overlooking the Alcovy River, one sherd was recovered. At Browns Bridge (Ne-2), two Dunlap sherds were recovered. This site is situated on the "bottomlands" of the Yellow River.

In Putnam County, immediately east of Jasper County, Dean Wood (1979) excavated a site on Cane Island in the Oconee River (9Pm209). Here, Dunlap ceramics were found in direct association with later Cartersville wares in feature and household contexts. This association and radio-carbon dates indicate that this site dates to what Caldwell termed Post-Kellogg.

Along the Savannah River near the Fall Line at Augusta, Claflin (1931:19 and Plates 27 and 28) recovered several fabric marked sherds and the basal portion of a fabric marked vessel at Stalling's Island. Later excavations at this site, however, failed to note the presence of fabric marked ceramics (Crusoe and DePratter 1976; Bullen and Greene 1970). The testing of six sites associated with riverine features (e.g., oxbows) of the Savannah River just south of Augusta as part of the Bobby Jones Expressway project, yielded a single fabric

marked sherd from 9Ri88 (Elliott and Doyon 1981:118). Also just south of Augusta along Butler Creek and Phinizy Swamp, site 9Ri45 yielded twelve fabric marked sherds from a collection of 538 (two percent) (Ledbetter and Doyon 1980:Appendix I). The author has noted a single fabric marked sherd from 9Ri(DOT)3 about two miles south of 9Ri88 and Ray Crook has also recovered a number of Dunlap sherds from general excavations at the Rae's Creek site just north of Augusta (Morgan R. Crook, personal communication).

Although archaeological survey of the 78,500 acre Clarks Hill Reservoir along 37 miles of the Savannah River just north of the Fall Line led to the identification of 128 sites, no detailed report was ever published on the findings (Caldwell and Miller 1948). Testing of two sites within the reservoir has been reported. At the Late Mississippian Rembert Mounds site in Elbert County, Georgia, Caldwell (1953c:307-320) reports Dunlap as one of the intrusive wares recovered, but does not give stratigraphic associations/context or quantities. Miller's (1949:38-51) excavations at Lake Spring in Columbia County, Georgia, revealed a Late Archaic Stalling's Island ceramic component, and several Woodland and Mississippian ceramic types were also encountered. No Dunlap ceramics, however, were recovered.

The Piedmont Proper and Ridge and Valley

The upper Piedmont Physiographic Province of Georgia has been previously described. The rolling terrain is dissected by numerous streams characterized chiefly by low, narrow uninhabitable bottoms.

Coves, which afford broader but constricted floodplains, and terrace formations are also present. The area is generally consistent with the eastern oak-hickory forest of Braun (1967) and is bounded to the west by the Ridge and Valley Province and to the north by the Blue Ridge Province. As will be pointed out, these physiographic distinctions form cultural boundaries as well.

Beginning in the Ridge and Valley Province near Rome and heading eastward along the Etowah River Valley, Early Woodland components clearly change from a basically Long Branch culture to a Dunlap culture. This is indicated by western sites from the Weiss Reservoir in eastern Alabama (Walthall 1980; DeJarnette, Kurjack, and Keel 1973), intermediate sites near Rome (Wood and Ledbetter 1988), and eastern sites closer to the Ridge and Valley/Piedmont physiographic divide (Milanich 1975; Wauchope 1966). Although no systematic survey has been conducted in the Etowah bottoms between Rome and Cartersville, enough isolated professional investigations and reports from collectors have been made to demonstrate this Long Branch to Dunlap progression. The transition from one cultural group to another also appears to be time-related as sites grow younger from east to west.

Sites in the Ridge and Valley seem to be primarily associated with the Etowah River (e.g., Rush, Garfield, Malbone), although at least one major occupation does occur on a tributary (Two Run Creek). The Rush site (Wood and Ledbetter, 1988), Garfield (Milanich 1975), and the Malbone site reported by Blanton (1986) all are situated on natural levees immediately adjacent the river and are separated from

the surrounding uplands by several hundred feet of flood-prone bottoms. Unsubstantiated reports by collectors (Dennis B. Blanton, personal communication) indicates that this is the general patterning of Early Woodland sites along the Etowah.

Wauchope (1966) reported at least ten sites (including Two Run Creek) along this stretch of the Etowah River. Six of the sites are located on the Etowah including the Etowah site (three sherds), the Leak Mounds (16 sherds), and the Lewis Mound site (27 sherds). Three sites (including Two Run creek) were located on Two Run Creek and one at the confluence of Nancy and Pettit creeks. The only substantial Dunlap pottery collection (other than Two Run Creek) came from the Walt Jones Farms site situated on a ridge paralleling the Etowah River at an unnamed tributary. Over 1600 Dunlap sherds were recovered here. In addition to these sites, Chapman and Criscoe (1970) report a substantial Kellogg occupation along the Etowah River at Wooley's Bend (7300 sherds).

Just east of the physiographic divide in the Allatoona watershed, exists the greatest concentration of Kellogg sites yet identified. The concentration of sites in general, and major occupations in particular, indicate a "heartland" for the Kellogg culture. Thirty-four Kellogg components have been identified along a 29 mile stretch of the Etowah and its tributaries from the Allatoona Dam at the physiographic divide to Canton, Georgia. The Allatoona Reservoir watershed from which this population was determined is approximately 625 square miles. Because of the well defined concentration of sites in this area, the Allatoona Reservoir will be dealt with separately under sub-regional patterning.

Moving easterly and both north and south from the Allatoona Reservoir a number of generally minor components have been identified in Dawson (2), Forsyth (3), DeKalb (2), Fulton (3), Gwinnett (1), Gordon (1), Cherokee (16), Hall (2), Clarke (1), Lumpkin (1), White (6), Pickens (3), and Habersham (2) counties. Most of the Early Woodland components at these sites are represented by only a few sherds from the collections of Wauchope (1966). A few sites that will not be mentioned in the Allatoona Reservoir discussion are, however, worthy of note. In Pickens County, Smith (1981) identified an Early Woodland component on a natural levee running parallel to the East Branch of Long Swamp Creek, a tributary to the Etowah River. Excavation of a 3 x 10 foot test trench and eight posthole tests identified a single component Kellogg Period site some one-third acre in extent with a 1.5 foot thick midden. This site appears similar to 9Ck(DOT)7 described in Chapter III.

At the Mahan Site (9Go256), John Wear of Fairmont, Georgia, excavated a number of features containing a majority of Dunlap sherds (Morse and Morse 1960). The site, located along Salacoa Creek in Gordon County, is located on the extreme eastern edge of the Ridge and Valley Province at the western boundary of the Piedmont. Excavations at the site revealed that in nine features, grit tempered fabric impressed sherds made up the major pottery type. Since limestone and sand tempered fabric impressed sherds were also recovered, it is difficult to say if Dunlap ceramics are represented by grit and sand tempering or by grit tempering alone. If sand tempering is regarded as Dunlap and grit as another cultural phenomenon (i.e., Watts Bar), then Dunlap represents only a minor component of the site.

Of the 16 sites identified in Cherokee County containing Dunlap pottery and falling outside the Allatoona Reservoir area, only two contained more than 30 sherds. 9Ck2 is located on the bank of Little River, a major tributary to the Etowah, opposite its confluence with Rocky Creek. Here Wauchope (1966:271) collected 518 Dunlap sherds primarily from disturbed proveniences, but his limited excavations failed to reveal any Kellogg features.

Archaeological site 9Ck17 (Smithwick Creek) is situated on the summit of a long ridge paralleling the Etowah River at its confluence with Smithwick, a.k.a. Cane, Creek. Two test pits here contained 110 Dunlap sherds.

Approximately thirty-five miles east of Allatoona is Lake Lanier, a large U.S. Army Corps of Engineers reservoir which floods a 35 mile stretch of the Chattahoochee River near Gainesville in parts of Hall, Forsyth, Dawson, and Gwinnett counties. The reservoir is located on the Gainesville Platform section of the Atlanta Plateau of the Piedmont which generally averages about 250 feet more above mean sea level than the Fairburn platform on which the Allatoona Reservoir is situated. Archaeological investigations of the area by Joseph Caldwell (1953b) in 1950 and 1951 identified approximately 60 archaeological sites.

Only five of the Lake Lanier sites were identified as containing Dunlap ceramics and only two (9Hl42 and 9Fo40A) were believed to have been intensive enough to indicate Kellogg occupation. Later excavations at 9Hl64 by Fairbanks (1954) identified a very minor presence of Dunlap ceramics (cf. Caldwell, Thompson, and Caldwell

1952). The vast difference in the intensity of Kellogg occupation between two areas--Lanier and Allatoona--only 35 miles apart is interesting to note.

Moving north and east toward the Georgia/South Carolina border at the Savannah River, Wauchope (1966) identified Dunlap sherds at two Habersham County sites (9Hm3--one sherd and 9Hm4--two sherds), one Stephens County site (9St7--five sherds), and six White County sites (9Wh2--six sherds, 9Wh8--five sherds, 9Wh9--one sherd, 9Wh14--three sherds, 9Wh28--28 sherds, and 9Wh29--five sherds). Interestingly, four of the White County sites seem to be fairly closely situated along the Chattahoochee River and Santee Creek. The other two sites are not far removed. These three counties form the northeastern boundary between the Piedmont and Appalachian Highland provinces in Georgia, and the sites are just within the Piedmont and south of the divide.

Moving eastward to the Georgia/South Carolina line is the basin of the Hartwell Reservoir which floods the uppermost eight miles of the Savannah River, forty miles of the Tugaloo River, and thirty-two miles of the Seneca-Keowee rivers in Georgia and South Carolina (Caldwell 1953c). Archaeological survey here located 70 sites in and adjacent to the reservoir. Three sites, all within South Carolina, were identified which contained Dunlap pottery in their ceramic collection. Site 38An2 in Anderson County is described as a Kellogg habitation area along 23 Mile Creek which contained "only some Dunlap Fabric Marked and plain pottery sherds" (Caldwell 1953c:4). Site 38An3 is mentioned only in the "Site Inventory" table of the report.

It is described as a multi-component habitation area on the west side of the Seneca River above the mouth of Deep Creek. The connotation is that the Kellogg component is minor.

Kelly and Neitzels' excavation of the Chauga Mound and Village site (380cl) in Oconee County, South Carolina (the other Hartwell site), apparently recovered a minor Kellogg occupation. Of the mound excavations, Kelly and Neitzel state that

Kellogg [Dunlap] Fabric Impressed occurs sparingly but persistently throughout the mound sequence. With continuous mound construction through ten stages, the assumption is that the same areas must have been excavated for soil and continued to yield about the same amounts of included cultural material (Kelly and Nietzel 1961:44 and Plate II).

Of the village excavations they state that, "The few sherds of Fabric Impressed do come out in the basal level" (Kelly and Neitzel 1961:46).

The most extensive evidence of Kellogg occupation in east Georgia and western South Carolina comes from the surveys and excavations at the Richard B. Russell Reservoir on the Savannah River and south of Lake Hartwell in Elbert and Hart counties, Georgia, and Abbeville and Anderson counties, South Carolina. Survey of the proposed reservoir area was initially carried out by Hutto (1970), whose work was restricted to the Elbert County portion of what was then termed the Trotters Shoals Reservoir. Of the 41 sites Hutto located, only two contained Dunlap ceramics. 9Eb90 was situated along Beaverdam Creek near its confluence with an unnamed tributary. Seven Dunlap sherds were recovered. 9Eb15 was previously listed with the University of Georgia, Department of Anthropology site files and its location is not known. Four Dunlap sherds were located.

The most extensive survey of the Richard B. Russell Reservoir was made by Taylor and Smith (1978) as a formal survey of the entire reservoir area. Four hundred ninety sites were identified in this survey and fifteen contained Dunlap ceramics--eight in Abbeville County, South Carolina, and seven in Elbert County, Georgia. The total sherd count from these sites was twenty-five with a range from one to three. Obviously no definitive Kellogg components were indicated. Also, in their ceramic analysis, Taylor and Smith treat fabric marked pottery as "non-diagnostic," assigning no type affiliation.

The most concrete Kellogg data in Russell come from a number of recent testing and excavation programs which were carried out prior to the reservoir's flooding. In the summer and fall of 1980, New World Research, Inc. conducted intensive testing and data recovery at four sites known as the Beaverdam Group (Campbell and Weed, eds. 1984:vii). Only one of these sites, 9Eb219, yielded Dunlap ceramics. 9Eb219 was situated on a terrace between the Beaverdam Creek floodplain and the uplands. Thirty Dunlap sherds were recovered from eight two-by-two meter test units. The total sherd count of 1953 means that Dunlap comprised 1.5 percent of the collection.

From August 1980 to April 1982, the Institute of Archaeology and Anthropology, University of South Carolina conducted archaeological investigations of the Gregg Shoals-Clyde Gulley sites (9Eb259 and 9Eb387) in Elbert County (Tippitt and Marquardt 1984). Gregg Shoals was situated on a terrace or levee at the confluence of Pickens Creek and the Savannah River. Of a total of 3138 sherds recovered from the

various excavation units at 9Eb259, only 8 were identified as Dunlap (Tippitt and Marquardt 1984:7-16). The Clyde Gulley site was located opposite Pickens Creek from the Gregg Shoals site. The predominant component at this site was Mississippian (Etowah) with Kellogg representing an apparently minor occupation of the site.

In the early 1980's, Gilbert/Commonwealth, Inc. of Michigan investigated seven sites along the upper Savannah River above the river's confluence with Beaverdam Creek in Elbert County, Georgia, and Abbeville County, South Carolina (Anderson and Schuldenrein 1985). Dunlap ceramics were recovered from all seven sites, but in each case, comprised only a small percentage of the overall assemblage. 38Ab22, situated on two natural levees immediately adjacent the river, yielded seven Dunlap sherds of a total of 198 (3.5 percent) recovered from site excavations (p. 77). The Harper's Bottom site (9Eb75) was situated on a prominent, but narrow ridge overlooking the Savannah River. The total sherd count of 1242 yielded two Dunlap sherds (less than 0.2 percent). The Van Creek site (9Eb382) was situated on a terrace near the confluence of the Savannah River and Van Creek (p. 115). Of 189 sherds recovered from the site, two (ca. one percent) were Dunlap (p. 124).

Site 9Eb76, the Rufus Bullard site, was situated on a terrace/levee along the Savannah River (p. 149). From a collection of 1479 sherds recovered, only four (greater than 0.3 percent) were Dunlap (p. 162). The McCalla Bottom site (38Ab288) was situated on an old or outer levee along the Savannah River (p. 175). Excavations at the site in 1980 and 1981 recovered 38 Dunlap sherds from a total of 1268,

or about three percent of the total (Anderson and Schuldenrein 1985: 181, 190). Site 38Ab91, the Rocky River site, was situated on a terrace/levee at a large meander of the Rocky River, a major tributary to the Savannah (p. 215). Excavations carried out by the consulting firm Professional Analysts, Inc. in 1980 and Gilbert/Commonwealth in 1981-82 led to the recovery of eight Dunlap sherds from a total of 1769 collected (ca. 0.45 percent) (pp. 222, 226).

The Rucker's Bottom site (9Eb91), a large multi-component occupation, was situated on a terrace/levee of the Savannah River immediately upstream from its confluence with Van Creek. Testing and excavation programs from 1980 through 1982 by Gilbert/Commonwealth yielded 1,167 Dunlap sherds from a collection of over 52,000 sherds (ca. two percent) (Anderson and Schuldenrein 1985:321). Despite the large number of Dunlap sherds here, Anderson and Schuldenrein (1985:339) state that

No unequivocal Early Woodland features characterized by fabric impressed pottery were found at Rucker's Bottom. . . . Relatively impermanent or uncomplicated occupations appear indicated; no massive subterranean storage pits or areally extensive middens are present.

Excavations of six sites in the Russell Reservoir were carried out in 1981 and 1982 by Southeastern Wildlife Services, Inc. of Athens, Georgia. Three sites were in Anderson County, South Carolina, and three in Elbert County, Georgia. At Simpson's Field (38An8), situated on a broad terrace paralleling the Savannah River, only two Dunlap sherds were recovered in the shovel testing phase. At 38An29, Sara Ridge, situated on a levee adjacent to the Savannah River, "A Dunlap component was found scattered in both the north and south ends

of the levee just beneath the plow zone" (Wood et al. 1986:121).

Dunlap ceramics comprised 48 percent of the ceramics from excavation unit #1 (209 of 435 sherds), but the authors felt that due to the tight clustering of these ceramics they were most likely from a single vessel (p. 164).

Big Generostee Creek, 38An126, was situated on a levee along the Savannah River just upstream from Big Generostee Creek (p. 169). Dunlap ceramics were the most common type recovered from the excavation units, but numbered only 65 (pp. 207, 212). Site 9Eb17, or Transect 21, was situated on the alluvial bottom along the west bank of the Savannah River. In four test pits, one 10x10m and one 10x20m excavation units (Wood et al. 1986:213-219), 80 Dunlap sherds were recovered from a sample of 620 (13 percent). At Beaverdam Creek Borrow Pit, 9Eb19, situated along Beaverdam Creek several miles above its confluence with the Savannah River, Wood et al. (1986:249) recovered 12 fabric marked sherds in a collection of 723 (two percent). At Paris Island, South Carolina (9Eb21), situated on an island of the Savannah River at its confluence with Beaverdam Creek (p. 292), four Dunlap sherds were recovered from a collection of 85 (ca. five percent) from Excavation Unit II.

Summary of Regional Distribution

The occurrence of Dunlap Fabric Marked pottery from the Florida Gulf Coast northward through Georgia to the southern limits of the Appalachian Highlands indicates a wide distribution for this pottery type. In Florida no fewer than six sites have yielded Dunlap pottery

from a five-county area extending from Okaloosa County at Fort Walton along the northwest coast to Hillsborough County at Tampa Bay on the central coast. In each case the sherds counts are extremely small and Dunlap is consistently "lumped" with the later Deptford ceramic complex (e.g., Fairbanks 1965:25). In summing up the presence of Dunlap ceramics at the Fort Walton Mound in Okaloosa County, Florida, and commenting on the distribution of Dunlap ceramics in general, Fairbanks (1965:255) states that:

The 30 Dunlap Fabric Marked sherds are something of a problem. . . . They are well known from the Georgia Piedmont I doubt that there was any pure Dunlap occupation of the Florida Gulf Coast. The sherds must represent trade with the interior during the period when Deptford ceramics were being made locally.

In the Coastal Plain of Georgia and bordering areas of Alabama and South Carolina, twenty-two sites yielding Dunlap sherds were identified in eleven counties. Again, the pottery occurrences are small and represent a very small percentage of the total ceramic collections from the sites at which they were found. In no case were sherds found in secure context (e.g., feature) or with sufficient numbers to support any Kellogg occupation. Again, as Fairbanks noted for Florida, the pottery appears to have been introduced into the Coastal Plain Province without the movement of Kellogg peoples into the area. As Kelly et al. (n.d.:21) point out in interpreting their data from Stewart County in southwest Georgia,

Since both the fabric impressed and the simple stamped categories have their strongest site distribution in middle and north Georgia, one suspects a movement of elements from north to south. . . .

Along the Fall Line and within the southern edge of the Piedmont Province there is little indication of a Kellogg occupation.

A total of 24 sites yielding Dunlap pottery was discovered and 14 of these were located within the Oliver Basin. Indeed, even at Macon Plateau where Kelly first identified the ceramic type, Dunlap comprised only a "small but striking" percentage of the total sherd collection (Kelly 1938:22).

In his excavation of the Funeral Mound at Ocmulgee, Fairbanks (1956:41), identified only 0.007 percent of the sherd collection as Dunlap and states that the Dunlap sherds "are not known from pure sites in Central Georgia" and that they are representative of "minor and transient occupations" (Fairbanks 1956:38 and 55).

Perhaps the largest Dunlap sherd count from the southern Piedmont has come from the Cane Island site in Putnam County. Although the ceramics comprise a sizable percentage of the collection, their contextual relationship with Cartersville ceramics and a radiocarbon date of A.D. 1 would indicate a "Post-Kellogg" occupation and not a pure Kellogg component.

A forty-mile wide zone centered on the physiographic divide between the Ridge and Valley and Piedmont (roughly spanning the area from Rome to Canton) and extending from the watershed divide between the Etowah and Chattahoochee rivers on the south (northern Cobb and Fulton counties) and the northern limits of the Etowah watershed to the north (southern Gordon and Pickens counties), forms what appears to be the most intensive area of pure Kellogg occupation anywhere and the most intensively occupied sites both spatially and temporally. Within this roughly 1600 square mile area some 70 Kellogg components have been identified and about half of these are within the Allatoona

Reservoir watershed. Beyond this area to the west, the Long Branch Culture takes precedence at a slightly later time period, while to the east, site density and occupation intensity drop dramatically.

Only about fifty sites containing Dunlap pottery are located east of this area and 29 of these were from the Russell Reservoir. At first, the presence of these sites appears to rival the Kellogg occupation at Allatoona, but several points must be noted. First, almost half of the Russell Dunlap pottery-bearing sites were identified as a result of testing and excavation (13 of 29), while at Allatoona almost all of the Dunlap pottery-bearing sites were identified solely through surface collections.

Second, Allatoona contained single component Kellogg occupations exhibiting deep, extensive midden deposits and subsurface features (e.g., Kellogg site and 9BR73--Stamp Creek), while Russell Kellogg components showed no such intensity of occupation. Although reporting "a pure Dunlap component with fabric marked pottery and indented base triangular points" from 38An29, Wood, et al. (1986:339) echo the earlier quote from Anderson and Schuldenrein (1985), stating that "The lack of features at any of these Woodland sites must lead us to believe that the sites were only temporarily occupied."

Third, is the gross density of Dunlap pottery-bearing sites. The twenty-nine Kellogg components at Russell are dispersed over an area of 26,650 acres yielding a gross site density of one site per 919 acres. In contrast, the twenty-nine Kellogg components identified at Allatoona have a site density within the 19,200 acre reservoir of one site per 662 acres or an overall ratio of 1.38 to 1.00.

Subregional Distributions: The Allatoona Watershed

Environment

The Allatoona Reservoir watershed comprises an area approximately 25 miles east/west by 25 miles north/south or roughly 625 square miles of Bartow, Cobb, and Cherokee counties in northern Georgia (Figure 24). This area encompasses an approximate 29 mile stretch of the Etowah River, which flows southwesterly from the city of Canton to the Allatoona Dam, and tributaries of the river within this section. During this course, the river falls some 150 feet (from 850 feet AMSL to 700 feet AMSL). The reservoir is bounded on the west by the Ridge and Valley Province, to the south by the drainage divide separating the Etowah and Chattahoochee rivers, and to the north by the divide between the Etowah and Oostanaula/Coosawattee rivers. The dam is situated almost precisely along the Ridge and Valley/Piedmont provincial divide with the reservoir lying entirely within the Piedmont.

Physiographically, the Etowah River Valley between the dam and Canton can be divided into three distinct sections designated lower, middle, and upper reservoir (Figure 25). The lower reservoir runs from the dam to the Bartow-Cherokee county line, a distance of six miles, and falls approximately 73 feet. This area is characterized by narrow bottoms that abut the sharply rising uplands. Two primary tributaries, Allatoona and Stamp creeks, enter the river about one-half and one mile, respectively, above the dam. Only first and second terrace formations are found here (Caldwell n.d.:92).

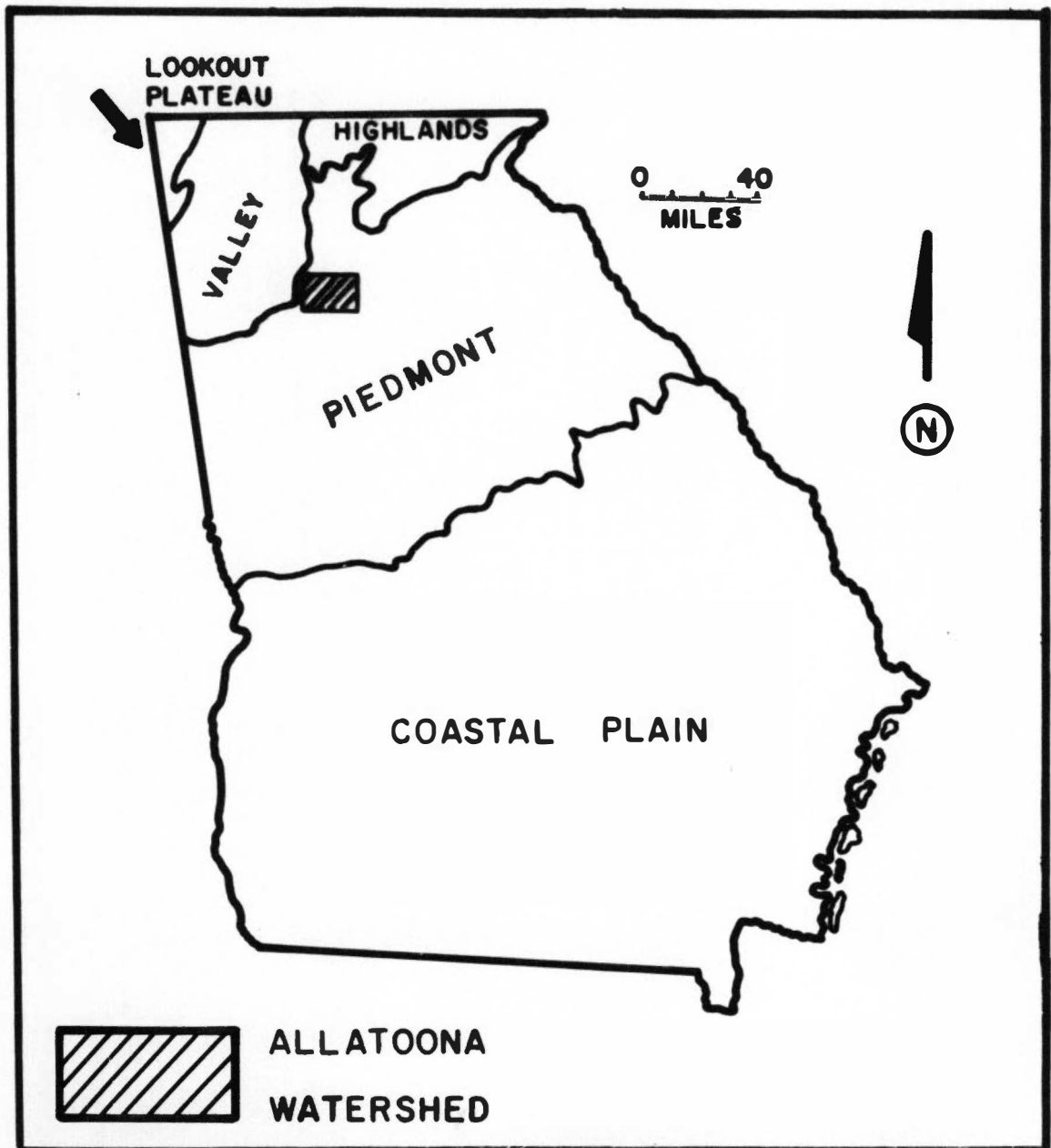


Figure 24. Allatoona Watershed Location in North Central Georgia.

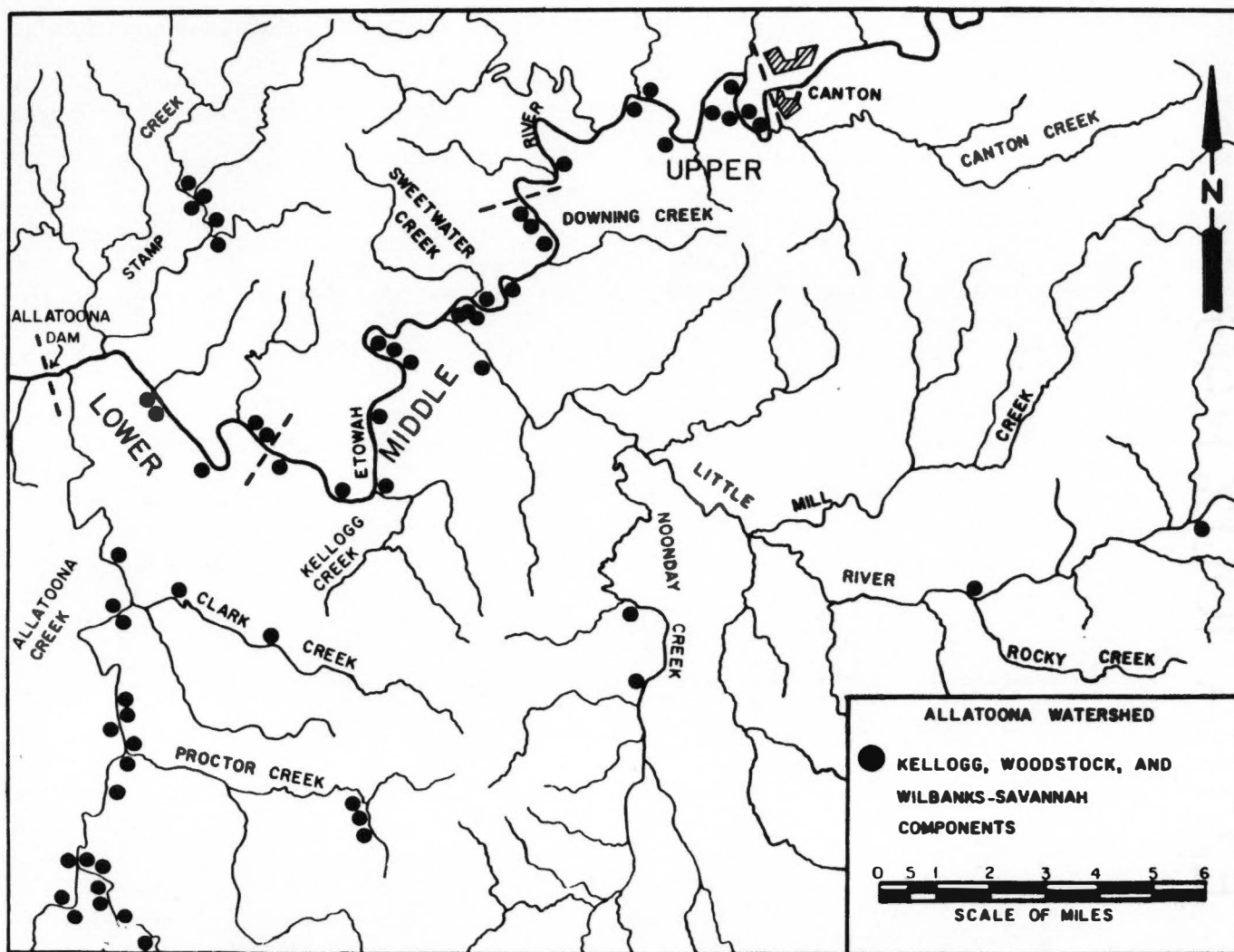


Figure 25. Allatoona Reservoir Section of the Etowah River showing Reservoir Sections and Components and Tributaries.

The middle reservoir extends from the Bartow-Cherokee county line to a point just north of Fields Bridge. This section is approximately 15 miles long and has interspersed bends and relatively straight stretches bordered by well developed bottomlands. The fall during this course is only about 25 feet. Caldwell (n.d.:92) noted three terrace formations in this area, but the third terrace was often indistinguishable from the surrounding valley slopes. These slopes, as compared to those of the lower reservoir, rise gently toward the dissected ridges of the upland. Major tributaries along this section are Little River, Kellogg Creek, Sweetwater Creek, and Downing Creek.

The upper reservoir is eight miles long and runs from a point just north of Fields Bridge to the city of Canton, falling approximately 50 feet. Numerous entrenched meanders follow the course of the river as it cuts through hard Paleozoic/Precambrian schist, granite, and gneiss formations. Physiographically, the area is basically intermediate between the lower and middle reservoir sections having fairly well developed bottoms (especially on the point bars of meanders) and a rather sharply ascending upland. Major tributaries of this section include Knox, Jug, Shoal, Canton, and Puckett creeks.

Method

In order to develop a settlement model for the Kellogg Phase in the Allatoona Reservoir watershed, data were taken from archaeological surveys conducted in the area during the late 1930s and early 1940s (Wauchope 1966), late 1940s and early 1950s (Caldwell 1950, n.d.), and a more recent survey (Bowen 1978, 1981, 1982). The Allatoona

Reservoir survey of Caldwell (1950 n.d.) should give an accurate indication of how the area within and immediately adjacent to the pool level of the reservoir (approximately 19,650 acres) was occupied in prehistoric times while the studies of Wauchope (1966) and Bowen (1981, 1982) provide additional bottomland as well as upland data.

The Allatoona Reservoir is justifiable as a study unit on both technical and environmental grounds. Technically, 90 percent of the sites used in this study were discovered during Caldwell's original Allatoona survey, thus insuring uniform survey and recovery techniques and consistency throughout. The argument may be made that Caldwell's survey was biased toward bottomland sites (the survey was confined to that area to be flooded below the 860 foot contour), but a recent survey by Southeastern Archaeological Services, Inc. (Ledbetter et al. 1987) that examined the government owned lands surrounding Lake Allatoona (30,000 acres, much of which are uplands), failed to identify any additional Kellogg components. Environmentally, the area of study is well delimited both from topographic and hydrologic parameters.

Thirty-three sites displaying Kellogg components were identified at Allatoona. Kellogg components were identified by Dunlap Fabric Impressed pottery. All components were classified under three categories--stream order, reservoir section, and topographic situation--and quantified. Stream order follows the system of ordering originally devised for geomorphic studies and later applied to archaeology (Weide and Weide 1973). Stream order classes range from "one" at the headwaters of some of the most remote tributaries to a class "five" stream on the Etowah River.

Basically, the mainstream is comprised of ranks "three" through "five" and the tributaries rank from "one" to "four". These ranks were made using the Greater Atlanta Region Map (GARM) of the United States Geological Survey. The map's 1:100,000 scale allows for the entire reservoir watershed to be observed on a single map, but detail is sacrificed. The GARM, however, allows for consistent ordering throughout the watershed. The Etowah River is assigned the rank of "five" for this study although within the area studied it goes from a "three" to a "five". This standardization was necessary because the river achieves an order of "five" or greater further upstream prior to entering the study area.

The reservoir is divisible into three sections--upper, middle, and lower--and only components located on the fifth order stream (mainstream) were classified in this manner. The tributaries are unique and cross-cut the ideal reservoir section typology. Only sixteen sites were utilized, therefore, in analyzing reservoir section, as seventeen components were located on tributaries.

Three topographic categories were used in quantification: floodplains (T-1), second terraces (T-2), and uplands (UL). Floodplains and uplands occur on both mainstream and tributaries, while the second terrace formations are restricted to the mainstream. "Uplands" is a catch-all category including the third terraces, toe slopes, knolls, erosional remnants, and any other physical rise adjacent to or extending onto the bottoms. The third terrace is included in this category since it appears to be as much an eroded hill-slope formation as alluvially derived. Soil designations bear this out (cf. Caldwell n.d.:92).

Soil types were originally intended to comprise a fourth category, but several problems led to the abandonment of this category. Soils are extremely complex and can vary greatly, thus making a comprehensible classification difficult (cf. Fuller and Shores 1926:Map). In addition to the problem of soil complexity, the only soil survey available for Cherokee County was conducted after the reservoir was flooded and, therefore, eliminated from classification all areas within the pool level (Jordan, et al. 1973). A further problem relating sites to soil types is the lack of any precise locations for the sites such as UTM coordinates and distance to nearest water source. In an area as pedologically complex as the Allatoona watershed, a general location is inadequate to determine site/soil relationships.

The richest and most agriculturally suited soils occur along the Etowah River and small areas of some of the larger tributaries. Caldwell (n.d.:172) states that the most preferred areas for cultivation were the second terraces. One of the most fertile soils in Bartow County, Huntington fine sandy loam, which occurs relatively extensively west of the provincial divide, is not found within the reservoir boundaries (Fuller and Shores 1926:17 and map; Larson 1972:389).

Returning to earlier statements regarding how subsistence strategies for Kellogg peoples were perceived (see Chapter I), the following settlement patterning may be hypothesized in the Allatoona Reservoir watershed. Kellogg habitation, with its suggested hunting and gathering subsistence mode and seasonal occupation, may be

represented by a dispersed settlement pattern distributed primarily along the tributaries and upper and lower reservoirs on uplands where exploitation of the fall seed crops would be facilitated and water would have been close at hand. Upland occupation, defined here to include third terraces, toe slopes, knolls, erosional remnants, sandbars and any other physical rise adjacent to or extending onto the bottoms, would also have been necessary to assure adequate drainage for subterranean food storage.

Quantification

Quantification results for the classification categories are given in Table 4. This table shows the number of Kellogg components for each classification unit (i.e., first, second, third, fourth and fifth order streams, upper, middle, and lower reservoir and tributaries and first and second terraces and uplands) and the percentage of components represented. For instance, under the category "Stream Order", nine Kellogg components representing 27 percent of the total are located on third order streams.

The number (sample size) of Kellogg components utilized (not all thirty-three components will show up under each classification total) may vary slightly from category to category depending upon the completeness of data for each site. One Kellogg component was found to extend onto two different topographic areas (e.g., slopes and second terraces) and two components were excluded from the topographic classification category due to deficiencies in the site locational data.

TABLE 4

SITE DISTRIBUTION BY SETTLEMENT CATEGORY:
ALLATOONA WATERSHED

Site	Stream Order (1-5)	Topographic Feature (Upland, T-1, T-2)	Reservoir Section
9BR15	3	T1(?)	Tributary
9BR54	3	UL	Tributary
9BR57	5	T2	Lower
9BR61	1	T1(?)	Tributary
9BR62	5	T2	Lower
9BR63	5	UL	Lower
9BR73	2	T1	Tributary
9BR76	5	T2	Lower
9CK2	2	T2(?)	Tributary
9CK5	5	T2	Middle
9CK7(DOT)	3	UL	Tributary
9CK7(Wauchope)	3	UL	Tributary
9CK23	5	T2	Middle
9CK40	5	T2	Middle
9CK47	5	T2(?)	Middle
9CK56	1	T1(?)	Tributary
9CK62	5	UL	Middle
9CK68	5	T2	Middle
9CK101	5	T2	Upper
9CK102	5	T2	Upper
9CK103	5	T2	Upper
9CK110	5	T2	Middle
9CK111	5	T2	Middle
9CK120	5	T2	Upper
9Co3	3	T1(?)	Tributary
9Co4	3	T1(?)	Tributary
9Co5	3	T1	Tributary
9Co50	2	UL	Tributary
9Co54	3	T1(?)	Tributary
9Co55	2	UL	Tributary
9Co59	3	UL	Tributary
9Co72	2	UL	Tributary
9Fu15	2(?)	T2(?)	Tributary

Categories	<u>1</u>	<u>2</u>	<u>3</u>	<u>5</u>	<u>UL</u>	<u>T1</u>	<u>T2</u>	<u>Upper</u>	<u>Middle</u>	<u>Lower</u>	<u>Trib.</u>
Totals	2	6	9	16	9	8	16	4	8	4	17
Percent	6	18	27	48	27	24	48	12	24	12	52

A statistical test of this quantification was not possible for three reasons. First, the data are organized into basically a one-way table where only one variable is studied, Kellogg components. Second, the sample size is too small to compare the categories with one another. For instance, when a two-way table comparing topographic feature with stream order was constructed, four of the 12 observed frequency cells were zero while three of the 12 expected frequency cells fell below one and 11 of the 12 fell below five. Third, the categories are inherently connected. As an example, second terraces are unique to the fifth order stream. Conclusions must, therefore, be made solely on the basis of observed frequencies.

Three apparent preferences for settlement location are: 1) fifth order streams, 2) second terraces, and 3) tributaries. These observations are self contradictory since second terraces are not found on the tributaries and none of the tributaries are fifth order streams. It is necessary, therefore, to look at trends within individual categories. For stream order, almost one-half of the Kellogg components are located on the fifth order, or main stream--in this case, the Etowah River. Conversely, therefore, about one-half of the sites are located on the first, second, and third order, or tributary, streams. Settlement, then, appears to be more or less evenly divided between the main stream and tributaries. No preference for settlement is shown. Within the seventeen sites located on tributaries, however, there is an apparent increase in number of components as one moves closer to the main stream. That is, components are more numerous on second order than first order streams and more numerous on third order than second order streams.

Extending this to the reservoir section, the tributaries are the most highly settled areas. If the three main stream sections are combined, however, settlement again is equally divided between tributaries and mainstream. Within the three mainstream sections, settlement in the middle reservoir appears to be twice as popular as settlement in either the upper or lower reservoir.

The preference for topographic feature presents a somewhat more complex picture. Tables 5 and 6 quantify the frequencies of components per topographic feature for stream order and reservoir section respectively.

Concerning the distribution of Kellogg components on the various topographic features among the four recognized stream orders, sites located on first order streams occur solely on the T1. Sites on second order streams are more dispersed occurring on all three topographic features, but primarily the uplands. Sites on third order streams occur solely on and evenly between the uplands and T1 (supposedly there are no T2 formations here). Sites along the Etowah (fifth order stream) occur almost exclusively on second terraces, although two do occur on uplands.

For reservoir section, sites located in the lower, middle, and upper reservoir show a very strong preference for the second terraces, while, conversely, sites located on the tributary section are more frequently found on the uplands and first terraces almost exclusively and evenly.

In an effort to determine if the Kellogg settlement pattern was unique in the Allatoona Watershed, the distribution of Kellogg

TABLE 5

TOPOGRAPHIC FEATURE/STREAM ORDER
 KELLOGG COMPONENT FREQUENCIES:
 ALLATOONA WATERSHED

TOPOGRAPHIC FEATURE	STREAM ORDER			
	1	2	3	5
UL	0	3	4	2
T1	2	1	5	0
T2	0	2	0	14

TABLE 6

TOPOGRAPHIC FEATURE/RESERVOIR SECTION
 KELLOGG COMPONENT FREQUENCIES:
 ALLATOONA WATERSHED

TOPOGRAPHIC FEATURE	RESERVOIR SECTION			
	LOWER	MIDDLE	UPPER	TRIBUTARY
UL	1	1	0	7
T1	0	0	0	8
T2	3	7	4	2

components was compared to those of two very culturally and temporally distinct phases: the Wilbanks-Savannah components and Woodstock components. These sites were chosen because: 1) they are well represented at Allatoona; 2) most of the components representing the three phases do not have multiple occurrences on the same sites; and 3) subsistence strategies during each phase are different enough to suggest differing settlement patterning.

The Woodstock Culture has been dated to the tenth century A.D. (Hally 1970; Crook 1979) and is identified by a variety of complicated stamped, incised, check stamped, and plain wares (Caldwell n.d.:308). Evidence from Allatoona (pp. 11, 311) indicates agriculture was known to the Woodstock people, but hunting and gathering apparently still played an important role in the subsistence economy (cf. Hally 1970). Excavations conducted at Allatoona and elsewhere (Bowen 1979; Crook 1979; Hally 1970) indicate that these people lived in small-to-large villages--in some instances palisaded--with earth substructure mounds also appearing (Caldwell 1953b:16-17, n.d.:309-310).

Wilbanks-Savannah Phase sites occupy the Late Mississippian time frame of Georgia prehistory and like Woodstock are recognized by a variety of sand-tempered wares including cord marked, check stamped, complicated stamped and plain. Caldwell (n.d.:336-337) felt that the Wilbanks-Savannah population at Allatoona was practicing intensive agriculture and living, for the most part, in moderate to small villages. Earth platform mounds are known from Wilbanks-Savannah components elsewhere (Hally 1975:41-42). A sedentary or more sedentary

occupation is generally suggested for the Mississippian cultural groups (cf. Willey 1966:292; Williams and Stoltman 1965:680; Larson 1972:389).

Justification for using the Allatoona Reservoir as a valid, non-biased study area is maintained for viewing all three components. The Ledbetter, et al. (1987) study appears to add little new data for these three occupations and most of the conclusions were reached using Caldwell's (n.d.) initial data.

A total of 61 sites representing 84 components was identified for the three phases (see Figure 25). Two other sites were listed as containing Wilbanks-Savannah components, but are not included in the present study because their locations could not be determined from the available data. The 61 sites included for study represent 33 Kellogg (Figure 26), 28 Woodstock (Figure 27), and 23 Wilbanks-Savannah components (Figure 28). Several of the sites contain multiple components. Kellogg and Woodstock components are found at ten sites, Kellogg and Wilbanks-Savannah at two, Woodstock and Wilbanks-Savannah at three, and all three components are found at three sites. Components were identified by presence of diagnostic pottery of that particular phase. All components were classified according to stream order, reservoir section, and topographic situation as previously defined.

Based on the general subsistence/settlement statements made earlier, the following settlement strategies may be expected for each cultural group in the Allatoona Reservoir watershed. Kellogg habitation has been previously noted. Wilbanks-Savannah with its bent toward intensive agriculture and more sedentary occupation may be

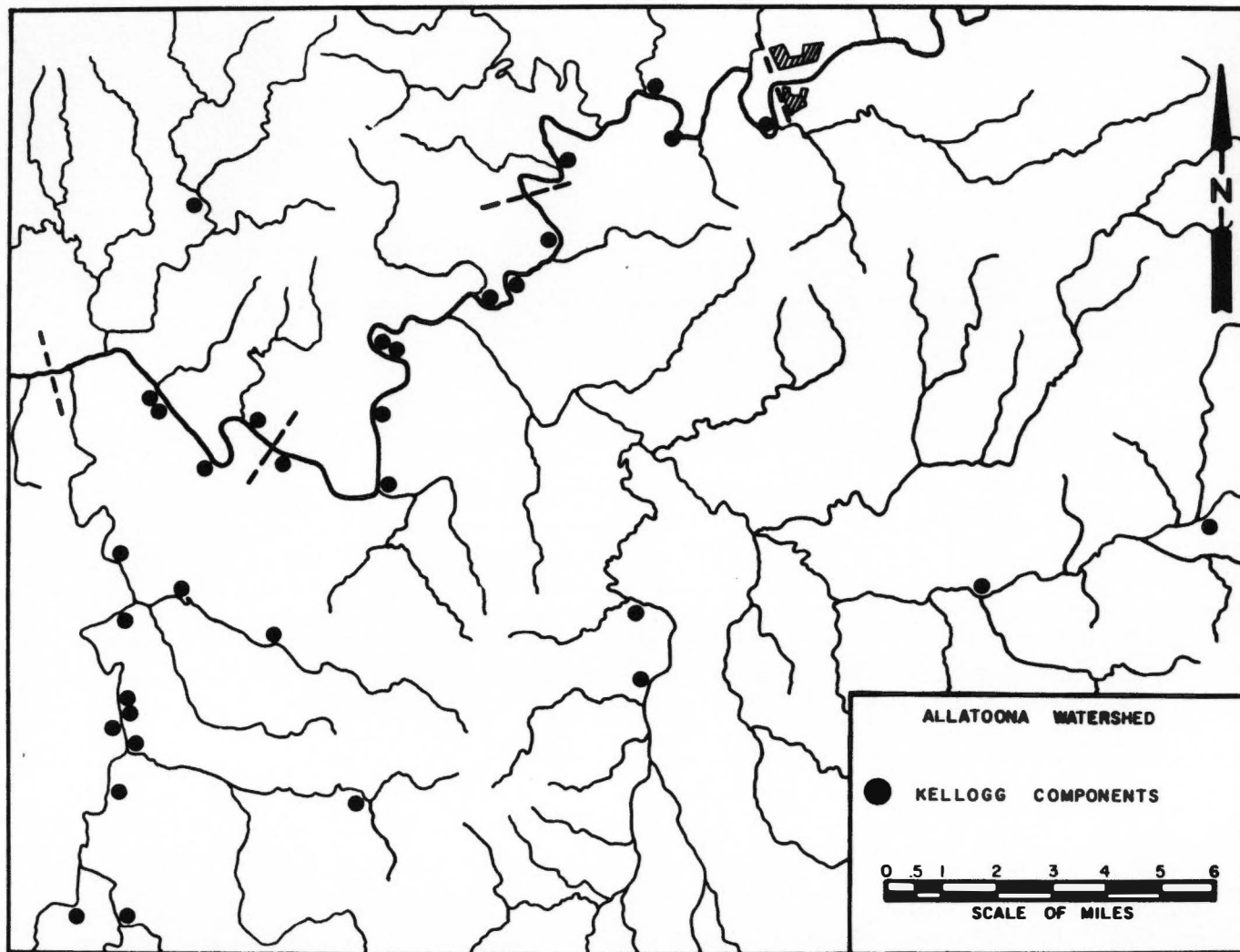


Figure 26. Distribution of Kellogg Components at Allatoona.

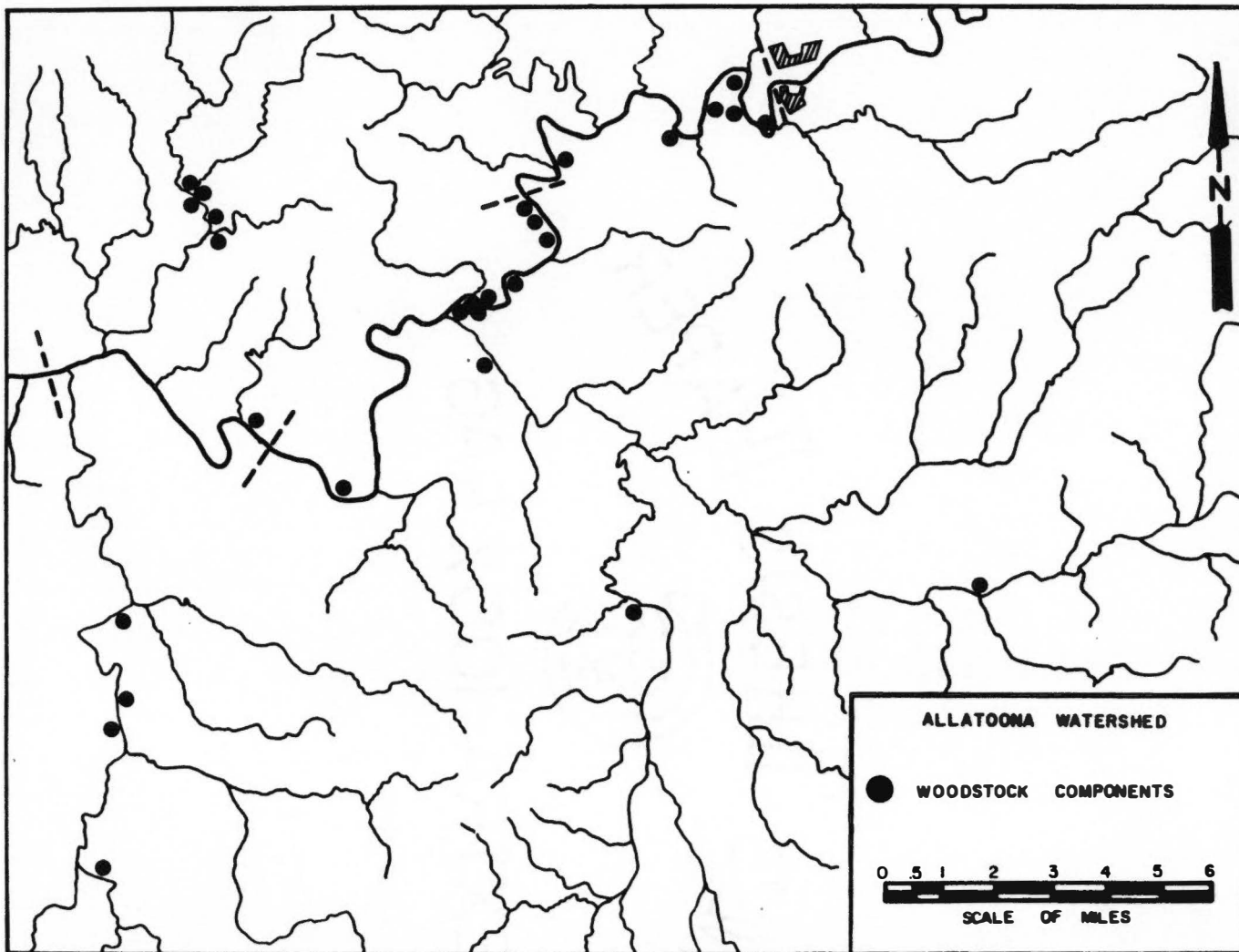


Figure 27. Distribution of Woodstock Components at Allatoona.

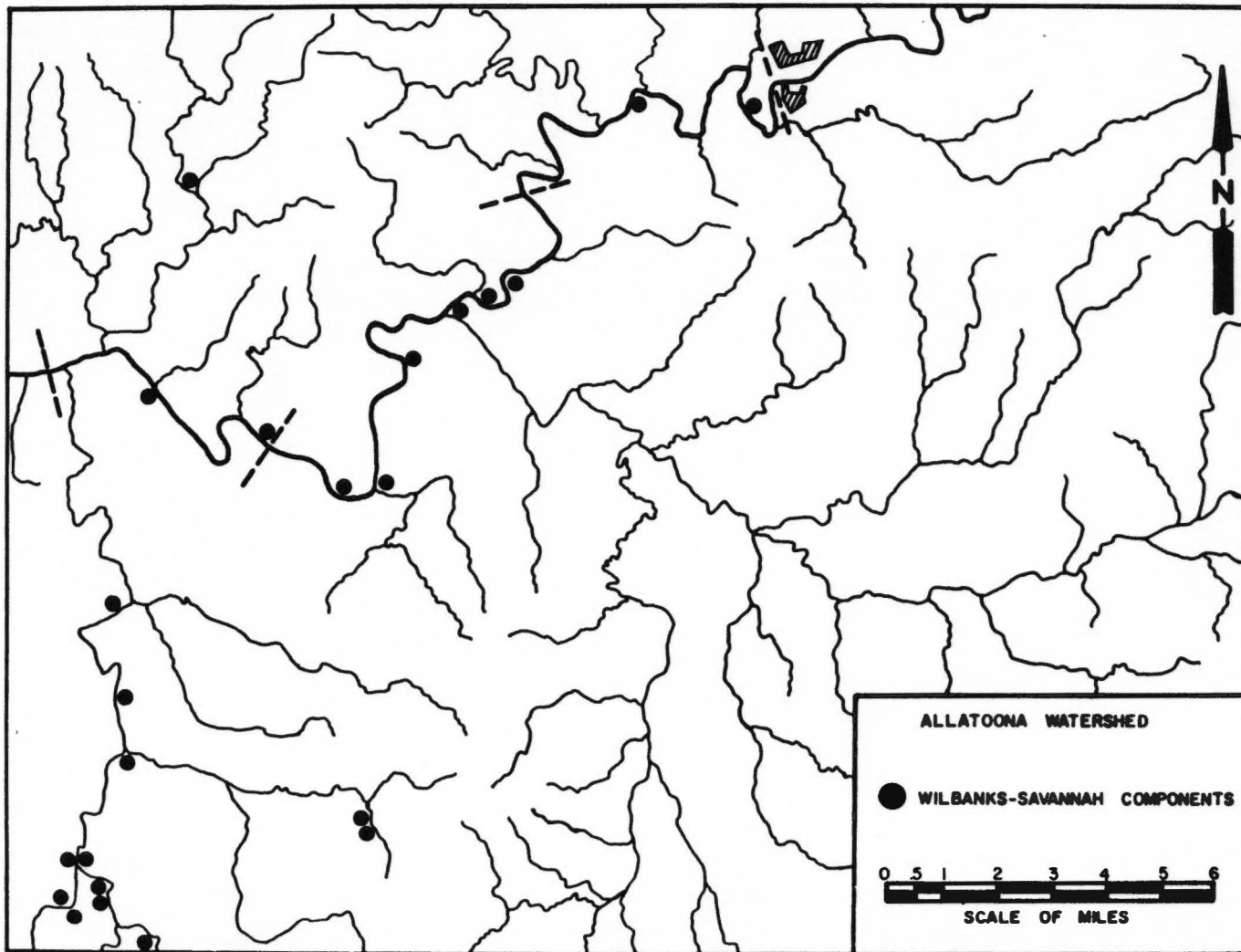


Figure 28. Distribution of Wilbanks/Savannah Components at Allatoona.

expected to inhabit the extensive bottoms of the middle reservoir with less habitation of the narrow, poorly drained areas along the tributaries and the upper and lower reservoir. Occupation areas would have been moderate to large and reflect a more sedentary habitation. Caldwell (n.d.:171-172) has hypothesized that these later hunter-gather-agriculturists used the fertile second terrace bottoms for planting and thus restricted their settlements to the older or third terraces and uplands rimming the valley.

Woodstock, with its transitional agricultural-gathering economy, should be well dispersed located in primarily intermediate floodplains of the upper reservoir and larger tributaries with less use of the more remote and narrower bottoms of the smaller tributaries and lower reservoir. Some plant domestication took place, but hunting and gathering must have been extensively practiced. These sites might also display a semi-sedentary occupation and be somewhat larger and fewer in number than Kellogg sites, but greater in number than Wilbanks-Savannah.

Table 7 shows the number of components for each cultural group per classification unit (i.e., first, second, third, fourth, and fifth order streams, upper, middle, and lower reservoir sections, and first and second terraces and uplands) and the percent of the specific cultural components it represents. For instance, under the category "Reservoir Section", eight Kellogg components representing fifty-percent of all Kellogg components on the Etowah River are located in the middle reservoir.

The number of components per cultural group may vary slightly from category to category depending upon the homogeneity of each

TABLE 7

COMPONENT CLASSIFICATION BY SETTLEMENT CATEGORY

Component	<u>Stream Ordering</u>										<u>Reservoir Section</u>						<u>Topographic Class</u>					
	1	2	3	4	5						Lower	Middle	Upper				T-1	T-2	UL*			
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Kellogg	2	6	4	12	11	33	--	--	16	49	4	25	8	50	4	25	9	26	12	35	13	38
Woodstock	1	4	5	18	5	18	1	4	16	57	1	6	9	59	6	38	5	18	12	43	11	39
Wilbanks-	2	10	5	24	5	24	--	--	9	43	2	22	5	56	2	22	3	15	4	20	13	65
Savannah																						

*UL = Upland

T1 = First Terrace

T2 = Second Terrace

unit/component (i.e., one-to-one correlation) and the completeness of data for each site. One Kellogg and two Woodstock components were each found to extend onto two different topographic areas (e.g., slopes and second terraces) and two Kellogg, one Woodstock, and two Wilbanks-Savannah components were excluded from the topographic classification category due to deficiencies in the site locational data.

Interpretations

The generalizations concerning varying subsistence modes through time were tested by correlating them with the observed settlement patterns; the assumption being that certain subsistence modes dictate settlement distributions. Upon viewing the quantified data in Table 7, certain patterns appear. Obviously Kellogg components outnumber those of Woodstock and Woodstock those of Wilbanks-Savannah, but it also appears as though all components are more frequently found on the main stream (rank "five"), including Kellogg, and likewise all were favoring the middle reservoir section. Topographically, occupations appear to be approximately equally distributed between second terraces and uplands for Kellogg and Woodstock, but Wilbanks-Savannah is more frequent in the uplands. The surprising thing about this is that these uplands are not primarily the third terraces and valley slopes of the middle reservoir, as suggested by Caldwell, but rather the toe slopes, knolls, ridges, and sandbars of the tributaries and upper and lower reservoir.

In an attempt to ascertain if the observations in Table 7 reflect an accurate picture of settlement distribution within the

Allatoona watershed, a chi-square test was performed for each set of data (Tables 8, 9, and 10). The null hypothesis (H_0) in each case is that there were no differences in settlement between the data units for each cultural group. An alpha of five-percent ($\alpha=.05$) was selected as the cut-off in each case. For stream ordering, "first" through "fourth" order streams, including tributaries or tributaries of tributaries to the Etowah River, were combined and compared to the main stream of the Etowah River. The result of the chi-square test suggests that there is no significant difference between the distribution of main stream and tributary sites.

In the reservoir section, only the mainstream sites were considered and the upper and lower reservoir components were combined and compared to those of the middle reservoir. The chi-square result of this comparison also indicates no significant difference between middle reservoir and upper/lower reservoir distributions. The third test compared component distributions among the three topographic units. Again, the chi-square result suggests no significant difference exists for site distributions between the different topographic units for the three cultural groups. In each case of chi-square testing the null hypothesis is upheld.

Extending these data to cultural patterns of settlement it may be said that for the Allatoona Reservoir watershed the Kellogg, Woodstock, and Wilbanks-Savannah Phase inhabitants showed no particular affinity for occupation of any stream, reservoir section, or topographic feature. For Kellogg and Wilbanks-Savannah, this is contrary to the earlier settlement pattern generalizations which

TABLE 8

CHI-SQUARE TEST
(MAIN STREAM/TRIBUTARY)

Component	M.S.		Trib.		Totals
	fo	fe	fo	fe	
Kellogg	16	16.5	17	16.5	33
Woodstock	16	14	12	14	28
Wilbanks-Savannah	9	10.5	12	10.5	21
Totals	41		41		82
d.f.=2 $\alpha=.05$ $\chi^2=1.0299714$.50<.75					

TABLE 9

CHI-SQUARE TEST
(MIDDLE RES/UPPER-LOWER)

Component	Middle		Upper/Lower		Totals
	fo	fe	fo	fe	
Kellogg	8	8.59	8	7.41	16
Woodstock	9	8.59	7	7.41	16
Wilbanks-Savannah	5	4.83	4	4.17	9
Totals	22		19		41
d.f.=2 $\alpha=.05$ $\chi^2=0.15$.90<.95					

TABLE 10

CHI-SQUARE TEST
(T-1/T-2/UL)

Component	T-1		T-2		UL		Total
	fo	fe	fo	fe	fo	fe	
Kellogg	9	7.05	12	11.61	13	15.34	34
Woodstock	5	5.8	12	9.56	11	12.63	28
Wilbanks-Savannah	3	4.15	4	6.83	13	9.02	20
Totals	17		28		37		82

d.f.=4 $\alpha=.05$ $\chi^2=5.1$ $.25 < .50$

predicted Kellogg settlements situated upon the uplands and dispersed along the tributaries and upper and lower reservoir sections, and Wilbanks-Savannah occupations centered upon the uplands/third terraces adjacent to the extensive bottoms of the middle reservoir section. For Woodstock, however, the dispersed nature of the settlement within the intermediate floodplains of the upper reservoir section and larger tributaries is consistent with earlier predictions.

The component distribution maps show several component clusters. Kellogg components (see Figure 26) appear to be fairly evenly distributed throughout the reservoir, while Wilbanks-Savannah and Woodstock have several clusters. The single case of clustering for Wilbanks-Savannah, involving six components, occurs near the confluence of Allatoona and Little Allatoona creeks (see Figure 28).

Woodstock clusterings (see Figure 27) are located on Stamp Creek, between Little River and the middle/upper reservoir divide, and the upper end of the upper reservoir. Components for each cultural phase are, however, generally located throughout the watershed and there are no indications from these clusterings that a preference for stream order, reservoir section, or topographic feature exists. As an example, the Woodstock clusters are located in three distinct areas--the middle reservoir, the upper reservoir, and on a tributary.

Intra-site Distributions

Extensive excavations at pure Kellogg component sites have generally focused on linear trenching and the exposing of stratigraphic profiles rather than large horizontal exposures directed toward

defining intra-site feature distributions which can reveal internal settlement patterning. The only excavation whose primary goal was to expose the horizontal plan of the site occurred at the tributary occupation, 9Ck(DOT)7. The linearly oriented continuous square-unit excavations at the Kellog site, the Garfield site, and 9Br73 provide only narrow cross-sections through the occupation area. Each of these components has been described earlier and the present discussion will focus primarily on distribution of features within individual sites.

Because 9Ck(DOT)7 was a relatively small occupation composed of plow zone and features intruded into the underlying sterile clay subsoil, the possibility existed for completely exposing the occupation area. Mechanical stripping to the base of the plow zone was accomplished sufficiently to the east and west of the occupation area to verify that the entire site was revealed. Topographic constraints to the north (upland slope) and south (terrace edge) provided reliable site boundaries in those directions.

All subsurface features at 9Ck(DOT)7 were confined to an area eighty feet north/south by forty feet east/west--only 3200 square feet--(less than 0.1 acre) (see Figure 16) and formed a wide arc with the long axis oriented north/south. These features were easily divisible into three distinct clusters. Each of these clusters, which I have elsewhere (Bowen 1982) designated as East-Central, North-Central, and South-Central, were composed of three types of storage pits, postholes, and surface stains. These clusters were spaced about 18 to 20 feet apart and were separated by clusters of non-cultural root holes.

Quoting from my report,

The north-central area [was] composed of four pits, one surface stain, eight postholes and two root intrusions. The postholes were aligned in an oval pattern roughly 17 feet long by 12 feet wide and [encircled] all four pits and the surface stain (Figures 10 and 19). These postholes were widely, but [apparently] deliberately, spaced and averaged more than one foot in diameter and 1.5 feet in depth. . . . In addition, two root intrusions were aligned with this pattern. Four of these postholes contained artifactual material including fabric marked and possibly check stamped pottery and baked clay. All four pits [which included two silo-shaped, one bell-shaped and one basin-shaped] were attributable to the Kellogg Phase and all but one had a definite vegetable storage function. . . . The surface stain gave no indication of function or cultural affiliation, nor was there anything which might represent a hearth or roasting pit. This arrangement of features is suggestive of a substantial habitational [enclosure] with interior activity areas. There are gaps in this alignment, however, and it is possible that it is nothing more than a pit cluster with interspersed postholes. In this respect, it is very similar to the other pit clusters.

The east-central pit cluster [was] composed of six pits, three surface stains, and eight postholes (including the five postholes located west of this cluster). The pits, which include[d] one bell-shaped, three silo and two basin-shaped, [were] centrally located in the cluster with the postholes (excluding those to the west) and surface stains occurring on the northern and southern peripheries of the cluster. Five of the features, including the bell-shaped, two basins, and two silos, were Kellogg Phase and the other Swift Creek [Feature #53]. Two of the postholes in the northern area of the cluster contain[ed] artifactual materials; one a Dunlap Fabric Marked sherd and a possible Swift Creek sherd, and a quartz flake and the other a possible Swift Creek sherd and two sand-tempered plain sherds. Only one of the surface stains, Feature #54, contained diagnostic materials. These included both Dunlap Fabric Marked and Swift Creek Complicated Stamped ceramics in addition to quartz debitage, all in a very disturbed state. . . .

The south-central pit cluster include[d] four pits, one surface stain, four postholes and a root intrusion. A large cluster of aligned root intrusions divided this cluster from the east-central one. The pits [were] bell-shaped, silo, basin-shaped and a pit which was intermediate between basin-shaped and silo. Three pits were representative of the Kellogg Phase while the basin-shaped pit was indeterminate Archaic.

The four postholes form[ed] a widely spaced arc through the pit cluster and three of these contain[ed] cultural materials including quartz and chert flakes, one eroded decorated sherd and one plain sand-tempered sherd. . . .

With regard to explanation, I have little additional insight into the pattern displayed at 9Ck(DOT)7. With the exception of the possible enclosed structure in the north-central cluster, each group of features was similar containing at least one of each of the three pit types, postholes, and at least one surface stain. The similarity of content between clusters indicates that similar activities were taking place within each cluster. Whether or not these areas were occupied simultaneously by more than one group/family or represent repeated (yearly ?) visits to the site is unknown.

The Garfield site (9Br99) occupies approximately one acre of a topographically restricted sand ridge/levee immediately adjacent to the Etowah River. The overall topographic feature is almost seven acres in area. Jerald Milanich's excavations investigated only a three percent sample of the site by way of a trench 110 feet long (north/south) by five to twenty-five feet wide (east/west) running from the north edge of the site, near the edge of the bluff overlooking the river, toward the slough. The midden deposit at the site appears to decrease in thickness from north to south and intrusive features were not encountered in the southern twenty-five feet of Milanich's excavation.

The greater variety of features at Garfield than at 9Ck(DOT)7 suggests a greater variety of activities taking place at the former site. In addition to pits and postholes like those observed at 9Ck(DOT)7, there were also hearths, rock clusters and burials. The

intensity of occupation was indicated by the numerous cases of intersecting features as a result of the site being occupied or reoccupied over time. This intensity of occupation created a situation where earlier patterns were obscured by later patterns, thus making the recognition of distinct activity areas less obvious than at 9Ck(DOT)7 (see Figure 10).

Despite this multiple intrusion of features, certain patterns are apparently salient. In Milanich's trench, there appear to be two areas, designated here as northern group and southern group, which display a clustering tendency. The northern group is composed of Features 8, 33, 34, 35, and 36, which together form a tight cluster of about eighteen intrusions within a ten by twenty-foot area. All of these features were bell-shaped pits with the exception of Feature 36 which was designated a hearth. The only other features within this cluster were a series of four postholes which formed an eight foot-wide arc.

The southern cluster was not obscured nearly so much by multiple intrusions and was much more loosely knit than the northern cluster. Within a roughly twenty by twenty-foot area were located eleven (possibly twelve) hearths, about ten pits (of which there were at least six bell-shaped and two silo-shaped), seven postholes (of which four, possibly six, formed a three-to-twelve foot-wide arc), and three human inhumations. Curiously the pits and hearths in this cluster appear to be distributed by feature type with pit groups being divided by hearth alignments.

Between these two clusters were a number of pits (ca. eight), with both bell- and silo-shaped represented, postholes (at least

thirteen with two arcs of three or four postholes each being present), rock clusters (three), and a burial, which did not form a definable cluster, but rather were evenly distributed within the 40 foot by 10-to-20 foot area.

Unlike 9Ck(DOT)7, Garfield exhibits burials, hearths, and rock clusters, and although features do appear to be distributed in distinct clusters, these clusters were different in feature-type composition. Similarities between the two sites include feature clustering, posthole arcs (as well as randomly occurring postholes), and silo- and bell-shaped pits. Basin-shaped pits are, however, missing at Garfield. Although no obvious enclosure was noted at Garfield, the posthole arc identified in the northern cluster disappears into the unexcavated balk, leaving the possibility of the alignment continuing.

Site 9Ck62, the Kellogg site, was situated on a natural rise at the confluence of the Etowah River and Kellogg Creek. The rise and prehistoric occupation were basically coextensive covering approximately 2.75 acres, of which 7550 square feet (0.17 acre or about six percent) were excavated. Caldwell's trench excavations bisected the site both north/south, for a distance of 300 feet, and east/west, for a distance of 160 feet. The concentration of subsurface remains extended north/south for the entire length of the trench, but only about 75 feet east/west.

Features identified at Kellogg included pits, hearths, and postholes. Of the 60 pits identified, only two were bell-shaped while the remainder, according to Caldwell, were silo- or barrel-shaped. A number of pits would fit a basin-shaped category being two-to-three

feet in diameter and only a few inches deep. Sides slope inward from the rim never forming a distinct separate base. Nevertheless, it should be noted that many features were not recognized until sterile subsoil was reached. At this point, only the basal portion of the pit remained and may thus resemble a basin-shaped pit. Caldwell's hearth category contained rock clusters and rock-lined shallow pits. Ten such features were identified. Postholes at Kellog seem to follow the general pattern of arcs and random scatters as displayed at Garfield and 9Ck(DOT)7. Caldwell also noted the presence of two human burials.

Reviewing the site plan for Kellog, the features appear to be distributed into four clusters (although it should be noted that only a very small portion of the site was actually excavated and that by long, narrow transects). Assuming that the distribution of features as displayed on the site plan represents an actual situation, the features may be grouped thusly. Cluster 1 was composed of those features exposed in Trench 6 at the south end of the site. These features were tightly concentrated within a 60 by 30 foot area. Approximately twenty-one features were included in this cluster though multiple overlapping intrusions most likely would add to this number. The features comprising this cluster include two hearths (Features 76 and 77), 18 silo-shaped pits, and four possibly basin-shaped pits. The two hearths were located adjacent one another in association with silo-shaped pits 62 and 79. The site plan indicates that another rock cluster may have existed on the western side of Feature 79. No postholes were noted or illustrated.

About 40 feet north of Cluster 1 in Trench 7 was the more loosely assembled Cluster 2. This cluster was at least 75 feet long

and 10 feet wide (the width of the trench) and was composed of at least 11 features. All features were silo-shaped pits and a cremated burial was found associated with Feature 89. No postholes or hearths were associated with this cluster which, based on pottery content, appeared to be pure Kellogg.

Cluster 3 was formed by a relatively tightly packed group of approximately 32 features in the western half of Trench 1. The cluster was about 70 feet east/west by about 10 feet north/south (the width of the excavation). These included four, possibly five, hearths, two bell-shaped pits, 19 silo-shaped pits, and six possible basin-shaped pits. The five rock cluster/hearths were generally adjacent pits and four were concentrated in an approximate 10x15 foot area with about nine pits. The fifth hearth was actually a rock filled/lined pit near the western end of the cluster.

According to the site plan, a number of postholes also occurred in this cluster. The postholes formed three separate arc-shaped alignments and were associated with a silo-shaped pit (Feature 18), a bell-shaped pit (Feature 8), and a basin-shaped pit filled with lithic debris (Feature 30).

Cluster 4 was contained within Sections 3 through 8 of Trench 4 in an approximate 75 foot-long (north/south) by 20 foot-wide area (the width of the excavation). The central feature of this cluster was a circular house pattern which Caldwell credited to the post Kellogg Cartersville Phase based on the predominance of Cartersville Check Stamped pottery over Kellogg ceramics within the confines of the structure and central fire basin.

Beyond the house structure were approximately twenty features including three root intrusions (Features 51, 52, and 53), two Cartersville Period pits, one possibly basin-shaped pit and fourteen silo-shaped pits. Based on pottery content, only two pits could be assigned to the Cartersville Period and these, along with the structure, appear to be the only strong evidence for the Cartersville occupation at the site.

One other area should be noted at 9Ck62. This was in Trench 5 about 20 feet east of Cluster 4 and 25 feet north of Cluster 3 where two silo-shaped and a possible basin-shaped pit were associated with a number of postholes in two, possibly three, intersecting arcs. These features were apparently isolated from all other features at the site.

Very little horizontal exposure was made at 9Br73 on Stamp Creek. All thirteen cultural features were located within a 10-by-100 foot trench excavation. Although it is difficult to determine from the written description in Caldwell's unpublished report (n.d.:55-60), there appeared to be three distinct feature groupings. Moving southwest from the creek bank, the first group (Cluster 1) was seven feet from the bank and was composed of a silo-shaped pit and hearth/rock cluster. Twenty-seven feet southwest of these were two other features, a posthole and basin-shaped pit (Cluster 2). Cluster 3 was located eleven feet further southwest and was composed of three hearths, two basin-shaped pits, and four silo-shaped pits, all apparently within an approximate ten by fifteen-foot area.

CHAPTER V

DATING

Introduction

Some of the controversy concerning regional and sub-regional chronological placement of the Kellogg Phase comes mainly from a lack of data or conflicting data at the time chronologies were being developed. In this chapter a number of existing sources will be combined with new data in order to present a more "updated", if not less confusing, relative chronology for the Early Woodland Period in northern Georgia. Of special interest is the apparent temporal hiatus between the Late Archaic Savannah River and Early Woodland Kellogg phases. Another questionable relationship includes the chronological placement of Mossy Oak Simple Stamped ceramics.

Absolute dating will be augmented by a series of recent dates from the Kellogg site. These, combined with previously existing dates, should provide a firm time frame for the Kellogg heartland. A chronological perspective of Kellogg and other Southeastern fabric marked ceramics phases will also be addressed.

Absolute Dating

Although radiocarbon dating was being developed at the time Caldwell was excavating at Kellogg Creek, no C-14 assays for a Kellogg component were analyzed until the early 1960s and 1970s when dates were reported from the Mahan site (Crane and Griffin 1963; Baker 1971) and Garfield site (Milanich 1973:504). Since that time dates

have been obtained from 9Ck(DOT)7 (Bowen 1982:113), the Cagle site (Crook 1984:31) and the Rush site (Wood and Ledbetter 1988), and for this study a series of assays were obtained from analyses of ethnobotanical remains excavated by Caldwell from the Kellogg site. Twenty dates have been recorded from these six sites (Table 11).

For the validity of these dates, it is necessary to examine their context and integrity by site where this is possible. The two dates from the Mahan site (540 B.C. and 630 B.C.) were processed at the Michigan laboratory. Baker (1971:116) gives the date and number, but no provenience, associated materials, or specimen type. The report in Radiocarbon (Crane and Griffin 1963:240), however, gives the following account:

M-1116 -- This date was run on charred pine wood obtained from the base of a refuse pit (Feature 20), which contained grit-tempered, limestone and sand-tempered sherds;

M-1117 -- This assay was run on charred hickory nut fragments near the base of Feature 25, a refuse pit containing limestone, sand and grit-tempered pottery.

From a purely technical standpoint, these dates would mark the initial onset of the Kellogg Phase occupation. It would be surprising if mixed cultural associations were not present in the context since the Mahan site is on the northern periphery of Kellogg site distribution. From the sherd descriptions, Watts Bar, Long Branch, and Dunlap sherds are represented in the dated features.

The two dates listed from the Garfield site were from a group of nine which Milanich (n.d.: TABLE 1) had analyzed. Of the other seven determinations, three were run on shell at the University of Michigan and produced rather early dates: ca. 3200 B.C. to 2600 B.C. (UM-445,

TABLE 11

RADIOCARBON DATES FOR KELLOGG COMPONENTS

SITE	DATE	PROVENIENCE	MATERIAL	SOURCE
Mahan	540 B.C. $\pm$ 100 (M-1117)	Feature 25	Charred Hickory Nuts	Crane and Griffin 1963
Mahan	630 B.C. $\pm$ 100 (M-1116)	Feature 20	Charred Pine wood	Crane and Griffin 1963
Garfield	*A.D. 100 $\pm$ 70 (UGA-246)	Unit 23B	Charcoal	Milanich 1973
Garfield	405 B.C. $\pm$ 60 (UGA-245)	Unit 23D	Charcoal	Milanich 1973
9CK(DOT)7	565 B.C. $\pm$ 75 (UGA-2392)	Feature 1	Charred Wood Nut Frags	Bowen 1982
9CK(DOT)7	470 B.C. $\pm$ 150 (UGA-2391)	Feature 2	Charred Wood Nut Frags	Bowen 1982
9CK(DOT)7	245 B.C. $\pm$ 120 (UGA-2389)	Feature 30	Charred Wood Nut Frags	Bowen 1982
9CK(DOT)7	*700 A.D. $\pm$ 75 (UGA-2393)	Feature 53	Charred Wood Nut Frags	Bowen 1982
Kellogg	*507 A.D. $\pm$ 110 (UGA-5542)	Feature 34	Charred Nut Shells	This Report
Kellogg	295 B.C. $\pm$ 200 (UGA-5543)	Feature 25	Charred Nut Shells	This Report
Kellogg	370 B.C. $\pm$ 100 (UGA-5544)	Features 39/45	Charred Nut Shells	This Report
Kellogg	455 B.C. $\pm$ 85 (UGA-5545)	Feature 47	Charred Nut Shells	This Report
Kellogg	200 B.C. $\pm$ 180 (UGA-5546)	Feature 55	Charred Nut Shells	This Report
Rush	510 B.C. $\pm$ 90 (B20177)	Feature 1	Charred Wood	Wood and Ledbetter 1988
Rush	480 B.C. $\pm$ 80 (B20178)	Feature 10	Charcoal	Wood and Ledbetter 1988
Rush	*1000 B.C. $\pm$ 90 (B20179)	Feature 27	Charcoal	Wood and Ledbetter 1988
Rush	480 B.C. $\pm$ 50 (B20181)	Feature 29	Charcoal	Wood and Ledbetter 1988
Rush	480 B.C. $\pm$ 80 (B20535)	Feature 33	Charcoal	Wood and Ledbetter 1988
Rush	660 B.C. $\pm$ 100 (B20536)	Level IV	?	Wood and Ledbetter 1988
Cagle	600 B.C. $\pm$ 60 (B-4352)	Stratum D	Charred Wood	Crook 1984

*Dates deleted from analyses

446, 447). Four dates, including one shell specimen, were run from Feature 34 which was obviously disturbed. These dates, run on maize and nut shell charcoal (with the exception of the aforementioned shell date), were relatively recent: UM-448 = 755 ± 86 A.D., UM-449 = 430 ± 153 A.D., UGA-525 = 1015 ± 60 A.D., and UGA-526 = 735 ± 70 A.D., and reflect the intrusion of a later pit.

The only dates which Milanich felt confident of came from Level B (upper) and Level D (lower) of Square Unit 23. The date from Level B (A.D. 100) obviously reflects a later time period or intrusion from the surface and can be discounted as representative of Kellogg (Jerald T. Milanich, personal communication). The date of 405 B.C. (UGA-245), however, comes from the lower midden zone and should accurately date the initial occupation of the site.

Three Early Woodland dates from 9Ck(DOT)7 were all processed on wood and nut shell charcoal and came from sealed, undisturbed contexts. The date of 565 B.C. was obtained from a large bell-shaped storage pit in the northern pit cluster and the 470 B.C. date was obtained from a large silo-shaped storage facility in the same cluster. The later date of 245 B.C. was obtained from a basin/silo-shaped storage pit in the southern cluster. From a purely technical standpoint of feature integrity and context, these dates should provide accurate temporal indicators for the Kellogg occupation at 9Ck(DOT)7. A fourth date of 700 A.D. was clearly associated with a minor Middle Woodland Swift Creek component.

The five dates obtained from the Kellogg type-site at the confluence of the Etowah River and Kellogg Creek were processed on

charred macro-ethnobotanical samples collected by Caldwell (n.d.) during his excavations there in 1949. From a strictly time perspective, four of the dates appear to be within the Kellogg time range, while the date obtained from Feature 34 (507 A.D.) is much too recent to accurately date the Kellogg occupation. Feature content and type place this feature securely within the Kellogg Phase and there is no mention of disturbance to or intrusion of the feature in any of the excavation records. The reason for this aberrant date then, whether it resulted from miss-identification, sample mixture, or laboratory snafu, is not known, but it is definitely not reflective of the Kellogg occupation. For this reason, it has been deleted from further study.

The other four dates come from typical Kellogg storage facilities--large silo-shaped pits. Content and form would place each of these in the Kellogg Phase, although, in addition to fabric marked pottery, Features 25 and 47 contained one check stamped sherd each and Feature 45 contained two simple stamped sherds. The main drawback of this series of dates is that all samples, except that of Feature 25, were drawn from features in pit Cluster 4. As this was also the part of the site with the heaviest Cartersville influence, these dates most likely demonstrate the latter end of the Kellogg occupation at 9Ck62. Based on feature content alone, the earliest occupation may have been associated with pit Cluster 1 at the southern end of the site. It is unfortunate that no datable samples were collected here.

Seven carbon dates were obtained from the Rush site (Wood and Ledbetter 1988:135-136), located in the Ridge and Valley Province and the most western site for which we have absolute dates. Two dates,

B-20179 (1000 B.C.) and B-22834 (A.D. 660), are too early and too late respectively, and are not included in further analyses. The 1000 B.C. date comes from Feature 27, an oval-shaped, shallow basin with charcoal and fire-cracked rocks. Cultural contents included Dunlap, Long Branch, and Cartersville Simple Stamped ceramics (Wood and Ledbetter 1988:62). The date far exceeds in antiquity, by at least 300 to 400 years, any other dates associated with these three pottery types. The date of A.D. 660 was run on a small charred maize cupule recovered from Level II of Square 1 in the first excavation unit. Wood and Ledbetter (1988:35) feel that this date confirms the Middle Woodland Cartersville occupation at the site.

The five dates considered to date the Kellogg occupation at Rush are significant by their consistency. The date of 660 B.C. was obtained on charcoal taken from the base of Level IV, the deepest cultural deposit excavated at the site. A date of 510 B.C. was obtained for a charcoal sample from Feature 1, a shallow basin with fire-cracked rock (Wood and Ledbetter 1988:49 and 53). Ceramic contents included primarily Long Branch ceramics and a single Dunlap sherd. Three dates of 480 B.C. were obtained. Feature 10, a large, deep, oval pit contained about twice as many Dunlap as Long Branch sherds. Feature 29, a flat-bottomed, steep-sided basin with fire-cracked rock contained five Long Branch and one Dunlap sherd. Feature 33, a shallow basin with much fire-cracked rock, contained seven Dunlap and one Long Branch sherd.

In all respects, these dates appear to be acceptable for the Kellogg occupation. Silo-shaped pits and rock-filled hearths are

common Kellogg features at other sites, and although Long Branch ceramics constitute a considerable percentage of the fabric marked pottery at Rush, Dunlap still predominates (63 percent to 34 percent). From this perspective, Rush appears to be a Kellogg occupation with Long Branch influence.

A final date comes from the Cagle site, situated along the Etowah River in the Piedmont Province and the most easterly of sites for which we have absolute dating. A date of 600 B.C. was obtained from charred wood fragments recovered from the midden, designated Stratum D. From a test trench excavation, of 65 sherds recovered from the zone identifiable as to type, about 31 percent were Dunlap. A considerable amount of Early Mississippian pottery (Woodstock--ca. 51 percent) also came from this level, but the date obviously dates the Early Woodland occupation. Data from random test pits at the site were more definitive, with Dunlap comprising 50 percent of all pottery from Stratum D and over 80 percent of identifiable types from this zone (Crook 1984:13).

The 16 radiocarbon dates appear to be acceptable indicators for the Kellogg occupation of north central Georgia. These dates are reflective of both Ridge and Valley (Garfield and Rush) and Piedmont (Kellogg and Cagle) occupations and habitations on the mainstream (Garfield, Rush, Cagle, and Kellogg) and tributaries (Mahan and 9CK(DOT)7). Including the sigma's these dates range from 20 B.C. to 760 B.C.

Date ranges for each site are as follows:

Mahan	(2 dates)/440 B.C.-730 B.C. (Median date = 588 B.C.)
Garfield	(1 date) /345 B.C.-465 B.C. (Median date = 405 B.C.)
9Ck(DOT)7	(3 dates)/125 B.C.-640 B.C. (Median date = 382.5 B.C.)
Kellogg	(4 dates)/ 20 B.C.-540 B.C. (Median date = 280 B.C.)
Rush	(5 dates)/400 B.C.-760 B.C. (Median date = 580 B.C.)
Cagle	(1 date) /540 B.C.-660 B.C. (Median date = 600 B.C.)

Because the number of dates per site ranges from one to five, any estimation as to which site was occupied longest and which the shortest would have to be tenuous at best. Based on the information available, though, it could be said that 9Ck(DOT)7 (515 years) and Kellogg (520 years) were the longest occupied sites, followed by Rush (360 years) and Mahan (290 years). Perhaps the best indicators of temporal longevity are 9Ck(DOT)7, Kellogg, and Rush where three, four, and five dates are available, respectively.

In order to determine a temporal progression of the intensity of Kellogg occupation through time, all dates and sigma's were arranged in descending chronological order on a time scale (Figure 29). Dates were then quantified at fifty-year intervals beginning at 750 B.C. and ending at 50 B.C. Frequency of occurrence ranged from one at the two extremes to ten at 450 B.C. Five of the six sites were apparently occupied at 450 B.C., while four were occupied in 400 B.C., 500 B.C., 550 B.C. and 600 B.C. Three sites were occupied in 350 B.C. and 650 B.C., two in 700 B.C., 300 B.C., 250 B.C., and 150 B.C. and only one site was possibly occupied in 750 B.C., 100 B.C., and 50 B.C.

Quantification of these data show that almost seventy-five percent of the temporal span of the Kellogg Culture occurred between 300 B.C. and 600 B.C. and over ninety percent of the phase's time span occupied the period between 150 B.C. and 650 B.C.

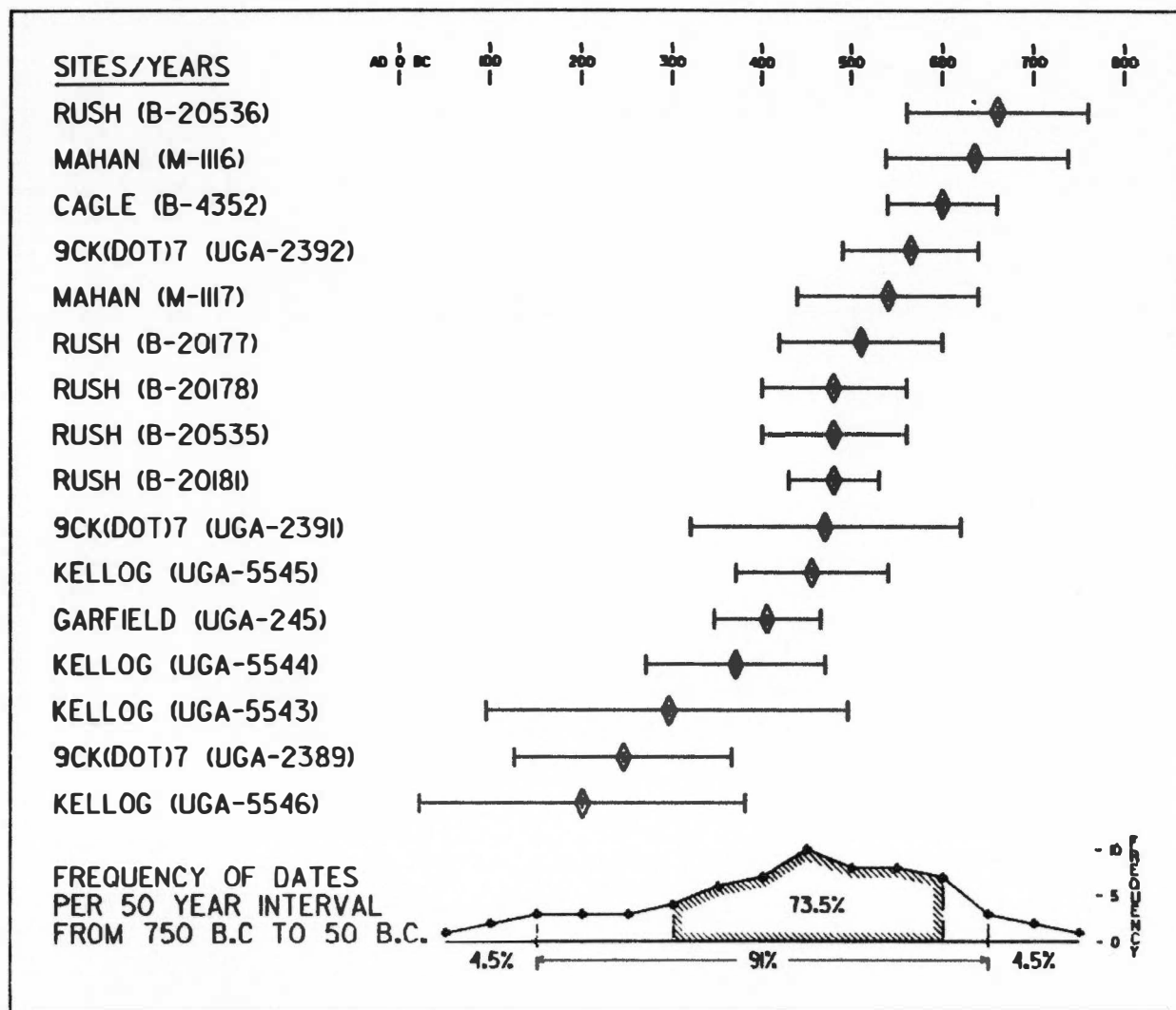


Figure 29. Chronological Scale of C-14 Dates for Kellogg Components.

Relative Dating

The earliest dated pottery in eastern North America is a fibre tempered ware which is generally associated with the Late Archaic Savannah River Phase of the Georgia Coast and Savannah River drainage (St. Simon's and Stalling's Series), the Orange Series of the St. Johns Region of northeast Florida, and the Wheeler Series of northern Alabama. Caldwell (n.d.:149) has noted that while this pottery does occur in interior northern Georgia, the small numbers and scattered occurrence of the type demonstrate no intensive use during this time period. Wauchope (1966:231) noted, upon reporting the occurrence of one fibre tempered sherd at the Walt Jones Farm site along the Etowah River in Bartow County, that it represented the only such sherd recovered during his survey in northern Georgia. Also, it should be noted that despite a buried, extensive Late Archaic Savannah River component at the Cagle site, only two Stalling's Island Plain sherds were recovered here, and these from the plow zone (Crook 1984:32).

In order to look for stratigraphic relations between fibre tempered and Dunlap ceramics, it is necessary to look somewhere other than north central Georgia. The best evidence for the stratigraphic co-occurrence of the two types is found on the lower Chattahoochee River in the Jim Woodruff Reservoir in southwest Georgia, north Florida and southeast Alabama; the middle Chattahoochee River in the southern Piedmont just north of Columbus; and the Russell Reservoir along the upper Savannah River.

In Stewart County, in the Coastal Plain of southwest Georgia, Kelley, et al. (n.d.:20) report the occurrence of both fabric marked

and fibre tempered wares in stratigraphic context at 9Sw34. The vertical distributions of these types do not clearly demonstrate their separation. The fabric marked ware reflects a bimodal distribution in the 3.5 foot vertical column peaking once at the 2.5 to 3.0 foot level and again, and most demonstrably, at the 0.5 to 1.0 foot level. The fibre tempered ware, on the other hand, displays a unimodal distribution peaking at the 1.0 to 1.5 foot level (Table 12 and Figure 30).

TABLE 12
FABRIC MARKED/FIBRE TEMPERED
POTTERY DISTRIBUTIONS:
9Sw34

TYPE	LEVEL						
	0.0-0.5 #/%	0.5-1.0 #/%	1.0-1.5 #/%	1.5-2.0 #/%	2.0-2.5 #/%	2.5-3.0 #/%	3.0-3.5 #/%
Fabric	4/.14	7/.25	6/.21	3/.11	2/.07	4/.14	2/.07
Fiber	1/.01	26/.26	31/.31	18/.18	12/.12	10/.10	1/.01

On the Florida side of the Chattahoochee River in Jackson County, Bullen (1958:324-325) identified the Late Archaic fibre tempered pottery type Orange Plain in stratigraphic association with Dunlap Fabric Marked. Both types occur in small numbers (Orange = 8 and Dunlap = 7) and in virtually the same frequency for each of the two arbitrary four-inch levels yielding these two types. Later Middle and Late Woodland ceramics also occur in these two levels.

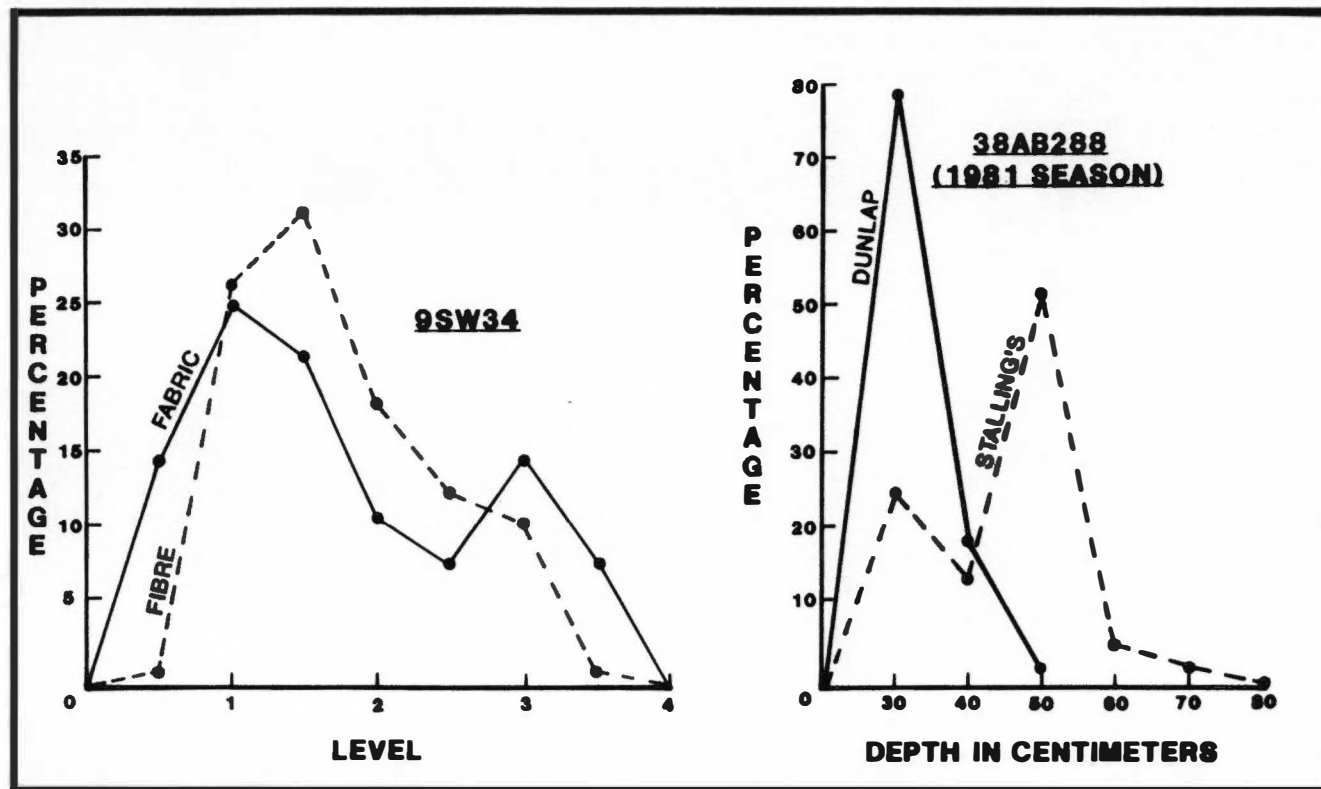


Figure 30. Distribution of Fabric Marked/Dunlap and Fibre Tempered/Stalling's Ceramics from 9SW34 and 38AB288.

At the Shorter site (1Br15) in Barbour County, Alabama, DeJarnette (1975:98 and 104-105) illustrates small numbers of Dunlap sherds present in the bottom five of the eight four-inch arbitrary excavation levels and fibre tempered (Stalling's) ware, also in small numbers, in the fifth, sixth, and seventh levels of the village area of the site. In the excavation of the Mississippian substructure mound at the site, Dunlap sherds were recovered from the pre-mound, primary mound, and tertiary mound stages, while Stalling's Plain and Punctate were noted only in the tertiary mound.

Also in the Walter F. George Reservoir in Quitman County, Georgia, Mistovich and Knight (1986) discovered contradictory data at one site--9Qu58. At three separate units within two trench excavations, Dunlap ceramics were recovered stratigraphically both below and above fibre tempered ware, but not with it (Table 13).

TABLE 13
FABRIC MARKED/FIBRE TEMPERED
POTTERY DISTRIBUTIONS:
9Qu58

	Trench A/Unit 1 Level 3 4 5 6				Trench A/Unit 3 Level 2 3 4				Trench B/Unit 1 Level 5 6 7			
Fabric Marked	2	-	-	-	-	-	1		1	-	1	
Fibre Tempered	-	-	3	1	3	-	-		-	1	-	

At the Mandeville site (9Clal) in Clay County, Georgia, Dunlap and fibre tempered wares occurred together in the premound occupation

(layer I) beneath Mound A. Fibre tempered ware is also illustrated as occurring in later mound layers III and IV (Kellar, Kelly, and McMichael 1962).

In the Oliver Basin, Muscogee County, Georgia, and Lee County, Alabama, McMichael and Kellar (1960) report several instances where fabric marked and fibre tempered wares occur stratigraphically. At 1Le7 only nine sherds of each type are reported. Fibre tempered wares occur in the bottom four levels (36 inches through 12 inches) while the fabric marked sherds do not appear until the 18 to 24 inch level and extend upward until the 6-to-12 inch level (Kellar 1960:Figure 4). At 9Me205 sixty-three fibre tempered sherds were recovered, but only six fabric marked sherds. Both types occur more frequently in the bottom of four levels and decrease in frequency towards the top. While fibre tempered occurs in all four levels, fabric marked occurs only in the bottom three.

Other sites at Oliver Basin contain fibre tempered and fabric marked wares, but in such abbreviated numbers so as not to suggest any stratigraphic separation. Further, it is curious to note that other than 1Le7, the two types either occur in very different frequencies or do not occur together at all.

In the Russell Reservoir of eastern Georgia and western South Carolina, the two pottery types co-occurred in only one excavation unit at 9Eb219 (Campbell and Weed 1984:120, 125). In unit N360/E510 two Dunlap sherds were recovered in level one and four in level two while a single Stalling's Punctate sherd was found in level two. At the Gregg Shoals site (9Eb259) in Elbert County, Georgia, Tippitt and Marquardt

(1984:7-16) report the occurrence of Dunlap in levels two (two sherds) and four (six sherds) of their excavations and plain fibre tempered ware only in level six (eight sherds).

Anderson and Schuldenrein (1985) report the co-occurrence of Dunlap and Stalling's sherds at five other sites within the Russell Reservoir area. At 9Eb75 (p. 105) a single Stalling's Punctate sherd and a single fabric impressed sherd were recovered from undisclosed strata. At 9Eb76 four fabric impressed sherds were recovered only from deposits less than 30cm in depth, while a single Stalling's Drag and Jab sherd was from a depth greater than 30cm (p. 162).

At 38An288 in Anderson County, South Carolina, stratigraphic associations for Dunlap and Stalling's were from results of the 1980 and 1981 excavations. In 1980, five Dunlap sherds were recovered from depths of 30, 45, and 60cms and 37 fibre tempered sherds from 35, 40, 45, 50, 55 and 65cm levels (Table 14). The Dunlap sherds show a unimodal peak at 45cm, while the Stalling's sherds display tri-modal peaking at 34, 45, and 55cms.

The 1981 excavations at 38Ab288 recovered 102 Stalling's and 33 Dunlap sherds in stratigraphic context (Table 15). All Dunlap sherds were contained in the top 50cm decreasing in number with depth. Ninety percent of the Stalling's sherds were also located in the top 50cms, but with greater frequencies toward the bottom (see Figure 30).

Anderson and Schuldenrein's (1985:220) reporting of Professional Analyst's 1981 testing at 38Ab91 revealed two Dunlap sherds at 45cm and two Stalling's sherds at 70cm. At 9Eb91 only 28 Stalling's sherds were recovered as opposed to over 600 Dunlap sherds. Because the

TABLE 14

FIBRE TEMPERED AND FABRIC MARKED
POTTERY DISTRIBUTIONS:
38Ab288 (1980 EXCAVATIONS)

<u>TYPE</u>	<u>LEVELS (CMS)</u>									
	10	20	30	35	40	45	50	55	60	65
Dunlap	-	-	1	-	-	3	-	-	1	-
Stallings	-	-	-	8	2	12	4	10	-	1

TABLE 15

FIBRE TEMPERED AND FABRIC MARKED
POTTERY DISTRIBUTIONS:
38Ab288 (1981 EXCAVATIONS)

<u>TYPE</u>	<u>LEVELS (CMS)</u>					
	0-30	30-40	40-50	50-60	60-70	70-80
Dunlap	26	6	1	-	-	-
Stallings	26	13	53	6	3	1

abbreviated number of Stalling's sherds were not included in the depth frequency tables, no comparisons are possible.

In central Georgia at the Ocmulgee site, Fairbanks (1956:36, 90) reported the recovery of both Dunlap and Stalling's sherds from the "Old Road Survey" tests. The results show a very close stratigraphic co-occurrence between the two types. The 74 Dunlap and 61 Stalling's sherds were restricted to the uppermost three of the four six-inch arbitrary levels excavated. The Dunlap sherds occurred in numbers and percentages from top to bottom at Level I:28/38; Level II:17/23; and Level III:29/39, while Stalling's occurred at Level I:31/51; Level II:16/26; and Level III:14/23. This profile shows a dominance of Dunlap in the lower levels and a dominance of Stalling's in the upper levels.

As a final note, at the Stalling's Island site, Claflin (1931:17-19) apparently recognized the stratigraphic separation of types as he categorized the fabric impressed sherds in a group termed "later pottery" and noted their presence near the surface.

In reviewing the relatively meager data of Dunlap/fibre tempered co-occurrence, several points should be noted. First, is the small number of sites at which both types occur. This, of course, is most likely due to the near coextensive distribution of Dunlap sherds with the Piedmont and fibre tempered (Stalling's) with the Coastal Plain. Second, when they do occur together the frequencies are usually small. Third, the vertical distributions appear to be relatively coextensive. Fourth, there may be a situation of mutual exclusion as the types appear to occur more frequently at different sites than at the same sites.

A case in point would be Oliver Basin in west central Georgia and east central Alabama. Seventeen sites were recorded which contained fabric marked and fibre tempered sherds. Of these, six (ca. 35 percent) contained only fabric marked, three (ca. 18 percent) contained only fibre tempered, and eight (ca. 47 percent) contained both (Table 16).

From Table 16, in fifty-three percent of the cases, fabric and fibre tempered wares occur separately, while in forty-seven cases they co-occur. Two points should be made, or rather emphasized, concerning this co-occurrence. First is that fabric marked never occurred in high frequencies relative to fibre tempered. Indeed, with the exception of 9Me8, where 48 fabric marked sherds were recovered, fabric marked was never represented by more than nine sherds at any one site and averaged only about six sherds per site at the fourteen sites where it occurred. Second, was the frequency dominance of fibre tempered over fabric marked at the four sites where they do occur together with any frequency. In these cases, fibre tempered out-numbered fabric marked from about 10-to-1 to 68-to-1.

Returning to northern Georgia, the ceramic sequence for the Etowah River drainage and northwest Georgia in general was determined by Wauchope during his initial survey (Wauchope 1948). The relative chronological position of Dunlap Fabric Marked, and thus the Kellogg Phase, was established at Two Run Creek and was confirmed by Caldwell's excavations at Allatoona as well as later studies. In the village area of Two Run Creek, Wauchope reported that the lowest stratum contained 98.0 percent fabric impressed pottery, with Mossy Oak Simple Stamped comprising the other 2.0 percent (Wauchope 1948:201).

TABLE 16

OLIVER BASIN FABRIC/FIBRE FREQUENCIES

<u>SITE</u>	<u>FABRIC</u>			<u>FIBRE</u>			<u>TOTAL</u>
	#	% R	% C	#	% R	% C	
1Le10	1	100	.01	-	0	0	1
1Le19	1	100	.01	-	0	0	1
9Me10	1	100	.01	-	0	0	1
9Me207	1	100	.01	-	0	0	1
9Me209	2	100	.02	-	0	0	2
9Me8	48	100	.58	-	0	0	48
1Le11	-	0	0	14	100	.06	14
9Me206	-	0	0	X	-	-	-
9Me214	-	0	0	4	100	.02	4
1Le1	1	.01	.01	68	.99	.29	69
1Le5	4	.57	.05	3	.43	.01	7
1Le7	9	.50	.11	9	.50	.04	18
1Le8	3	.75	.04	1	.25	-	4
1Le16	3	.08	.04	35	.92	.15	38
1Le17	1	.03	.01	29	.97	.13	30
1Le21	2	.29	.02	5	.71	.02	7
9Me205	6	.09	.07	63	.91	.27	69
TOTAL	83	-	.99	231	-	.99	314

X = No frequency given

- = No sherds of this type represented

R = Row

C = Column

In the next highest stratum, fabric impressed decreased to 69.9 percent, Mossy Oak increased to 9.7 percent and Cartersville Check Stamped appeared with 16.8 percent. In the plow zone fabric marked comprised 46.8 percent, Mossy Oak 8.5 percent and Cartersville Check Stamped 42.6 percent (p. 201). Wauchope noted the absence of Cartersville Simple Stamped at Two Run Creek, but clearly distinguished it from Mossy Oak (p. 202).

At 9Br73 on Stamp Creek in the Allatoona Reservoir, Caldwell (n.d.:55-62) confirmed and extended Wauchope's findings, demonstrating the stratigraphic separation of these types. In the lowest level Caldwell states that only Dunlap Fabric Marked and a plain ware (which he identified as Dunlap Plain) were present. This he characterized as representing the Kellogg Phase. Higher in the deposit only check stamped, fabric marked, and plain types were recovered (termed Post-Kellogg by Caldwell), and still higher Cartersville Simple Stamped was added to the sequence.

Caldwell's thoughts on period designations changed somewhat over time. In his report on the Booger Bottom site in the Buford Reservoir (9H164), he refers back to a pure Cartersville Check Stamped zone at 9Br73 as representing the Forsyth Period (as defined at 9H164) and the overlying zone, containing both check and simple stamped sherds, as representing the Cartersville Period (Caldwell, et al. 1952:326).

Whatever the designation may be, the work at 9H164 definitely establishes the temporal precedence of Cartersville Check Stamped over Cartersville Simple Stamped. Fairbanks (1954:24) reports that Cartersville Check Stamped is the dominant type at the site and that

its frequency shows no significant change from the bottom-most levels to the top. Cartersville Simple Stamped, however, is shown to be absent from the lowest levels, but it increases in frequency towards the top.

Morse and Morse (1960) present data possibly contradictory to this established sequence from the Williams site (9Go507) in Gordon County, Georgia. Citing information from this site as well as the Mahan site (9Go256), also in Gordon County, and the Murphy site (9Pi103) in neighboring Pickens County, the Morses' suggest that simple stamping followed fabric marking, but preceded check stamping, in the pottery sequence. Since simple stamping was not distinguished between Mossy Oak and Cartersville, the sequence may actually be similar to that which Wauchope found at Two Run Creek; namely, the simple stamped ware immediately following Dunlap is Mossy Oak, not Cartersville. If this is the case, the Morses' data would confirm the previously established sequence.

Other sites have also been excavated which demonstrate, to varying degrees, the relative stratigraphic/chronologic placement of Dunlap ceramics. While most of the examples have yielded sherd counts too small for use in reliable stratigraphic separations, one site is worthy of note based on its high percentage of Mossy Oak ceramics. At the Lewis Sam's Bridge site, located on the Etowah River in Bartow County just west of the Allatoona Dam, McCluskey (1976) recovered 21,278 pottery sherds--19,853 of which were from stratigraphic context. The three Early Woodland stamped wares identified were Dunlap Fabric Marked (0.2 percent of the total sherd count), Mossy Oak Simple Stamped

(32 percent), and Cartersville Check Stamped (12 percent). While McCluskey states that "no clear vertical patterning was discernible" for the recovered sherds, a tabular inspection of the within and between type percentages lead to one significant suggestion. Based on the extreme minority of Dunlap ceramics and the co-occurrence of Cartersville ceramics with Mossy Oak ceramics, there appears to be contemporaneity between these two types, thus placing Mossy Oak somewhat later than Dunlap. Furthermore, the gradual increase in Mossy Oak ceramics from bottom to top coupled with the gradual decrease in Cartersville indicate a possible temporal precedence of Cartersville over Mossy Oak.

The stratigraphic profiles for the Kellog site and Garfield site are comparatively poor. Though both sites contained extensive middens, the plethora of subsurface intrusions throughout these deposits left few undisturbed stratigraphic columns. In cases where these columns were preserved, it was usually in those areas of the site which were not extensively occupied and thus only a small, possibly non-representative ceramic sample was recovered. At Kellog, Caldwell reports stratigraphic profiles for Section 8 of Trench 4 and Section 2 of Trench 3 (Figure 31). Trench 4, Section 8 indicated a decrease in Dunlap ceramics from bottom to top, while Cartersville Check Stamped increased, then decreased in frequency, although still remaining the dominant type. Cartersville Simple Stamped increased throughout the sequence.

Dunlap and Cartersville Check Stamped were the only decorated types represented in the Trench 3, Section 2 profile. Here Dunlap

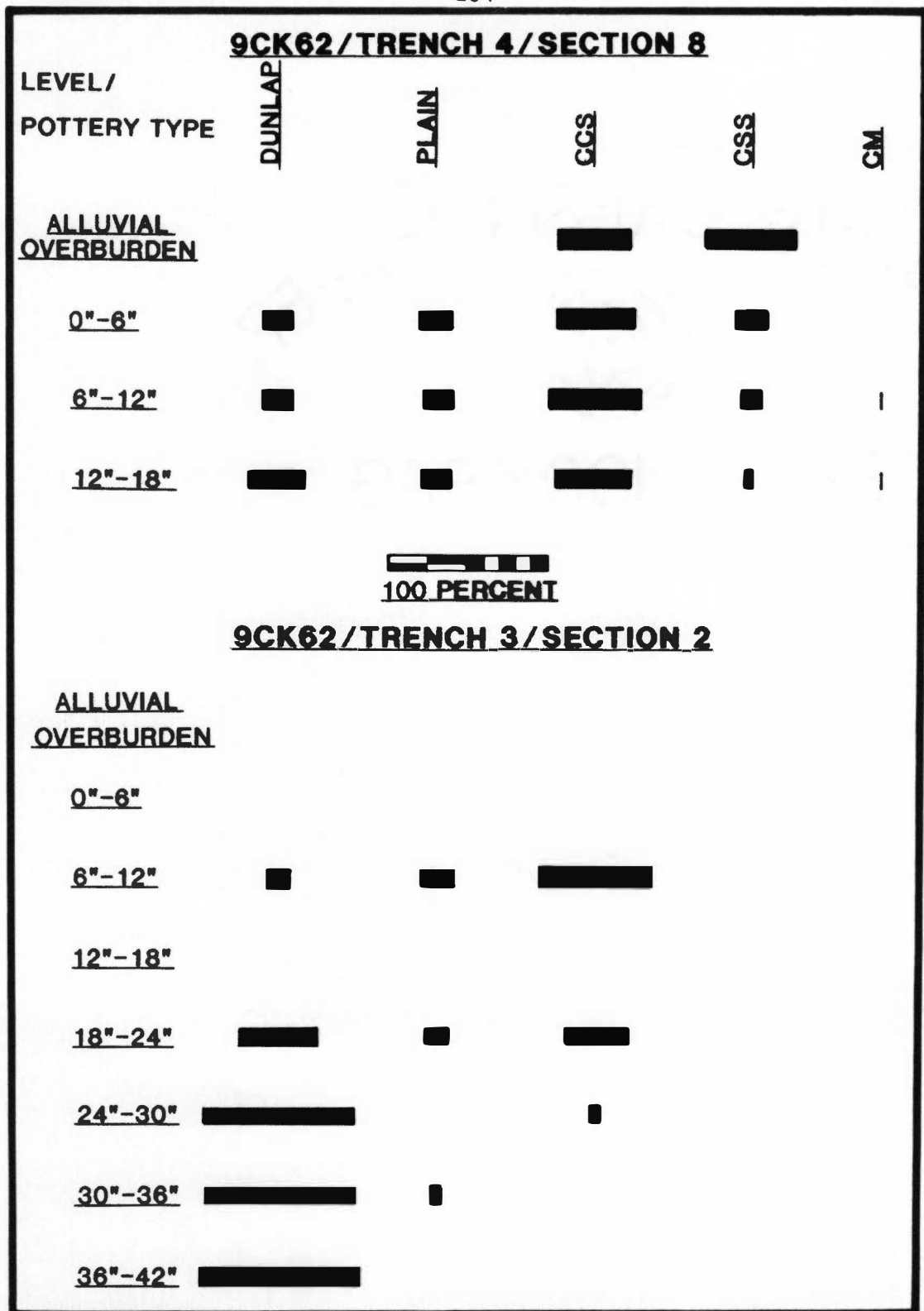


Figure 31. Pottery Distributions from Trench 4/Section 8 and Trench 3/Section 2 of 9CK62.

decreased from an exclusive 100 percent representation in the bottom level to ten percent in the upper level. Cartersville, on the other hand, moved from a five percent representation in the middle levels to 70 percent in the upper level. This again clearly confirms Wauchope's Two Run Creek findings.

There are no well defined stratigraphic columns at Garfield. The only column which allowed stratigraphic separation was Unit 480N565E (Figure 32). This unit demonstrated the predominance of Dunlap throughout the profile with a small percentage of Cartersville Check Stamped also occurring from bottom to top. Of added interest is the presence of Watts Bar and Long Branch Fabric Marked types. The small frequencies indicate Long Branch increased from bottom to top and persisted beyond Watts Bar.

Chronological Placement of Fabric Marked Pottery Types in the Southeast

Fabric impressed pottery is associated with the Early Woodland time period throughout the southeastern and mid-western United States. In addition to Dunlap from Georgia and western South Carolina, similar wares come from Mississippi (Saltillo), Illinois (Baumer), eastern North Carolina (Deep Creek), western North Carolina and northeast Tennessee (Swannanoa), and eastern Tennessee and northwest Alabama (Long Branch and Watts Bar). Of special interest to the study of Kellogg are the last three types mentioned on the basis of their geographical proximity to and co-occurrence with Dunlap.

9BR99							
480N565E							
LEVEL/ POTTERY TYPE	DUNLAP	CCS	CSS	WB	LB	MO	CM
0"-6"	████████	■			■		
6"-12"	████████			■	■		
12"-18"	████████	■	■	■	■		■
18"-24"	████████	■		■	■		
* CCS=CARTERSVILLE CHECK STAMPED WB=WATTS BAR MO=MOSSY OAK CSS=CARTERSVILLE SIMPLE STAMPED LB=LONG BRANCH CM=CORD MARKED							

Figure 32. Pottery Distributions from Unit 480N565E at Garfield.

In a previous publication, I addressed the relative chronological placement of these wares/cultures (Bowen 1982:99-100). At that time, I compared radiocarbon dates for Watts Bar in eastern Tennessee (Lewis and Kneberg 1957:48; Faulkner and Graham 1965:84, 1966:113-114; McCollough and Faulkner 1973:78; Salo 1969:179; Schroedl 1978) and northeast Alabama (Griffin 1974:101) with known Kellogg dates and determined that Kellogg must have preceded and coexisted with Watts Bar. Citing earlier studies (cf. Kneberg 1961:6; McCollough and Faulkner 1978:93), I also pointed to the temporal precedence of Watts Bar over Long Branch. Since that time, I have become aware of additional dates for Long Branch and Watts Bar (cf. Lafferty 1978:143, 1981:492; Keel 1978:105, 136; Schroedl 1978:191) as well as some significant contextual associations (cf. Wood and Ledbetter 1988; Lafferty 1981).

An examination of the pottery assemblage from the Kellogg site shows Watts Bar occurring as a minority type in approximately one-half of the excavated features (28 of 60). No limestone tempered wares were present at Kellogg. Approximately 105 Watts Bar sherds were recovered from the various features at Kellogg: twelve features contained 61 sherds (nine silo, one basin, one rock cluster and one hearth) in Cluster 3; one feature contained one sherd in Cluster 2 (a cremation); four features contained six sherds from Cluster 4 (one basin, one root and one silo), and eleven features contained 37 sherds from Cluster 1 (ten silo and one basin). The type is distributed into two spatially separated feature clusters and has correlation with silo-shaped pits.

Watts Bar and Long Branch both occur as minority types throughout the Garfield excavation units. Long Branch occurs in very abbreviated numbers and is confined to the general midden. Watts Bar appears not only in greater numbers throughout the midden, but also in 26 of the 37 features--in eight of thirteen hearths, in all 17 storage pits, and in one of five numbered postholes. None occurred in the two numbered rock piles. While most of these features contained five or fewer sherds (19 features), several contained substantial frequencies, if still comprising a minority. By far the most common and tightly concentrated occurrence of the type was within the multiple pit cluster (Features 8, 33, 34 and 35) at the northern end of the excavations. Feature 19 (a burial/hearth) and Feature 22 (a bell-shaped pit) provide the exceptions in the southern cluster.

Perhaps the best example of Dunlap/Long Branch co-occurrence comes from recent excavations at the Rush site. Working under a data recovery contract with the Georgia Department of Transportation, Southeastern Archaeological Services, Inc. excavated a portion of an Early Woodland village located along a natural levee of the Etowah River in the Ridge and Valley physiographic province. Here Wood and Ledbetter (1988:78) reported the statistically tested stratigraphic similarity between Dunlap and Long Branch from contexts which yielded a large sample of each type.

Other sites demonstrating the co-occurrence of Dunlap, Watts Bar and Long Branch are the Mahan site (9Go256), KC9Pi1, and the Swancy site. At the Mahan site on Salacoa Creek in Gordon County, grit, limestone and sand tempered fabric impressed sherds were found to

co-occur in six features, grit and limestone tempered in one, and grit alone in two. Based on ceramic frequency these features were divided into two components.

Component A is composed of between 75 and 95% grit-tempered Fabric-Imprinted sherds, with other-tempered [sand and limestone] Fabric-Imprinted sherds being less than or about the same percentage as the Simple Stamped representation, which is 8 to 15% of the total collection. . . . Component B has a high percentage of grit-tempered Fabric-Imprinted sherds, varying around 50 to 60% of the total The bulk of the other sherds are limestone-tempered and sand-tempered Fabric-Imprinted specimens (Morse and Morse 1960:93-95).

At KC9P11 and Swancy the co-occurrence of Watts Bar (and Swannanoa), Long Branch and Dunlap were noted in stratigraphic contexts. A few Long Branch sherds were recovered in association with Dunlap in a buried midden at KC9P11 along East Branch of Long Swamp Creek in Pickens County (Smith 1981). At Swancy, Swannanoa and Watts Bar ceramics were not differentiated and were found to occur alone in midden contexts at levels deeper than Long Branch and Dunlap. The three types also were found together in upper levels (Garrow et al., 1987:14-20).

A final example of the co-occurrence of types is found beyond the Kellogg area at the Phipps Bend complex along the Holston River in northeast Tennessee. While Watts Bar is almost non-existent at the site, Dunlap, Long Branch and Swannanoa are well represented. Stratigraphic profiles illustrate the relative temporal precedence and co-occurrence of quartzite tempered over sand tempered and sand tempered over limestone tempered (Lafferty 1981:469-476).

Long Branch Fabric Marked pottery is not represented in the earliest levels. It starts somewhere around

Level 7 or 6, when it first appears in the archaeological record. . . . In general, starting with Level 7 this type increases in density throughout the sequence of the site. Dunlap Fabric Marked is generally unrepresented in the lower levels, and increases in quantity in the archaeological column just before Long Branch Fabric Marked; peaks in Level 4 or 3, and thereafter decreases in popularity. . . . Swannanoa is generally represented throughout the archaeological sequence. This ceramic type appears earliest in the archaeological record and increases in popularity until Level 7 or 6 and then decreases in popularity (p. 476).

Radiocarbon dating also provides definitive data concerning the chronological relationships of the fabric marked ceramics. In Table 17 radiocarbon assays are given for Swannanoa, Long Branch and Watts Bar. The validity of these dates is based upon the published evaluations discussing each. The ten Long Branch dates (from six sites) have a mean range of 100 B.C. to 560 B.C. with an overall mean of 367 B.C. These Long Branch dates represent the earlier portion of the phase. There are also a series of Long Branch dates which clearly represent a later occupation. These include dates of A.D. 10 from Camp Creek, A.D. 250, A.D. 290, A.D. 475, and A.D. 640 from Higgs, and A.D. 140 from Patrick (Kneberg 1961; McCollough and Faulkner 1973; Schroedl 1978). Though not the topic of discussion here, Long Branch would appear to have an earlier sub-phase fixed in the fourth century B.C. and a later sub-phase centered around A.D. 300. The five Watts Bar dates (from three sites) have a mean range of 400 B.C. to 675 B.C. and an overall mean of 528 B.C. The five Swannanoa dates (from two sites) have a mean range of 990 B.C. to 600 B.C. with an overall mean of 816 B.C. It will be recalled that the 16 accepted Kellogg dates (from six sites) have a mean range of 200 B.C. to 660 B.C. with an overall mean of 462 B.C.

TABLE 17

C-14 DETERMINATIONS:
LONG BRANCH/WATTS BAR/SWANNANOVA

DATE	PHASE	SITE	SOURCE
100 $\pm$ 250 B.C.	Long Branch	Camp Creek	Lewis and Kneberg 1957
150 $\pm$ 200 B.C.	Long Branch	Russell Cave	Griffin 1974
230 $\pm$ 125 B.C.	Long Branch	Calloway Island	Chapman and Keel 1979
340 $\pm$ 150 B.C.	Long Branch	Westmoreland Barber	Faulkner and Graham 1966
405 $\pm$ 85 B.C.	Long Branch	Higgs	McCollough and Faulk- ner 1973
430 $\pm$ 80 B.C.	Long Branch	40Hw44	Lafferty 1981
460 $\pm$ 225 B.C.	Long Branch	40Hw44	Lafferty 1981
460 $\pm$ 85 B.C.	Long Branch	Bellefonte	Futato 1977
505 $\pm$ 275 B.C.	Long Branch	40Hw44	Lafferty 1981
560 $\pm$ 90 B.C.	Long Branch	40Hw44	Lafferty 1981
675 $\pm$ 140 B.C.	Watts Bar	40Cf35	Keel 1978
565 $\pm$ 220 B.C.	Watts Bar	40Re108	Schroedl 1978
520 $\pm$ 160 B.C.	Watts Bar	40Re108	Schroedl 1978
480 $\pm$ 180 B.C.	Watts Bar	Bacon Bend	Salo 1969
400 $\pm$ 125 B.C.	Watts Bar	40Cf35	Keel 1978
600 $\pm$ 95 B.C.	Swannanoa	40Hw45	Lafferty 1981
740 $\pm$ 200 B.C.	Swannanoa	40Hw45	Lafferty 1981
780 $\pm$ 50 B.C.	Swannanoa	40Hw44	Lafferty 1981
970 $\pm$ 80 B.C.	Swannanoa	40Hw45	Lafferty 1981
990 $\pm$ 105 B.C.	Swannanoa	40Hw45	Lafferty 1981

In order to determine the equitability or closeness of these means, the Students "t" distribution for small samples was used. The major assumption made in each case was that the available dates constitute a representative sample of all dates for these cultural phases. An alpha level (α) of 0.05 was selected to determine critical values. Four tests were performed: Kellogg to Long Branch, Kellogg to Watts Bar, Watts Bar to Long Branch and Watts Bar to Swannanoa. Proceeding on the basis of the overall means given above, a one-tailed test, implying a difference in a specific direction for each pair, was used. The hypothesis sets for each comparison are as follows (H_0 = null hypothesis, "=" is the same age as, and ">" is older than):

CASE 1 H_0 : Kellogg = Long Branch
 H_1 : Kellogg > Long Branch

CASE 2 H_0 : Watts Bar = Kellogg
 H_1 : Watts Bar > Kellogg

CASE 3 H_0 : Watts Bar = Long Branch
 H_1 : Watts Bar > Long Branch

CASE 4 H_0 : Swannanoa = Watts Bar
 H_1 : Swannanoa > Watts Bar

In Cases 3 and 4 the calculated value for "t" was greater than the critical value at $\alpha = 0.05$, thus rejecting the null hypothesis. The alternative hypotheses are then accepted: Watts Bar is older than Long Branch and Swannanoa is older than Watts Bar. The null hypotheses for Cases 1 and 2 are, however, confirmed. The value for "t" was less than the critical value at 0.05 indicating that Kellogg is the same age as both Long Branch and Watts Bar (Table 18).

TABLE 18

t DISTRIBUTION RESULTS:
C-14 DATE COMPARISONS

CASE #	PHASES	t VALUE	df	VALUE @ .05
1	Kellogg vs. Long Branch	1.66	24	1.7109
2	Watts Bar vs. Kellogg	1.03	19	1.7291
3	Watts Bar vs. Long Branch	2.08	13	1.7709
4	Swannahoa vs. Watts Bar	3.33	8	1.8595

CHAPTER VI

SUBSISTENCE

Introduction

Subsistence refers to those resources exploited by a people for food purposes and how these resources were exploited. Three primary criteria work together in determining to what degree various resources lend themselves to exploitation, and indeed, what will comprise the diet. These criteria are availability, abundance, and seasonality. In order to be exploited, a resource, given appropriate technology, must be available; that is, it must be present and of a disposition to allow its recovery and preparation. The presence of deer does little good unless one possesses the technology required to effectively hunt and kill the animal. The mere presence of acorns from the white oak does one little good unless one possesses the knowledge and technology necessary for leaching the tannin from the seeds, thus rendering them edible. Resources are, therefore, available not only by their presence, but also because they may be recovered and eaten.

Abundance refers to the economical efficiency for exploiting a particular resource. In essence, does the resource, although available, occur in sufficient quantities to provide the required nutriment. Efficiency would be greatly impaired should one spend a great deal of time procuring a particular resource and find that the nutritional gain would be less than that spent in obtaining it due to an insufficient quantity of the resource.

This is not to say that the resource does not occur in an abundance required to provide the required nutrition. As an example, freshwater mussels, though relatively low in nutritional value, were intensively exploited in certain habitats in prehistoric times because they were available and quite abundant (cf. Parmalee and Klippel 1974; Klippel and Morey 1986). On the other hand, among the !Kung Bushmen of the Kalahari Desert, game animals in general, though very nutritious, do not occur abundantly and are difficult to hunt. They are, therefore, not focused upon, but rather are hunted only as a supplement to the primary diet of vegetable foods (Lee 1968:40).

Seasonality is the third main criteria for determining subsistence. Certain plant and animal resources are present for exploitation only during certain times of the year. Whereas most mammals and some bird species may be present in a locale year-round, other animals migrate to cooler or warmer climates during climatically severe times of the year (e.g. many waterfowl such as geese and ducks and wading birds such as cranes), while several species of fish (e.g. Atlantic and short-nosed sturgeon and shad) migrate upstream from coastal habitats in order to spawn. Other species may estivate in summer or hibernate in winter, thus making themselves unavailable, or at least less available, during certain seasons.

Many important plant food sources are exploitable only during seed and fruit bearing seasons. Acorns, walnuts, and hickory nuts are ripe for harvest during the fall months (September through November). Some weed/seed species such as poke and maygrass ripen in the spring and summer. Because of this, it is very important to be at a

particular location at the precise time the resource is available. Failure to correctly schedule the time for exploitation could result in arriving when the resource is no longer present, finding fruits dried on the vine or rotting on the ground, or discovering that some other more timely creature has already procured the resource.

Using these criteria, various interpretations may be made about food resources recovered from archaeological context. Assuming that such resources did comprise the diet of those who left them behind, statements may be made concerning resource availability and abundance as well as the time of year the resource was obtained. Further, because many plant and animal species are habitat specific (that is, they occur in only certain environmental situations), their presence in archaeological contexts gives an indication as to what environmental zones the prehistoric inhabitants were exploiting.

Data Base

Faunal and floral data directly applicable to Kellogg subsistence come from only four sites: Kellogg, 9Ck(DOT)7, Garfield, and Rush. Each of these sites contained plant food remains, but only Garfield and Rush contained preserved faunal remains.

Flora

According to Caldwell,

Nearly every one of the storage pits at Kellogg . . . contained carbonized fragments of acorns, hickory nuts, or walnuts, . . . and of these, acorns were by far the most abundant. Usually these were inclusive in the earth with which the pits had come to be filled, but in some instances occurred as layers in the bottoms of the pits, and in one

case carbonized acorns filled the basal portion of a pottery vessel in a pit (Caldwell 1958:25).

No apparent sampling strategies or small fraction recovery techniques were utilized by Caldwell. He was, however, somewhat diligent and systematic in manually collecting charred plant remains from pit fill when it was encountered. For this reason, the archaeological collections of the Kellog site housed at the Department of Anthropology, University of Georgia, contained samples of hand-gathered floral remains from eighteen features. Obviously these remains cannot be considered a statistically valid sample and are biased toward macro-flora. They do, however, represent at least a portion of the Kellog site diet and comparisons to other, more rigorously acquired collections could indicate just how representative the sample is.

These samples, some still encased in hardened fill dirt, were submitted to Dr. Elizabeth Sheldon for analysis. Table 19 provides, for each feature, the identity and weight in grams (g) of the floral sample. Of obvious note is the lack of seeds or other small fraction in the samples. Identifiable species represented in the sample are, among the hickories, Carya tomentosa (mockernut), C. ovata (shagbark), and C. glabra (pignut), Juglans nigra (black walnut) and Quercus sp. (red or black oak group). Hickory and walnut are represented exclusively by nutshell, while oak is represented by both the shell and fruit of the acorn.

Total weight of all samples was 111.8 grams of which hickory makes up two-thirds (66.6 percent), wood 27.5 percent, acorn almost six percent, and walnut less than one percent. Excluding wood,

TABLE 19
ETHNOBOTANICAL REMAINS:
9Ck62

Provenience	Hickory	Acorn	Walnut	Wood	Total
Feature 8	0.2g			0.75g pine	.95
" 9	0.9g			1.45g pine	2.35
" 10	0.25g			2.45g pine	2.70
" 14	0.7g			0.6g pine	1.30
" 25	4.2g ^a	<0.05g		0.1g hardwood	4.35
" 29	2.6g	4.2g ^b		2.8g pine	9.60
" 34	0.6g	<0.05g		0.6g	1.25
" 35	0.05g	0.1g	0.05g ^c	0.35g pine	0.55
" 36&36A	0.6g	1.5g		1.1g pine	3.20
" 37	1.1g ^d	0.05g		0.05g pine	1.20
" 39/45	59.8g ^{d&e}	0.35g		0.1g pine	60.25
" 40	1.5g ^d			1.2g hardwood	2.70
" 47	0.15g			8.2g	8.35
" 50	0.3g			2.3g	2.60
" 55	0.65g	<0.05g		4.55g pine	5.25
" 64	0.8g	0.05g ^b		3.15g oak	4.00
" 68				1.1g pine	1.10
" 56	0.1g				0.10
TOTAL	74.5g	6.4g	0.05g	30.85g	111.8

a = C. tomentosa

b = Quercus spp.

c = J. nigra

d = C. ovata

e = C. glabra

hickory represents ninety-two percent of the sample, acorn eight percent and walnut less than one percent. If Chapman's (1975) 10x correction factor is used to compensate for preservation bias between hickory and acorn, the percentages are then hickory 54 percent and acorn 46 percent. Using the more aggressive factor of 50x espoused by Yarnell and Black (1985:98) (cf. Lopinot 1982), hickory would make up nineteen percent and acorn eighty-one percent; figures which are very compatible with Yarnell and Black's (1985:97) ratio calculations for the Southeast during the Woodland Period.

Using the ubiquity index, which identifies the proportion of samples in which a taxon occurs, hickory is found in seventeen samples or 94 percent, acorn in nine samples or 50 percent, and walnut in one sample or 5.5 percent. From a purely distributional standpoint, hickory is the most significant food item of the three.

The ethnobotanical samples from 9Ck(DOT)7 were recovered by flotation and were analyzed by Dr. Sheldon. Of thirteen samples analyzed, eleven represent the Kellogg occupation at the site. Table 20 provides the analytical data on the samples. In addition to hickory and oak (neither identified beyond the genus level), a number of identifiable seeds were recovered and include persimmon, poke, serviceberry, passion fruit, chenopodium and polygonum. Total weight of hickory, which occurred in all eleven samples (100 percent), was 47.95 grams or 76 percent of the sample by weight. Acorn occurred in two of eleven samples (18 percent) and weighed 15 grams or 24 percent of the sample by weight. Most of the fifteen grams of acorn weight came from a single wholly preserved specimen.

TABLE 20

ETHNOBOTANICAL REMAINS:
9Ck(DOT)7

Provenience	Polygonum ^a	Amelanchier ^a	Hickory	Acorn	Persim- ^a mon	Poke ^a	Passi- ^a flora	Cheno- ^a podium	Wood	Total
Feature 1			3 Frags.	1 Frag.					15 Frags.	—
" 2			0.75g		1	1			0.4g	1.15
" 3			1.30g							1.30
" 10			1.30g							1.30
" 30			7.75g							
" 32			0.1g							0.10
" 47			1.1g			1	1	8		1.10
" 49			31.6g	15g					0.95g	47.55
" 61		1	2.35g						0.20g	2.55
" 62	10		0.25g						0.10g	0.35
" 4	1		1.45							1.45
TOTAL	11	1	47.95g	15g	1	1	1	8	1.65g	64.60

a = seed count

At the Rush site, Wood and Ledbetter (1988:136-138) recovered 77.17 grams of carbonized plant remains by flotation of soil samples taken from the midden and features (Table 21). Species represented by nutshell were hickory, oak and hazelnut. Thirteen seeds were also recovered representing two plant foods: grape (Vitis sp.) and maygrass (Phalaris caroliniana). Of special note was the recovery of two maize (*Zea mays*) cupule fragments from the midden. This sample was dated by the AMS method with a resulting assay of 1290 $\pm$ 100 B.P. or A.D. 660 (B22834/ETH3395), thus temporally associating it with the Middle Woodland Cartersville component (p. 135). By weight, hickory comprises 37 percent (28.76g) of the sample, acorn about two percent, and hazelnut, the maize cupules and seeds less than one percent. Wood comprises the other 61 percent of carbonized plant remains. Excluding wood, hickory makes up 95 percent and acorn 4.6 percent of the sample. Upon applying the Yarnell-Black conversion factor (50x), these percentages become hickory 29 percent and acorn 71 percent. Applying the ubiquity index, hickory occurs in 89 percent (17) of the 19 proveniences, acorn in 74 percent (14) and hazelnut in 10 percent (2) (p. 136).

A preliminary report (Milanich 1975), the National Register nomination form (Milanich n.d.:18) and the catalog sheets for the Garfield site all indicate that plant food remains were plentiful at the site and that numerous soil samples were taken from both features and midden. Unfortunately, none of these samples or results of their analyses could be located at the Florida State Museum in Gainesville where the Garfield collection is housed.

TABLE 21

ETHNOBOTANICAL REMAINS:
9F1164 (RUSH SITE)

Provenience	Hickory	Acorn	Hazel	Maygrass ^a	Grape ^a	Cupule	Wood	Total
Sq.1, L.2	3.17g	0.02g				0.02g	1.97g	5.18g
Sq.1, L.3	12.08g	0.06g	0.03g	6	1		3.17g	15.34g
Sq.1, L.4	1.02g	0.01g		1			0.63g	1.66g
Feature 1	1.23g	0.19g			1		2.32g	3.74g
" 7	0.56g	0.10g					0.43g	1.09g
" 8	0.10g	<0.005g					0.38g	0.485g
" 9	0.02g						0.31g	0.32g
" 10	2.54g			1			1.48g	4.02g
" 11	0.79g	0.35g					5.24g	6.38g
" 14	0.02g	0.08g		1			0.68g	0.78g
" 20	0.92g	<0.005g					1.07g	1.995g
" 22	0.35g	0.15g					1.35g	1.85g
" 23	0.68g	0.08g					1.42g	2.18g
" 24							0.82g	0.82g
" 25							0.71g	0.71g
" 26	0.01g						0.54g	0.55g
" 27	4.57g	0.04g					1.54g	6.15g
" 29	0.44g	0.26g					13.70g	14.40g
" 33	0.25g	0.06g	0.01g				9.16g	9.48g
TOTAL	28.76g	1.41g	0.04g	9	2	0.02g	46.91g	77.14g

a = seed count

In the "Current Research" section of American Antiquity Milanich (1973:504) states that corn was recovered during the excavations. The provenience for this recovery is apparently Feature 5 as noted on the site excavation plan (see Figure 10). In correspondence between Dr. Milanich and Charles Markman, a graduate assistant to Richard A. Yarnell at North Carolina, dated March 20, 1973, the identification of a botanical sample from Garfield, and supposedly Feature 5, is given. Markman reports the contents as corn (2.08g), acorn (.86g), maygrass (.10g-4 seeds) and residuum (.40g). A description of the feature indicates a later hearth (Mississippian) intruded into an earlier storage pit (Kellogg) and Milanich has since adopted this interpretation (Milanich 1972).

Discussion

Plant remains from the four sites discussed include hickory, acorn, walnut, hazelnut, maygrass, chenopodium, polygonum, poke, grape, persimmon, serviceberry, passion fruit and maize. For the seed-bearing tree species, fruit ripening and dispersal occur as early as mid-August (hazelnut) and continue into early December (certain oaks) (Schopmeyer 1974; Yarnell 1964; Krochmal and Krochmal 1982; and Radford, Ahles and Bell 1964). With the exception of the grape, the weed/seed crops can be harvested beginning in late spring or early summer (e.g., greens of poke and maygrass) and may continue through early fall (various seeds). Grape is generally not available until late summer or early fall (Radford, Ahles, and Bell 1964; Yarnell 1964). Whereas the weed/seed groups may be found in virtually any

edge or disturbed habitat (as would be typical around a human habitation area) whether on floodplains or uplands, the tree species involved may be more likely to occur along well drained narrow bottoms, dry uplands, or upland slopes (Duncan and Duncan 1988:64, 68-70, 283-285).

In a survey of literature containing ethnobotanical analyses from a number of Southeastern sites, Yarnell and Black (1985) compiled the occurrence of flora as food items from Early Archaic through Late Woodland times. In their survey of sites from North Carolina, Tennessee, Georgia, Mississippi and Louisiana, Yarnell and Black (1985:100) indicate the regular occurrence of hickory nut, walnut, and acorn in plant food assemblages with hickory nut generally dominating followed by acorn and walnut. Hazelnut did not occur in the Yarnell and Black samples during the Early Woodland and only minutely during the Early Archaic, Middle and Late Woodland. The sparcity of walnut in the Kellogg samples is also contradictory to their findings from other cultures of similar age.

To more thoroughly examine the oak-to-hickory ratio question, a variation of site catchment analysis has been applied to the 1832 Land Lottery Plats for the Kellog and 9Ck(DOT)7 site locations. In its classic usage in archaeology, catchment analysis is a territorial approach to address the economic question of that area exploitable from a particular site (Higgs 1975; Higgs and Vita-Finzi 1972; Jarman, Vita-Finzi and Higgs 1972; Roper 1979). "The catchment of an archaeological site is that area from which a site (or more properly, the inhabitants of a site) derived its resources" (Roper 1979:120).

Since its original application, the use of the technique has been expanded to address such questions as energy expenditure (Ericson and Goldstein 1980).

The present use is to determine the availability and abundance of hickory nut and acorn resources in the area immediately adjacent to sites 9Ck(DOT)7 and Kellog as reflected by the frequency of Carya and Quercus species represented on the 1832 land lot plats. As discussed in Chapter II, palynological studies support the suggestion that the virgin forests present prior to massive clearing, and reconstructed by Nelson (1957) and Plummer (1975), were similar to those present during Early Woodland occupation in the study area. The plats, then, should accurately represent the forest cover as it existed in Kellogg times. Problems associated with the reconstruction of forest composition from these surveys should be kept in mind (cf. Bourdo 1956:754-768; King 1978:99-103), but these generally deal with biases in species, not genera, identification and the effects of widespread burning and cooler climates at more northerly latitudes.

To conduct the study, a transparent mylar overlay of one-kilometer (k) concentric circles was superimposed over the appropriate district plat and centered on the site location as determined by comparing natural features (i.e., streams) on USGS Quadrangle maps with those on the plats. The scale for both district plats is 25 chains (1650 feet) to the inch (1K=1.98 inches). A radius of three kilometers was examined around 9Ck(DOT)7 and four kilometers around Kellog, as these distances could be measured without the necessity of moving to an adjacent plat with a different scale.

Tree species were categorized into four types: oak, hickory, pine and other. Oaks include post, red, white, scarlet, Spanish (misidentified), black and black jack with post oak dominating, representing about 54 percent of the total and red oak about 26 percent. Hickory and pine were not identified beyond the genus level and the "other" category includes small numbers of walnut, chestnut, beech, cherry, persimmon, poplar, ash, maple, sweet/black gum, and elm.

Species catchment for both sites present similar ratios of oak, pine, and hickory: 55.5/18/13 at 9Ck(DOT)7 and 59/18/4 at Kellog (Tables 22 and 23). Considering only hickory and oak, oak dominates with 81 percent to 19 percent at 9Ck(DOT)7 and 94 percent to 6 percent at Kellog. For both sites oak increases in frequency ratio as distance from the site increases, while frequency ratio for hickory decreases. These data strongly support the suggestion of the importance of acorn in the Early Woodland diet (cf. Caldwell 1958: 26) and the ratios of plant food remains presented by Yarnell and Black (1985:97).

Regarding small grains, greens and fleshy fruits, Yarnell and Black found that chenopodium, grape and persimmon were common among the plant food samples for Early Woodland groups and polygonum and poke less so. Maygrass was identified from only one sample, a Long Branch Phase occupation in the Tellico Reservoir. It is interesting that both Kellogg Phase occurrences of maygrass are at Garfield and Rush, located in the Ridge and Valley and situated on natural levees adjacent the Etowah River. The sites are no more than eight or nine

TABLE 22

TREE SPECIES CATCHMENT:
9Ck(DOT)7

Species/ Kilometers (K)	Oak		Hickory		Pine		Other		Total	
	#	%	#	%	#	%	#	%	#	%
1K	21	51	6	15	4	10	10	24	41	100
2K	57	52	17	15	21	19	15	14	110	100
3K	122	58	23	11	40	19	24	11	209	99
Total	200	55.5	46	13	65	18	49	13.6	360	100.1

TABLE 23

TREE SPECIES CATCHMENT:
KELLOG SITE

Species/ Kilometers (K)	Oak		Hickory		Pine		Other		Total	
	#	%	#	%	#	%	#	%	#	%
1K	30	57	3	6	7	13	13	24.5	53	100.5
2K	77	54	8	6	18	13	39	27	142	100
3K	152	61.5	12	5	40	16	43	17	247	99.5
4K	210	60	7	2	80	23	51	15	348	100
Total	469	59	30	4	145	18	146	18	790	99

miles apart. Citing that maygrass occurs abundantly in midwestern sites and that Floyd County is beyond the species' modern distribution (though this is debatable), Wood and Ledbetter (1988:138) suggest that the Rush site sample (and for that matter, Garfield, too) may be a cultigen. In reality, maygrass is known to occur in several Coastal Plain and Piedmont counties in Georgia (Jones and Coile 1988:45; Hitchcock 1950:554). Its modern day absence in Floyd County may only be a matter of lack of data or sample error.

In consideration of native plants of the eastern United States used in prehistoric times as food sources, Yarnell (1976:268-269, 1977:870) notes that chenopodium, maygrass, poke, and polygonum "are more clearly ruderal than cultigen in nature, [but] were cultivated to a greater or less extent" (p. 870). He also states in discussing these species that "We have no clear indications that propagation was ever intentional" (p. 269). Certain species of chenopodium (e.g., C. berlandieri), however, are accorded a special place in the prehistoric diet and have been shown to be domesticated by ca. 1500 B.C. (Smith and Cowan 1987:355-357). Yarnell and Black (1985:99-101) include chenopod in their small grain category rather than as a cultivar, since cultigen status was not determined for the samples they analyzed. Although tropical (squash and gourd) and native (sunflower-sumpweed-chenopodium) domesticates have been identified from eastern U.S. sites at time periods preceding the Early Woodland (cf. Yarnell and Black 1985; Smith and Cowan 1987), none have yet been identified in a Kellogg context.

Putting the maygrass aside, the only undisputed cultigen thus far recovered from Kellogg Phase sites is corn (Garfield and Rush).

As has been noted previously, however, these no doubt date to later periods. Two other cases for Early Woodland corn come from the Williams site in Gordon County (Morse and Morse 1960:88) and the Pickens site (9Pi103) in Pickens County. Thirty to forty burnt cobs were recovered from a small smudge pit-like feature at Williams (Feature 7). Although no diagnostic cultural remains were recovered from the feature, the predominant component at the site appears to be dominated by simple and check-stamped ceramics (Cartersville?). Fabric marked sherds comprise only a very small percentage of the overall ceramic assemblage (less than five percent).

At the Pickens site (9Pi103), corn cobs were recovered from Feature 1, a refuse pit (Morse and Morse 1960:88; Larson 1959). The feature contained a number of cultural items including one fabric impressed, nine simple stamped, ten plain, and forty-eight check stamped sand tempered sherds, two limestone tempered and one grit tempered plain sherds. Note was taken that the corn from this feature was phenotypically different from corn recovered from Late Mississippian Lamar features from the same site. Artifactual associations should place the Feature 1 corn into a Middle Woodland context.

The earliest well-dated maize from the Southeast comes from the Icehouse Bottom site in eastern Tennessee (Chapman and Crites 1987: 352-254). A date of A.D. 175 was derived from a kernel fragment collected from a small pit in Stratum II, contextually related to the Middle Woodland component at the site.

Fauna

Faunal remains from Kellogg Period occupations have been greatly attenuated by the processes of nature, namely acidic soils (cf. Jordan et al. 1973:19). Caldwell (1958:25), in discussing his excavations at 9Ck62, noted that "Neither animal nor human remains were preserved at this site except in the rare cases where bones had been calcined by fire." A similar situation has been pointed out at 9Ck(DOT)7 (Bowen 1982:88). Our knowledge of the animal constituents of the Kellogg diet comes almost exclusively from the Garfield site, although Rush does provide some data.

Faunal remains from Rush consisted, generally, of highly fragmented bone and shell fragments (Wood and Ledbetter 1988:138-139). While the majority of the 108 bone fragments of vertebrates consisted of unidentifiable mammalian species, bird and turtle were also identified. The only remains identified to the species level were those of domesticated pig (Sus scrofa) and cow (Bos taurus) which were representative of the historic component of the site.

Of the invertebrate remains, the families Unionidae and Gastropoda were identified, but the gastropods Campeloma spp. and Elimia spp. were the only specimens identified to the genus level. Of these Elimia (family Pleuroceridae) made up roughly 95 percent of the gastropod sample. Citing Parmalee and Bogan (1986:33 and 36), Wood and Ledbetter (1988:138-139) point out that both gastropod genera occupy river shallows near the shore or in eddy and backwater habitats with underlying mud and decaying vegetation. Both species were utilized as food (Morrison 1942).

From the Garfield site only those faunal specimens recovered by Milanich are discussed here. Faunal collections used in this study are housed at the Florida State Museum, Gainesville, and were analyzed by Karla J. Bosworth of that institute. Forty-one species of vertebrates (including man, dog and chicken) and six genera of invertebrates (mollusks) were identified from the sample (Table 24 and APPENDIX). The vertebrates include sixteen species of mammals (excluding man and dog), twelve reptiles (turtles, tortoise, and snakes), six fish, and four birds (excluding chicken). In addition to providing evidence of dietary preference, the faunal remains from Garfield can also give indications of seasonality and habitat.

Of the sixteen mammal species recovered from Garfield, four are known to inhabit aquatic environments while four other species are either semi-aquatic or, by habit, closely related to an aquatic or riverine environment. Beaver, muskrat, otter and mink rely on aquatic environments for food and shelter, while the swamp rabbit, opossum, raccoon and bobcat all favor aquatic or riverine habitats for feeding or as transportation corridors. The gray squirrel, gray fox, deer and mountain lion would, likewise, not be out-of-place as frequent visitors to such areas. Only the fox squirrel, woodchuck, striped skunk and black bear appear to be primarily upland forest species represented among those mammalian remains recovered at Garfield, but their occasional presence in aquatic or riverine habitats should not be ruled out (Hamilton and Whitaker 1979; Golley 1962).

The four applicable bird species from Garfield include the three migratory species sandhill crane, whooping crane, and great blue

TABLE 24

GARFIELD SITE FAUNAL LIST

SPECIES	COMMON NAME
VERTEBRATES	
<u>Didelphis marsupialis</u>	opossum
<u>Sciurus niger</u>	fox squirrel
<u>Sciurus carolinensis</u>	gray squirrel
<u>Castor canadensis</u>	beaver
<u>Marmota monax</u>	woodchuck
<u>Ondatra zibethicus</u>	muskrat
<u>Sylvilagus sp.</u>	rabbit
<u>Canis familiaris</u>	domestic dog
<u>Urocyon cinereoargenteus</u>	gray fox
<u>Lutra canadensis</u>	otter
<u>Mephitis mephitis</u>	skunk
<u>Mustella vison</u>	mink
<u>Procyon lotor</u>	raccoon
<u>Ursus americanus</u>	bear
<u>Lynx rufus</u>	bobcat
<u>Felis concolor</u>	mountain lion
<u>Odocoileus virginianus</u>	white-tailed deer
<u>Homo sapiens</u>	modern man
<u>Chelydra serpentina</u>	snapping turtle
<u>Pseudemys sp.</u>	pond turtle
<u>Pseudemys scripta</u>	pond slider
<u>Kinosternidae</u>	mud and musk turtle
<u>Trionyx ferox</u>	softshelled turtle
<u>Deirochelys reticularia</u>	chicken turtle
<u>Terrapene carolina</u>	box turtle
<u>Crotalus sp.</u>	rattlesnake
<u>Gopherus polyphemus</u>	gopher tortoise
<u>Grus americana*</u>	whooping crane
<u>Grus canadensis</u>	sandhill crane
<u>Meleagris gallopavo</u>	turkey
<u>Ardea herodias</u>	great blue heron
<u>Gallus gallus</u>	chicken
<u>Aves</u>	unidentified bird
<u>Ictalurus sp.</u>	catfish
<u>Lepisosteus sp.</u>	gar
<u>Catostomidae</u>	sucker
<u>Micropterus sp.</u>	bass
<u>Aplodinotus grunniens</u>	fresh water drum

TABLE 24 (Continued)

SPECIES	COMMON NAME
INVERTEBRATES	
<u>Elimia</u> sp.	periwinkles
<u>Pleurocera</u> sp.	periwinkles
<u>Campeloma</u> sp.	river snail
<u>Amblema</u> <u>plicata</u>	three-ridge
<u>Elliptio</u> <u>crassidens</u>	elephant's ear
cf <u>Pleurobema</u> sp.	niggerhead
UID Bivalvia, freshwater	
UID Gastropoda, freshwater	

*element not found

heron, and the wild turkey. Migratory species would have utilized the Atlantic Coast flyway following the Appalachians (Dorst 1962:128; AOU 1983:162). The sandhill crane prefers grasslands, marshes, the swampy edges of marshes and ponds, riverbanks and pine savanna. The bird winters along the Gulf and south Atlantic states including southern Georgia, where it has also become a resident (AOU 1983:162; Peterson 1980:106).

The whooping crane prefers freshwater marshes and wet prairies and winters in grain and stubble fields as well as along shallow lakes and lagoons. The species formerly wintered to Georgia and migrated as far east as South Carolina (AOU 1983:163; Peterson 1980:106). Prior to 1858 some cranes wintered on the Atlantic coast (Dorst 1962:135). The cranes generally migrate from mid-October to early November and mid-April to early May (Ford 1957:132).

The great blue heron inhabits fresh-water and brackish marshes, lakes, rivers and lagoons. This species has been noted to remain in its winter quarters (AOU 1983:45-46; Dorst 1962:139; Peterson 1980:100). The wild turkey, the only terrestrial species, prefers deciduous forests and open woodlands or mixed deciduous-coniferous forests and open woodlands, especially in mountainous areas (AOU 1983:141). Wooded swamps are also inhabited (Peterson 1980:144).

Of the twelve reptilian species represented at Garfield, nine require aquatic environments, while two would not be out of place in a riverine habitat. The musk and mud turtles, chicken turtle, pond slider and pond turtle prefer quiet bodies of water with muddy bottoms, such as ditches, sloughs, marshes and sluggish streams. The common

snapping turtle and rough soft-shelled turtle, while occupying more open water environments such as lakes and ponds, still prefer quiet waters (Conant 1975). Both conditions are met at the Garfield site.

Two other reptiles, the eastern box turtle and rattlesnake (most likely canebrake), also are known to frequent areas displaying swampy habitats (Conant 1975; Mortof 1956). Only the gopher tortoise, a true terrestrial upland species, would not be expected to be found around aquatic environments. In fact the species occurrence in the Ridge and Valley is outside its present-day range, as is that of the chicken turtle (Conant 1975; Mortof 1956). The alligator, represented by only a single, dermal scute from the midden, is also a geographical anomaly.

Of the six fish represented in the Garfield sample, the freshwater drum (Aplodinotus grunniens) is the only one identified to the species level. This bottom feeder, which subsists primarily on crustaceans and mollusks, occurs in a variety of habitats, though preferring large lakes and sluggish streams, and commonly attains an adult weight of 2 kilograms (ca. 4.5 pounds), though weights of 50 to 60 pounds and lengths of four feet are possible (Dahlberg and Scott 1971:48; Jordan and Evermann 1969:467-468; Lee, et al. 1980:765).

The gar fish represented in the sample is most likely the longnose gar (Lepisosteus osseus) which prefers the larger streams and is known to occur in the Coosa River system (Dahlberg and Scott 1971:10; Lee, et al. 1980:49). The most likely candidates for the bass represented in the Garfield sample would be the redeyed bass (Micropterus coosae) or the largemouth bass (M. salmoides) which prefer clear, quiet waters with aquatic vegetation (Dahlberg and Scott 1971:39, 41; Lee et al. 1980:604, 608).

The sucker (Family Catostomidae), sunfish (Lepomis sp.) and catfish (Ictalurus sp.) recovered from Garfield could represent one of a number of species occupying a number of diverse habitats (Dahlberg and Scott 1971; Lee, et al. 1980). The common, or white sucker, spawns in the spring, generally in large numbers. The blue gill (Lepomis macrochirus), one of the largest (12 to 14 inches and one pound) of the sunfishes and one of the most common, inhabits quiet waters five to fifteen feet deep and swims in schools. The channel cat (I. punctatus), tentatively identified to the species level from Feature 35, prefers flowing water and migrates seasonally to follow the warmer waters. This fish can reach a length of two feet and weight of 25 to 30 pounds (Jordan and Evermann 1969:349-350, 51-52, 21-22).

The six genera of mollusks identified at Garfield include the gastropods Elimia sp., Pleurocera sp. (periwinkles), and Campeloma sp. (river snail) and the bivalves Amblema plicata (A. costata--three-ridge), Elliptio crassidens (elephant's ear), and Pleurobema sp. (niggerhead). The three gastropods were also identified from Rush. The bivalves A. plicata and E. crassidens are associated with deeper water habitats (too deep for wading), while Pleurobema sp. probably prefers shoal conditions. Morrison (1942:355, 358) suggests that these edible species may indicate low water (i.e., summer) conditions. Klippel and Morey (1986:808) go further in stating that summer and fall, when waters were low and warm, would have been the most convenient time to harvest mollusks.

Regarding species abundance, based on frequency of occurrence within different proveniences (counting the midden as a single

provenience/occurrence), several species stand out (Table 25). Among the mammals, the white-tailed deer clearly dominates occurring in 35 cases followed by the gray fox (13), raccoon (10), beaver (9), opossum (8), gray squirrel (7), fox squirrel (6), skunk (4), muskrat (3), and bear (2). No other species occurs in more than a single provenience.

Reptilian occurrence is dominated by the box turtle (16), soft-shelled turtle (12), pond turtle (10), and mud/musk turtle (7). The snapping turtle, gopher tortoise, and water snake occur in two proveniences each, while the rattlesnake and pond slider occur in only one. Among the birds, only the wild turkey (20 occurrences) has more than a single occurrence.

The fish species are led in frequency occurrence by provenience by the sucker and drum with nine occurrences each followed by the catfish with eight. Gar and bass occur in two proveniences each and the sunfish in one. Elimia sp. of the mollusks dominates with eight occurrences. The remainder have two occurrences each--the midden and Feature 8.

Based solely on species ubiquity, the white-tailed deer and wild turkey appear the most significant contributors to the faunal-based diet. Other important contributors among the mammals are the gray fox, raccoon, beaver, opossum and squirrels. Of the reptiles, the box turtle, pond turtle, soft-shelled turtle, and mud/musk turtles all appear to be important dietary items, while the catfish, sucker and freshwater drum stand out among the fish. The mollusks do not appear to have been significant in the Garfield diet other than as minor supplements.

TABLE 25

GARFIELD SITE

FAUNAL REMAINS DISTRIBUTION

[illegible]

Opossum

(Didelphis

marsupialis)

X X

x

X

✕ ✕ ✕ ✕

Fox Squirrel

(Sciurus niger)

x

X

x

X X X

Gray Squirrel

(Sciurus

carolinensis)

x

X

x

X X X X

Beaver

(Castor canadensis)

x

x x

X X X X X

Woodchuck

(Marmota monax)

Muskrat

(Ondatra zibethicus)

X X X

Rabbit

(Sylvilagus sp.)

x

TABLE 25 (Continued)

SPECIES/PROVENIENCE	P O S P P T O O																											B U		
	M	H	S	S				F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F		R	
	I	O	T	T			F	F	F	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E		I	
	D	L	H	H			E	E	E	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A		A	
	D	E	O	O	P	P	A	A	A	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.		L	
	E		L	L	I	I	.	.	.	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2A	3		3	
	N	B	E	E	T	T	2	5	8	0	1	2	3	4	5	6	7	8	9	0	1	2	5	7	9	9L	0		1	

Domestic Dog

(Canis familiaris)

X

X

Gray Fox

(Urocyon

cinereoargenteus)

X

X X X

X X X X

X X X X X

Otter

(Lutra canadensis)

Skunk

(Mephitis mephitis)

X

X

X X

Mink

(Mustella vison)

Raccoon

(Procyon lotor)

X

X X

X X

X X X X X

Black Bear

(Ursus americanus)

X X

Bobcat

(Lynx rufus)

Mountain Lion

(Felis concolor)

X

SPECIES/PROVENIENCE	P		O		S		P		P		T		O		O		B		U		R		I		A		L		3						
	M	H	S	S																															
	I	O	T	T																															
	D	L	H	H																															
	D	E	O	O	P	P	A	A	A	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.			
E		L	L	I	I	.	.	.	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2			
N	B	E	E	T	T	2	5	8	0	1	2	3	4	5	6	7	8	9	0	1	2	5	7	9	9L	0	1	2	3	4	5	6	7	3	3

200

SPECIES/PROVENIENCE	P		O		S		P		P		T		O		O		B		U		R		I		A		L	
	M	H	S	S																								
	I	O	T	T																								
	D	L	H	H																								
	D	E	O	O	P	P	A	A	A	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	E		L	L	I	I	.	.	.	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2A	3	3
	N	B	E	E	T	T	2	5	8	0	1	2	3	4	5	6	7	8	9	0	1	2	5	7	9	9L	0	1

201

TABLE 25 (Continued)

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Sucker

(Catostomidae)

X

X

X X

X X X X X

Bass

(Micropterus sp.)

X

X

Fresh Water Drum

(Aplodinatus

grunniens)

X

X

X X

X

X

X X X

Sunfish

(Lepomis sp.)

X

Water Snake

(Natrix sp.)

X

X

Alligator

(Alligator

mississippiensis)

X

Periwinkles

(Elimia sp.)

X

X X X

X

X X

X

(Pleurocera sp.)

X

X

River Snail

(Campelona sp.)

X

X

SPECIES/PROVENIENCE	P O S P P T O O																												B U		
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CHAPTER VII

SUMMARY AND CONCLUSIONS

This study has addressed chronological, subsistence, and settlement aspects of the Kellogg Phase of north central Georgia. By analyzing old and recent data with state-of-the-art method and theory, new insights have been attained regarding culture history, lifeways, and culture process. The initial view of Kellogg as a static, sedentary, nut gathering people must be revised to accommodate data indicating a socially dynamic culture with a diffuse economic base and complex settlement strategies.

Settlement Patterns

Settlement patterns were addressed in order to: 1) "test" Caldwell's hypothesis regarding the coextensive distribution of Kellogg occupations and the eastern deciduous forest; 2) expand on Wauchope's very simplistic generalization of the location of individual Kellogg components; and 3) provide data concerning intra-site settlement patterns which have, realistically, not been described previously.

Regional Patterns

At first blush, Caldwell (1958:25-26) appears to be correct in suggesting the geographical equity of Kellogg and the eastern deciduous forest, the southern limit of which is the Fall Line. Although a number of finds of Dunlap pottery (the prime indicator for Kellogg) occur south of the Fall Line from northwest Florida through the Coastal Plain of southeast Alabama, Georgia, and western South Carolina, but

especially along the Gulf Slope drainages (Flint, Chattahoochee and Apalachicola rivers), neither the ceramic densities nor their contexts are indicative of pure, permanent Kellogg occupations; an observation previously made by Fairbanks (1956:38, 55, 1965:255). In fact, the point has been made that these occupations are not present even in the southern Piedmont of central Georgia and the review of numerous survey reports from across this part of the state supports this idea.

Instead, the occurrence of Dunlap pottery at sites located within the southern Piedmont and Coastal Plain provinces has been interpreted either as the result of "minor" or "transient" occupations or even "a movement of elements from north to south," i.e., trade (Fairbanks:1956, 1965; Kelly n.d.:21). The occurrence of Dunlap terapodal supports at sites south of the Fall Line and into northern Florida suggests trade or diffusion because such supports are rare even in the Kellogg heartland (cf. White 1985; DeJarnette 1975). Such vessels may have been specifically earmarked for trade.

Clearly then, the distribution of pure Kellogg components can be even further delimited to the upper Piedmont as sites displaying evidence of substantial occupation (e.g. midden and features) do not occur until the Atlanta area/Chattahoochee drainage and northward. The distributional parameters, however, do not end here. Moving eastward from the most dense concentration of Kellogg components at Allatoona, components decrease dramatically in frequency and purity (e.g. Wauchope 1966; Caldwell 1953b; Caldwell, Thompson and Caldwell 1952; Fairbanks 1954). Even where Dunlap occurs in its greatest strength outside of Allatoona, in the Russell Reservoir area on the Savannah River, the

relatively low percentages of the pottery in the overall ceramic assemblages and the lack of any indisputable contextual evidence, indicate no substantial Kellogg occupation (cf. Wood, et al. 1986; Anderson and Joseph 1988:209, 217; Anderson and Schuldenrein 1985).

Moving north of Allatoona, Kellogg occupations quickly diminish and to the west Wood and Ledbetter (1988:86-89) present convincing evidence for drawing a "cultural" boundary for Kellogg in the vicinity of the Etowah/Oostanaula/Coosa confluence at Rome. The percentages of Dunlap and Long Branch ceramics at Early Woodland components from eastern Alabama in the Weis Reservoir eastward to Allatoona show a dominance of the limestone tempered Long Branch giving way to the sand tempered Dunlap while still well within the limestone base soils of the Ridge and Valley. This, in addition to trace element analysis of paste from the two types at Rush (Wood and Ledbetter 1988), indicates clays for the two types were originating from different sources.

With these data in mind, then, it seems overly simplistic to explain Kellogg distribution solely on the geographical deterministic explanation afforded by forest type. Clearly, a similar forest type extended well beyond the "Kellogg Heartland" in all directions, yet the culture did not physically spread in these directions, but rather was in contact with other cultural groups in these outlying areas. A cultural boundary with Long Branch to the west is plausible; however, evidence for such boundaries in other directions is not evident as cultural groups of similar antiquity have yet to be defined. Perhaps, spread of the culture in other directions was internally controlled to prevent societal fragmentation. This, of course, is speculation, but

whatever the reason(s), Kellogg site distributions were not unilaterally determined by vegetation type. Obviously, cultural/social factors, both internal and external, were also in operation.

Subregional Patterns

In an attempt to build on Wauchope's (1966:11) profound statement that Kellogg occupations were generally located next to the narrow bottoms of streams, the distribution of Kellogg components within the well defined geographical context of the Allatoona watershed was examined. The distribution of Kellogg components was quantified based on the association frequencies of components with reservoir section, stream order, and topographic feature, and the raw counts/percentages were analyzed on the basis of observed frequencies alone. Frequencies were also statistically compared, using the chi-square test, to similar observations made on two other cultural components: the Early Mississippian Woodstock Phase and the Late Mississippian Wilbanks-Savannah Phase.

For the distribution of Kellogg components, sites were evenly distributed between the mainstream and tributaries. Along the tributaries component frequencies increased with the stream order; that is, the larger tributaries--generally those closer to the main stream--were preferred. On the main stream, the middle reservoir section contained twice the number of components as either the upper or lower reservoir sections.

For topographic features, the uplands and first terraces were equally preferred along the tributaries while second terrace formations

were overwhelmingly preferred along the main stream. This is in marked contrast to main stream components in the Ridge and Valley between Rome and Cartersville where Kellogg occupations were almost exclusively associated with natural levee formations.

In terms of distribution, two distinct situations occur--one along the first bottoms and uplands adjacent the tributary streams and one upon the second terraces of the main stream. Of the two major Kellogg components at Allatoona, the Kellogg site and Stamp Creek, one was on the main stream and the second along a tributary. While the uplands and first terraces provided the closest available habitation locations to water along the tributaries, the second terraces provided the nearest, safest (flood proof) locations along the main stream, particularly within the middle reservoir. Basically, then, each of these situations provided the same solution in terms of settlement; that being, optimum occupation positioning for access to water and exploitation of upland resources.

Comparing the Kellogg distribution with those of Woodstock and Wilbanks-Savannah, both culturally and temporally distinct from Kellogg, the chi-square statistic failed to expose any significant differences among the distributions of these components for stream order, topographic feature, and reservoir section within the Allatoona watershed.

The "no preference" settlement distribution in the Allatoona Reservoir watershed can be explained by an examination of the environmental evidence. The western boundary of the watershed is the Ridge and Valley Province which, after a series of sharp ridges, opens

into a series of broad, flat valleys or plains divided or interrupted by ridges, hills, and mountains (Campbell 1925:140). In this area the Etowah River and its tributaries are surrounded by broad, rich bottoms compared to the relatively narrow bottoms of the watershed (Larson 1971:58 and 1972:389). In addition to contrasting sharply in topography, the meeting of the two physiographic provinces forms an ecotone which is marked by a mixture of floral and faunal species from both areas. For this reason, in prehistoric times the Etowah River watershed just east of the provincial divide must have been an area extremely rich and diversified in wild plant and animal resources. This made the area attractive, especially for hunting/gathering groups such as Kellogg and to a lesser degree Woodstock. Agricultural groups such as Wilbanks-Savannah would seem, however, to prefer the broader, richer bottoms of the Ridge and Valley Province. Evidence of this is the large Mississippian mound sites of Etowah and Leaks near Cartersville.

The Wilbanks-Savannah occupation of the Allatoona watershed could have been either by primary or secondary choice. Presence of these occupations in moderate numbers in the Allatoona watershed may be the result of population pressure as evidenced by the occurrence of several substantial sites in the Etowah Valley west of the provincial divide (Wauchope 1966). Some groups, therefore, may have chosen, or been forced, to work the smaller bottoms of the adjacent Piedmont area and compliment this subsistence with the rich natural resources of the area. If such was the case at Allatoona, the "no preference" settlement distributions would seem almost a necessity for exploiting the diverse, but abundant resources.

Unlike the model of subsistence expansion proposed by Dumond (1972a, 1972b), it is suggested here that increases in population led to alternative subsistence means and settlement patterns (i.e., hunting and gathering and semi-sedentary) rather than simply expanding those already practiced. Surely agriculture would have been expanded to the limits of cultivatable land, but beyond this point new strategies arose (cf. Earle 1980:19-20; Christenson 1980:35; Cohen 1975:473; Trigger 1970:251).

If, however, population pressure is not the reason for Late Mississippian habitation of the Allatoona area, it may be reasonable to assume that agriculture, by choice, played only a minor role in the subsistence activities of the Wilbanks-Savannah peoples. In this case, the rich resources of the ecotone would have been adequate to support the native population (cf. Larson 1972:388-389 and 390).

As for Kellogg, the large number of sites on the main stream may be directly due to topographical considerations. When compared to the spacious bottomlands of the Ridge and Valley Province, even the relatively broad bottoms of the middle reservoir seem narrow. For this reason, it is possible that second terrace locations along the main stream were amenable to the needs of hunter/gatherers (i.e., close to water and upland resources).

Based on the occupation distributions at Allatoona, generally accepted models of prehistoric subsistence and settlement may not hold true under certain environmental and cultural situations (cf. Smith 1978:479-503). The advent of intensive agriculture and the accompanying growth in population, or vice versa (cf. Dumond 1965:311-313,

1975:718), may have resulted in the movements of groups to areas less well suited for agriculture and more suited for hunting and gathering. Such a movement would have resulted in alteration of subsistence and settlement practices. As to the applicability of the Allatoona model to other Piedmont locations or even to the remainder of the Etowah Valley east of the Ridge and Valley Province, no speculation will be made here. The unique ecotonal situation of the Allatoona watershed tends to separate it environmentally from the rest of the Etowah Valley and most areas of the Piedmont. In environmental situations similar to that found at Allatoona, however, a similar adaptive response may be expected.

Intra-site Distributions

Features within the boundaries of Kellogg occupations include silo-, bell-, and basin-shaped pits, rock lined/filled hearths, postholes, rock clusters, and burials. The occupation areas usually conform to natural topographic parameters and range in size from several acres such as Kellog and 9Br73 to extremely restricted loci as was found at 9Ck(DOT)7 (less than one-quarter acre). The combination and distribution of these features at the various occupations indicate possible explanations for site use.

For the most part features at each site appear to occur in clusters dominated by silo- and bell-shaped storage facilities. Hearths do not occur with the storage facilities at 9Ck(DOT)7 and form a separate cluster(s) at Garfield. At Kellog two clusters contain hearths, but in Cluster 3 the hearths appear to congregate into a cluster of their own. Regardless, this clustering of feature types

based on function indicates distinct activity areas. Further, the separate clustering of features of the same type might indicate multiple social units (families?) occupying the site simultaneously. Some of the clusters, though, could represent yearly reoccupation of the site by the same unit(s). Most likely, the observed distributions are a combination of both synchronic and diachronic situations.

Although a number of postholes were randomly scattered without discernible pattern within the various site boundaries, most formed ten-to-fifteen foot-wide arcs composed of three to eight postholes each. These arcs were usually associated with a feature or a cluster of features, and at 9Ck(DOT)7, where the entire site was exposed, these arcs of postholes were situated just west of each pit cluster. Should these posthole arcs represent minor structures such as windbreaks or cabana shelters, they would be ideally situated for protection from the prevailing westerly winds of the winter months.

At Two Run Creek, 9Ck(DOT)7, and Kellog postholes formed circular and oval patterns suggesting houses. The artifact associations with the structure at Kellog indicated the structure belonged to the later Cartersville occupation of the site. Wauchope (1966:223, 450) reported House 6 at Two Run Creek belonged to the Early Woodland; but, as has been pointed out by Anderson (1987:36), the artifactual associations with the structure (i.e., Cartersville, Mossy Oak, and Dunlap ceramics) might indicate that it, too, belonged to a later period.

The structure at 9Ck(DOT)7, while undeniably belonging to the Kellogg Phase, is ill defined and may actually represent yet another

arc of postholes. There is, therefore, no firm evidence that roofed enclosures were in use by Kellogg people.

Human burials were reported from Two Run Creek, Kellog and Garfield, but not at 9Ck(DOT)7. A burial, reportedly discovered by a collector, was also identified at Rush (W. Dean Wood, personal communication), indicating that inhumation and cremation took place at the larger, intensively occupied loci along the Etowah and larger tributaries, but not necessarily at the smaller, more remote occupations.

In summary, while Kellogg occupations display an intra-site community pattern dominated by the clustering of pits and other features as well as posthole alignments indicative of minor structures, the diversity of features at the larger components suggests a greater variety and intensity of utilitarian activities and social functions. In essence, Kellogg settlement patterns are represented by at least two types of loci. Overall size, midden accumulation, and feature density and variety all point to the longer, more intense and multi-dimensional occupation of sites such as Kellog and Garfield. Restriction of habitation area, lack of midden accumulations, and a lack of feature diversity are indicative of the shorter, homogenous occupation of a site like 9Ck(DOT)7.

Dating

The chronological placement of the Kellogg Phase was examined both from a relative and absolute perspective to determine the temporal

range and profile of the phase itself, its relative position within the cultural sequence of the heartland area and its temporal association with other Early Woodland fabric marked pottery-producing cultures in the Southeast. Conclusions were drawn from radiocarbon determinations and stratigraphic profiles from the Coastal Plain, Piedmont and Ridge and Valley Provinces.

The Kellogg Phase

The temporal range and profile of the Kellogg Phase was suggested by the quantification of sixteen radiocarbon assays dating deposits from six sites. The duration of the Kellogg Phase based on these dates was 740 years beginning in 760 B.C. and extending to 20 B.C., with a mean date of 462 B.C. An examination of these dates indicates that ninety-one percent of the Kellogg occupation occurred between 150 B.C. and 650 B.C. and that nearly seventy-five percent of the occupation took place in the three hundred years from 300 B.C. to 600 B.C. Further, the most frequently occurring date is 450 B.C., represented by ten occurrences from five of the six sites.

From this, it appears that the cultural group known as Kellogg made its initial presence as a viable and distinctly recognizable phenomenon some time during the eighth century B.C. and ceased to exist as a pure occupation during the first century B.C. During that time the culture, from a temporal perspective, rose relatively rapidly to its most intense occupation, peaking just past 500 B.C., then gradually decreasing. Once the temporal zenith was achieved, however, decline began soon after, but over a much longer period than it took to attain.

Early Woodland/Late Archaic

In order to address Caldwell's suggestion of a temporal hiatus occurring between the Late Archaic Savannah River Phase and the Early Woodland Kellogg Phase, stratigraphic profiles were sought to determine the temporal relationship of these two phases. The ceramic marker types Stalling's Island, Orange, and Dunlap were found to occur within the same stratigraphic profile at twelve sites from the Gulf Slope, Coastal Plain, lower Piedmont, and middle and upper Savannah River drainage.

The Coastal Plain and lower Piedmont data were inconclusive in that the types occur in every possible relationship with one another. In addition to occurring together, Dunlap occurs stratigraphically lower than Stalling's and Stalling's occurs lower than Dunlap in other situations. In fact, at least one site (9Qu58) contained a sequence in which Dunlap occurred both above and below Stalling's, but not with it.

The data from the Savannah River basin show a consistent stratigraphic distribution of Stalling's either within or below those levels containing Dunlap. This combined with the Coastal Plain data suggests, for the Savannah River basin, the temporal precedence of Stalling's over Dunlap and the later contemporaneity of the two types.

A final note to this concerns excavations at the Cagle site where Savannah River stemmed projectile points were found in Kellogg contexts (Crook 1984). Citing the Cagle site example as well as similar co-occurrences at 9Ck(DOT)7 and a number of Wauchope's north Georgia survey sites, Crook (1984:53-55) suggested that Kellogg was built upon a Late Archaic base and that the distinctive Late Archaic

Savannah River stemmed points continued to be manufactured at least into early Kellogg times.

Taking all lines of data into account, there is no temporal hiatus between the Late Archaic Savannah River and Early Woodland Kellogg phases. Lacking any extensive or intensive explorations of Late Archaic sites in this area of Georgia (Cagle being the sole exception) and knowing that 700 B.C. to 800 B.C. serves as a firm beginning date for Kellogg, one could conclude that the Late Archaic of North Georgia extended into the eighth century of the first millennium B.C.

Early Woodland Ceramic Sequence

A review of the literature and an examination of the ceramic sequences at Kellog and Garfield do nothing to disrupt the original pottery sequence for the Etowah River drainage. Though conflict possibly exists at one or two components (Williams site and Lewis Sam's Bridge site), the chronologies worked out by Wauchope (1948) and Caldwell (n.d.) appear to be indisputable. The first pottery to occur in any quantity for this area was Dunlap Fabric Marked (and Dunlap Plain) followed by Mossy Oak Simple Stamped, Cartersville Check Stamped, and Cartersville Simple Stamped.

Chronological Relations of Southeast Fabric Marked Types

Stratified deposits and other closed contexts (i.e., subterranean pits) provide data for the relative placement of Dunlap, Watts Bar, Long Branch and Swannanoa. Two or more of these types have been found to occur at Kellog, Garfield, Rush, Mahan, KC9Pi1, Swancy

(all in north Georgia) and Phipps Bend in northeast Tennessee. The contemporaneity of Watts Bar and Dunlap is demonstrated by the co-occurrence of the two types in a large number of features at Kellogg and Garfield. Dunlap and Long Branch contemporaneity can be suggested by similar type co-occurrence at Rush and KC9Pi1, and contemporaneity for all three types may be indicated from feature contents at the Mahan site and stratigraphic deposits at Swancy.

The relative temporal precedence of Watts Bar and Swannanoa over Dunlap and Long Branch is demonstrated at Swancy and Phipps Bend. Phipps Bend also suggests the beginning of Dunlap to be earlier than Long Branch. The logical ordering of these phases, based solely on contextual data, is Swannanoa followed by Watts Bar, Kellogg and Long Branch with a great deal of overlap among the last three.

A statistical comparison of radiocarbon assays dating each of these phases, leads to a similar ordering. While Swannanoa is concluded to be earlier than Watts Bar and Watts Bar earlier than Long Branch, Kellogg was found to be contemporary with both Long Branch and Watts Bar. Further refining this study by examining the distance of the "t" values from the critical values at 0.10 for each comparison and the raw mean date for each phase, the conclusion must be the same as that suggested for the relative ordering.

Subsistence

Direct evidence of the Kellogg diet, in the form of macro plant and animal remains, comes from only four Kellogg components: Kellogg, 9Ck(DOT)7, Rush and Garfield. Plant remains were recovered from each

of these four occupations while faunal data were recovered only from Garfield and Rush. Though sparse, the data do lend themselves to some general as well as specific interpretation.

Flora

Season of occupation is suggested by the presence of certain plant species at each site. Hickory, oak, and walnut were recovered from the Kellog site indicating the site was at least occupied during the very late summer through fall months (September-December) when these food items would have been available for collecting and storing. An added suggestion is that the site was also occupied during the winter and early spring (January-April) when the stored seeds would have provided the food staple.

At 9Ck(DOT)7, in addition to the recovery of hickory nut and acorn remains, seeds were also recovered representing polygonum, poke, persimmon, chenopodium, passion fruit, and service berry. As with Kellog, the presence of hickory nuts and acorns indicates a fall occupation. Depending upon their use for either greens or seeds, the other flora indicate occupation from late spring or early summer through early fall. Considering the abbreviated numbers in which these seeds occur and their contextual association with the fall nut species, seed crops are suggested here as representing a late summer to early fall occupation.

The Rush site floral samples included hickory nut, acorn, and hazelnut remains, again indicating late summer through fall occupation. Maygrass and grape were also identified in the sample suggesting

early-to-late summer and early fall collecting. The presence of acorn and maygrass at Garfield would indicate a similar time of occupation.

Cultigens

Although maygrass and a certain species of chenopodium have been accorded cultigen and domesticate status respectively in the prehistoric record, the only undisputed cultigen/domesticate from Kellogg Phase sites is maize. Though recovered from at least four sites, each occurrence has been shown to be intrusive into the Kellogg component and belonging to a later cultural group. To date there is no irrefutable evidence for the use of cultigens or domesticates in the Kellogg diet.

Oak versus Hickory

The application of a modification of site catchment analysis was used to determine species abundance in the areas immediately surrounding the Kellogg site and 9Ck(DOT)7. Indications are that oaks were from three to 30 times more abundant than hickories and that the ratio of oak to hickory grew steadily greater as distance from the site increased. This may indicate that hickory was a more important genus immediately adjacent the site, but became less so with distance. Oaks, on the other hand, though being the dominant genera throughout the distribution, increase in overall relative importance (as defined by frequency of occurrence) with greater distance from the site.

Ratios of oaks to hickories range from 81:19 at 9Ck(DOT)7 to 94:6 at Kellogg. This supports the 50x correction factor used by Yarnell and Black and the postulation that preservation and cultural

factors have led to a gross underrepresentation of acorn in the archaeological record. Support would also have to be given to the "new acorn economy" hypothesis of Caldwell.

Fauna

Garfield and Rush provide the only evidence of the animal subsistence base for the Kellogg Phase. No vertebrate remains from the Kellogg component were identifiable to the species level at Rush although the samples did represent mammalian, bird and reptile (turtle) species. Invertebrate remains at Rush attest to the site's proximity to an aquatic environment characterized by river shallows and backwater habitats. Procurement of such species would also indicate summer and fall occupation (cf. Klippel and Morey 1986).

The faunal representation at Garfield includes mammals, fish, reptiles, birds and six genera of invertebrates. Of the 38 species of food mammals represented at Garfield, at least 26 (68 percent) are aquatic, semi-aquatic or prefer the wetland habitats surrounding riverine environments. The species represent a wide range of riverine habitat including sloughs, sluggish streams, open water, shallows and deep water. Indications are that much of the faunal diet was obtained from the riverine environment immediately surrounding the site. Occasional forays into the uplands is also indicated.

While many of the mammalian species were available year round, estivating/hibernating reptiles, migrating birds, and deep water mollusks as well as spawning fish would have been available and abundant only during certain times of the spring, summer and fall.

This clearly indicates the likelihood that Garfield, and probably Rush also, was occupied year round.

Final Assessments

Based on radiocarbon determinations, the inception of the Kellogg Phase in northern Georgia began between 700 B.C. and 800 B.C. at the close of the Late Archaic Savannah River Phase. Whether Kellogg grew from the preceding Archaic culture, borrowing technological advancements inspired by the diffusion of ideas from distant cultures, or resulted from population transposition through migration, is purely a matter of conjecture. The lack of comparative skeletal populations from the two groups, and indeed the dearth of knowledge of the Late Archaic in this area in general, prevents explanation.

While the center of Kellogg site distribution is coextensive with the southern limits of the eastern deciduous forest, the restriction of habitations to an area well within the physical limits of this forest indicates that factors other than availability of fall seed crops influenced Kellogg settlement. The presence of contemporary groups to the west (Long Branch) and north (Watts Bar and Swannanoa) may have provided cultural boundaries beyond which Kellogg could not advance. The lack of spread by Kellogg to the east and south may have been a matter of choosing to stay within an area of influence rather than extending boundaries beyond an area which one was able to effectively control. From this standpoint, Kellogg must be viewed as a well organized and defined socio-political as well as cultural unit.

The Kellogg people appear to have deployed their settlements to maximize environmental situations and support cultural integrity. Two types of sites emerge: a large, sedentary, year-round occupation and a small, seasonally occupied locus. The large sites, represented by such occupations as Kellog and Garfield, appear to have been year-round habitations as reflected by seasonally specific subsistence remains, size and density of deposits (reflecting intensive, long term and repeated occupation), and heterogeneity of activities as evidenced by a variety of technologic- and sociologic-specific artifacts and burials. The smaller, seasonal occupations, such as 9Ck(DOT)7, tend to be restricted in area, lack thick midden accumulations, and contain a more homogeneous activity assemblage--technically rather than socially oriented--with a single activity function. Subsistence remains from these sites were representative of a specific time of year, i.e., late summer and fall.

The settlement pattern then would be one in which a large village or base is positioned to enhance the exploitation of a variety of upland and riverine resources during the course of an entire year. During the late spring, summer, and early fall months, exploitation could diversify among migratory as well as sedentary game, aquatic resources, weed/seed greens and seeds, and upland arboreal seed crops as well as terrestrial game species. This diversification of exploited resources would have allowed the occupation of the base by several social groups. During late fall, winter, and early spring, when migratory and riverine resources were no longer available, diet would consist of the stored fall seed crops.

In the late summer and early fall a number of social units (families?), but not all, would disperse into the uplands to exploit and store the fall arboreal seed crop when it was available, abundant, and in season. Such a population dispersal would have relieved any environmental stress attendant with over exploitation (especially of the fall seed crop) in the immediate vicinity of a single location. Population dispersal would also maximize the environment available for exploitation and, at least on a seasonal basis, expand the niche.

In mid-to-late spring, when migratory game, riverine resources, and the weed/seed crops were once again available and, therefore, provided a resource base upon which a larger group could subsist, the dispersed groups would re-gather within the year-round residential base to exploit the various resources of the surrounding riverine and upland environments and conduct community-wide social functions.

Caldwell (1958:26) has relegated the entire economic pattern of the Kellogg Phase to operate within the concept "New Acorn Economy" (see CHAPTER I). As we have seen, fall nut/seed crops played an important role in providing sustenance for the Kellogg people in the fall and through the winter months. We have also seen, however, that the Kellogg people practiced a very diverse economy, exploiting a number of riverine and upland plant and animal resources. For this reason, it would seem inappropriate to pigeon-hole the Kellogg economic base into any one conceptual definition.

Epilog

Interpretations made from observations of available data and derived by way of specific logic, whether deductive or inductive, are

only as good as the data on which they are based, the methods and theories by which they are analyzed, and the rigor and aptitude of the analyst. This study has attempted to re-evaluate and update interpretations and data advanced and gathered over the last half century, but last considered in a serious light some thirty years ago.

Certain earlier interpretations have been supported, others advanced, and still others contradicted. The present study is not the final word for the Kellogg Phase of north central Georgia, but rather a continuing line of inquiry which will continue to grow and advance in the future as more data are recovered, more sophisticated techniques are developed to analyze this data, and new theory is advanced to explain it.

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APPENDIX

APPENDIX

GARFIELD SITE
QUANTIFIED FAUNAL LIST
COMBINED PROVENIENCE

SPECIES	*N	*MNI		WEIGHT	
		N	%	*G	%
VERTEBRATES					
Opossum	20	14	4	64.86	0.6
<u>Didelphis marsupialis</u>					
Fox Squirrel	6	6	2	4.87	< 0.1
<u>Sciurus niger</u>					
Gray Squirrel	9	8	2	5.17	< 0.1
<u>Sciurus carolinensis</u>					
Beaver	33	12	4	18.95	0.2
<u>Castor canadensis</u>					
Woodchuck ^a	-	-	-	-	-
<u>Marmota monax</u>					
Muskrat	4	3	1	5.04	< 0.1
<u>Ondatra zibethicus</u>					
Rabbit	2	2	1	2.96	< 0.1
<u>Sylvilagus</u> sp.					
Domestic Dog	82	6	2	213.19	2.0
<u>Canis familiaris</u>					
Gray Fox	19	11	3	41.29	0.4
<u>Urocyon cinereoargenteus</u>					
Otter ^a	-	-	-	-	-
<u>Lutra canadensis</u>					
Skunk	5	5	2	4.03	< 0.1
<u>Mephitis mephitis</u>					
Mink ^a	-	-	-	-	-
<u>Mustella vison</u>					
Raccoon	30	15	5	83.45	0.8
<u>Procyon lotor</u>					
Bear	2	2	1	38.45	0.4
<u>Ursus americanus</u>					
Bobcat ^a	-	-	-	-	-
<u>Lynx rufus</u>					
Mountain Lion	2	1	< 1	46.69	0.5
<u>Felis concolor</u>					
White-tailed Deer	1090	98	30	8837.81	86.0
<u>Odocoileus virginianus</u>					
Modern Man ^a	-	-	-	-	-
<u>Homo sapiens</u>					

APPENDIX (Continued)

<u>SPECIES</u>	<u>*N</u>	<u>*MNI</u>		<u>WEIGHT</u>	
		<u>N</u>	<u>%</u>	<u>*G</u>	<u>%</u>
Snapping Turtle	4	2	1	7.79	< 0.1
<u>Chelydra serpentina</u>					
Pond Turtle	43	14	4	88.90	0.9
<u>Pseudemys</u> sp.					
Pond Slider	1	1	< 1	4.01	< 0.1
<u>Pseudemys scripta</u>					
Mud and Musk Turtle	31	10	3	18.51	0.2
Kinosternidae					
Softshelled Turtle	33	17	5	98.78	1.0
<u>Trionyx ferox</u>					
Chicken Turtle	27	10	3	92.09	0.8
<u>Deirochelys reticularia</u>					
Box Turtle	82	23	7	145.21	1.0
<u>Terrapene carolina</u>					
Rattlesnake	1	1	< 1	0.77	< 0.1
<u>Crotalus</u> sp.					
Gopher Tortoise	12	1	< 1	13.94	0.1
<u>Gopherus polyphemus</u>					
Whooping Crane ^b	1	1	< 1	-	-
<u>Grus americana</u> *					
Sandhill Crane	1	1	< 1	3.57	< 0.1
<u>Grus canadensis</u>					
Turkey	119	37	11	362.88	4.0
<u>Meleagris gallopavo</u>					
Great Blue Heron	1	1	< 1	7.28	< 0.1
<u>Ardea herodias</u>					
Chicken	1	1	< 1	2.09	< 0.1
<u>Gallus gallus</u>					
Unidentified Bird	36	-	-	42.62	0.4
Aves					
Catfish	14	8	2	21.16	0.2
<u>Ictalurus</u> sp.					
Gar	2	1	< 1	0.75	< 0.1
<u>Lepisosteus</u> sp.					
Sucker	20	8	2	16.45	0.2
Catostomidae					
Bass ^a	-	-	-	-	-
<u>Micropterus</u> sp.					
Fresh Water Drum	7	7	2	39.08	0.4
<u>Aplodinotus grunniens</u>					
TOTAL	1773	327	-	10332.64	-

APPENDIX (Continued)

<u>SPECIES</u>	<u>*N</u>	<u>*MNI</u>		<u>WEIGHT</u>	
		<u>N</u>	<u>%</u>	<u>*G</u>	<u>%</u>
INVERTEBRATES					
<u>Elimia</u> sp.	121	121	52	117.25	21
<u>Pleurocera</u> sp.	10	10	4	15.19	3
<u>Campeloma</u> sp.	47	47	20	112.46	20
<u>Amblema plicata</u>	5	5	2	94.95	17
<u>Elliptio crassidens</u>	11	8	3	54.75	10
cf <u>Pleurobema</u> sp.	6	4	2	23.89	4
UID <u>Bivalvia</u> , freshwater	17	-	-	116.38	21
UID <u>Gastropoda</u> , freshwater	14	-	-	20.50	4
TOTAL	231	195	-	555.37	100

* N = Number of Elements

MNI = Minimum Number of Individuals

G = Grams

a = Quantified data not available

b = Element not found

VITA

William Rowe Bowen was born in Augusta, Georgia, on October 4, 1950. He attended elementary and high school there and graduated from the Academy of Richmond County in 1969. The following September he entered the University of Georgia, Athens, and in June 1973 he received a Bachelor of Arts degree in Anthropology. In the summer of 1972 and spring of 1973 he participated in archaeological projects in various parts of Georgia.

In September 1973 he entered the Graduate School at the University of Tennessee, Knoxville, receiving the Master of Arts degree with a major in Anthropology in December 1975. In the summer and fall of 1974 and the summer of 1975 he participated in archaeological projects in Middle Tennessee.

In April 1976, Mr. Bowen accepted the position of Research Associate with the Anthropology Department at Georgia State University in Atlanta to conduct archaeological surveys of the Metropolitan Atlanta Rapid Transit Authority east and west rail lines. In January 1978, he left this position to become archaeologist for the Georgia Department of Transportation--a position he still holds.

In September 1980, Mr. Bowen reentered the Graduate School at the University of Tennessee, receiving the Doctor of Philosophy degree with a major in Anthropology in August 1989.

He is a member of the Society for American Archaeology, the Southeastern Archaeological Conference, the Tennessee Anthropological Association, the Archaeological Society of North Carolina, the Society

for Georgia Archaeology (Vice President 1979 and President 1980), the Florida Anthropological Association, the American Society for Conservation Archaeology and the Lambda Alpha National Anthropology Honor Society.