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## Chapter 16

### THE PROTOHISTORIC PERIOD CERAMICS

Two sites are present whose material culture remains indicate that they properly belong to the Protohistoric period--the Poole Site (31Rdl), and the Wall Site (310r11). Neither are from the Catawba or Dan River drainages. Both lie in the central Piedmont of North Carolina (Figure 14). Both have formerly been identified as Historic period occupations, but have been redefined for this study. Another site (31Skl) which represents what appears to be the transition from the Protohistoric to the Historic period, or possibly the early Historic period has been placed with the chapter on sites of the latter period.

#### The Poole Site (31Rdl)

Previous researchers have associated this site with the Keyauwee Indians of the Piedmont of North Carolina, who were visited by John Lawson in the winter of 1701. The earliest advocate of this identification was Reverend Douglas Rights (1935:17; 1947:83), and it has since been indelibly marked in the literature as such (cf. Lewis 1952; Coe 1937, 1952b, 1964, n.d.). The summary presented here is based on a short report (Coe 1937) and an unpublished manuscript (Coe n.d.) that details the 1937 excavations and the analysis of the artifactual material recovered.

The Poole Site is located just west of Asheboro, North Carolina, on the east bank of Caraway Creek, some five miles upstream from its confluence with the Uwharrie River. Plowing uncovered a number of burials and associated grave goods, primarily shell artifacts, including disc-

shaped beads, marginella beads and rectangular shell plates. These finds resulted in a two week field investigation at the site in June of 1936, under the auspices of the North Carolina Archaeological Society and the North Carolina State Museum, in association with the University of North Carolina at Chapel Hill.

Three excavation units were exposed in an area where most of the burials had been uncovered by the plow. One unit (Section A), a trench that encompassed some 1125 square feet, was placed across what was considered to be the center of the site. A total of 22 pits and 13 postholes were noted at the top of subsoil. Of this number, two features, two postholes, and ten burials from seven pits were excavated.

The second unit (Section B) was situated near Caraway Creek where a burial exposed by recent plowing lay. This excavation comprised an area of approximately 750 square feet. From this unit, three pits, a burial, and two features were removed. Forty-two postholes were noted in this unit, of which one was excavated.

The last unit (Section C) was placed in a relatively flat area between Sections A and B. This square was only five feet square. One small feature and five postholes were noted in "C". The solitary feature was excavated.

Of the 11 burials from the site, four were destroyed by plowing, and another was disturbed by the activities of a tenant farmer. Artifacts from the burials consisted of shell beads, bone beads made from rabbit innominate and turkey long-bones, a small shell gorget with an incised "rattle-snake" design, a stone platform pipe of black "steatite", and two stone discoidals. No European artifacts were discovered in any of the burials.

The only trade items found came from one pit, Feature 4. This was a large roughly circular basin approximately six feet in diameter and some

eight inches in depth. The general profile of this feature closely resembles the large shallow basins, interpreted as roasting pits, found at the two Historic sites on the Dan River, 31Skl and 31Skla. Feature 4 contained numerous sherds, charred plant remains, animal bone, and some fragments of human skeletal material. The important items contained in this pit, were some 135 small blue, and white, glass trade beads, and one kaolin pipe stem reworked into a bead. These were the only items of European manufacture recovered with aboriginal materials in an undisturbed context. The general feeling derived from the nature of these artifacts is that they are the result of contact with the English rather than the Spanish. This is due primarily to the temporal range associated with the small white "seed" trade beads, A.D. 1600 to 1836 (Brain 1979:101), and the small blue "seed" trade beads, A.D 1600 to 1836 (Brain 1979:103). Also, these are quite smaller than the beads generally associated with the Spaniards of the 16th Century (cf. Smith and Good 1982).

The ceramics recovered from the squares and pits at the Poole site were representative of two types, Uwharrie and Caraway (Coe n.d.). The Uwharrie Series has usually been associated with the early to middle portions of the Late Woodland period of the Piedmont of North Carolina (Coe 1952a:308). About 26% of the total ceramic collection was Uwharrie. Potsherds of the Caraway Series comprised the rest of the sample. These ceramics were thought to represent a Historic occupation at the site, presumed to have been associated with the Keyauwee Indians of 1701.

In attempting to place the Poole site in its proper place in the history of Indian-European relations, the only data available pertinent to the question are the items of European manufacture. Kit Wesler (1977:69) observed that the scarcity of European trade material at the site indicated

that it dated an indeterminable number of years earlier than 1700. Applying Brain's innovation/value scheme, low values would be assigned the glass beads and kaolin pipe "bead". That these items were used by the Indians is obvious. The association of the items with refuse in a roasting pit, implies that the items had no other significance than as possible replacements for their Indian counterparts, the shell beads. The kaolin pipe stem was altered from its original context of pipes/smoking to a form associated with personal adornment. A low innovative value, certainly not over "1", has to be assigned its presence, primarily because it did not take its place with other aboriginal paraphenalia associated with smoking. The glass trade beads likewise can be given only a "1", as they represent items incorporated into the extant Indian behavior patterns.

This brief examination illustrates the two major problems associated with recovery and representativeness that Brain (1979:272-273) delineated in his discussion of the relative replacement of material culture. The entire assemblage recovered from the Poole site is comparatively small. The techniques used to retrieve much of the data was not as sophisticated as archaeological methods currently employed (for example flotation). Items of European manufacture may have escaped the excavators notice in some instances. Also, only a few pits were actually excavated, and portions of the site, that might have possesed more European items, may have existed, but were not sampled.

The fact that the artifacts with the burials from the Poole Site are absolutely and completely aboriginal items in aboriginal configurations supports the early date proposed above. The interments appear to belong to a period just before direct contact, and possibly before heavy indirect contact was initiated through Indian intermediaries with the English. The

worked-shell, -stone, and -animal bone artifacts all reflect a basic behavior pattern unaltered by the incorporation of either European artifacts or behavior patterns. An exact date can not be determined for the assemblage due to the lack of data. Sometime prior to the 1670s, when the Occaneechi barrier was broken, and the number of English who roamed the Carolina backwoods increased substantially, would be plausible. As the era between the establishment of the forts at the Fall Line in Virginia in 1646, and the journey of John Lederer in 1670 has recorded only one venture south of Fort Henry, that of Edward Bland and company in 1650, a guess of the first half of the seventeenth century may be warranted, given the strong native influences and the scarcity of European trade materials. The 1650s provides a boundary for the latest dates that probably can be associated with the site.

Although a more precise chronological position can not be given for the habitation at 31Rdl, its relationship to the other sites included in this study is possible. The glass trade beads and kaolin pipe stem in the features associated with ceramics, which are predominately of the Caraway Series, indicates that the Poole Site is later in time than the three Prehistoric sites on the Dan River, "Sauro Town", Reedy Creek, and Leggett. The question of contemporaneity with the Wall site (310r11) will be explored later, as will the relationship with the Historic Dan River sites.

#### The Caraway Ceramics from the Poole Site

This discussion is based on information extracted from Coe (n.d., 1964:33-34) and Lewis (1951:260). A great majority of the ceramics recovered from 31Rdl are from the plowzone--73.5% of the 1252 sherds. The general characteristics of the Caraway ceramics, based on the earlier work noted above, were discussed in a paper presented at a seminar on the

aboriginal ceramics of the Carolinas held at the Charleston Museum in Charleston, South Carolina, in the spring of 1982 (Wilson 1982).

Originally, the temper included in the Caraway paste was stated to be sand whose quartz particles range from .25mm to 1.00mm in size (Coe n.d.).

Duplicating the same trend noted for the other ceramic assemblages, varying quantities of sand, described as between moderate and large amounts, are included in the paste (Coe n.d.). This was translated later to mean a paste that is fine-sand tempered, which produces a very hard, thin, compact ceramic (Lewis 1951:260; Coe 1964:33). Surface finishes present, by frequency of occurrence (Table 39), are smoothed/plain, net impressed, brushed/scraped, check stamped, complicated stamped, burnished, corncob impressed, cordmarked, and simple stamped. Only two complicated stamped designs are identified, with the majority being concentric circles. Three body sherds with a spiral and diamond motif are also present.

The original description (Coe n.d.) implies that the vessels are seldom decorated. Notches and punctates are occasionally found on the lip, and incised designs are sometimes placed on rims. The latter include inverted v's and lines parallel to the lip. Rim folds and rim bands, usually notched or pinched on their bottom edges, are also present. Occasionally, narrow applique fillets, pinched and notched, are found along the tops of rims. A few small body sherds possess incised lines, but little more can be said about the designs due to the size of the sherds.

Jars are the most common vessel form. The rims are flaring, and occasionally are folded or have collars added. The jar forms are usually rounded and semi-conoidal, and flat bases are in evidence. Jars are small, and average about 20cm in diameter and 30cm in height.

TABLE 39

SURFACE FINISH BY PERCENTAGE OCCURRENCE IN CARAWAY CERAMICS AT 31Rd1  
(ALL SHERDS ARE INCLUDED AND TOTAL 1252)

Surface Finish	%
Smoothed	57
Net Impressed	9
Brushed	8
Check Stamped	7
Complicated Stamped	7
Burnished	5
Cornecob Impressed	5
Cordmarked	2
Simple Stamped	less than .5%

New bowl forms appear and replace the globular, semi-conoidal, straight-sided shapes of the Dan River and Uwharrie Series. Present are large bowls with vertical rims, rounded bodies and flat bottoms; hemispherical bowls with rounded bottoms, and cazuella bowls with flat bottoms. Cazuella bowls range from 10 to 30cm in diameter, and the other two bowl forms between 35cm and 40cm.

The body sherds vary from .6cm to .8cm in thickness. Both flat and rounded lips are present, and they usually have been thinned. The ceramic assemblage from the site possesses one example of a strap handle.

#### Attribute Analysis of the Ceramics from the Poole Site

A total of only 19 rim specimens and associated vessel sections from an undisturbed context are large enough to be used in this analysis. Plates XI-XII illustrate examples of the surface finishes and decorations present in the ceramic collection. The mean size of the fine sand used as temper is .13mm, with a range from .08mm to .30mm. Some specimens ( $n=3$ ) appear to have no temper. The quantity of sand included in the paste divides the ceramics into three gross classes, those with no sand, small amounts and moderate amounts. No temporal factors are thought to be involved, and the variation, as that noted in most of the ceramic assemblages used in this study, is a natural phenomenon. For the rims, vessel wall thickness ranges from .48cm to .91cm, with a median of .69cm.

Due to the method used to select sherds for analysis (see above), the variety of surface treatments present (Table 40) is considerably less than the number identified in the analysis of the total collection. Net impressed, smoothed and corncob treatments are the most numerous. Each is represented by four (21.1%) specimens. These are followed by burnished ( $n=3$ , 15.8%), concentric circle complicated stamped ( $n=2$ , 10.5%),

brushed/scraped ( $n=1$ , 5.3%) and cordmarked ( $n=1$ , 5.3%) surfaces. The most numerous interior finishes (Table 40) are smoothed ( $n=10$ ), and burnished ( $n=7$ ). Only two have been scraped.

Vessel forms (Figure 24) noted also differ from the preceding description, again due to the small sample size. Based on rim profiles, jars predominate with 17 of the rims being classed as everted, and belonging to that vessel type (Table 40). In addition to the normal jar with constricted-neck and everted rim ( $n=13$ ), open mouth jars with a flaring everted rim are present ( $n=3$ ). The rimtypes present include those just discussed, some of which are folded (Table 40, and Figure 25). Both the common everted ( $n=4$ ), and the flaring everted ( $n=1$ ), rim possess this attribute. The folded rim has definite folds without the smoothing that gives many of the folded rims from the other ceramic assemblages more of a thickened appearance.

Bowls are represented by two straight rims, and one slightly incurved rim. One of the former sherds, very small in size, may not have been from a bowl, although that appears to be the best identification. The other two are probably from cazuella bowls, as the sharp, incurved rim characteristic of hemispherical bowls is not present in this collection. The general form of both jars and bowls conform to the descriptions offered previously.

Decorations present (Table 41) are usually some form of punctuation, either oblong ( $n=3$ ), fingertip ( $n=2$ ), or circular ( $n=1$ ). These are followed by v-shaped notches ( $n=2$ ), a band of short lines incised perpendicular to the lip ( $n=1$ ), smoothed over band ( $n=1$ ), and brushed/scraped band ( $n=1$ ). The continuation of the surface finish from the body onto the lip is absent. Instead, smoothed ( $n=13$ ) and burnished ( $n=2$ ) lips predominate, reflecting the continuation of the interior finish onto the lip.

The decorations present are restricted to three sections of the vessel (Table 42). Given the small number of sherds in the sample, these results are preliminary to future research. The neck has the highest percentage of decorated surfaces (28.6%, n=2). Oblong punctations and a band of short lines incised perpendicular to the lip are present. The lip is the next most popular place for decorations by percentage (26.3%), which reflects the classification of burnished lips (n=2) as decorations. Following these two in popularity on the lip are v-shaped notches (n=1), fingertip notches (n=1), and circular punctations (n=1). The rim is close behind the lip in the number of decorations possessed (n=4). Punctations, either fingertip (n=1) or oblong (n=1), are the most numerous. The latter is on a smoothed rim fold. Also present, are a brushed/scraped band (n=1) and v-shaped notches placed into the bottom of a rim fold (n=1). Noticeably absent are lip/rim decorations. The lack of neck/should and shoulder decorations is not as surprising, given the low number of either of these vessel sections (n=2 for each) in the study collection.

The association of the various decorations with surface finish is quite revealing (Table 43). The smoothed, burnished, and complicated stamped treatments possess by far the greater proportion of all the decorations. Only one specimen not of this group, a knotted-net impressed sherd, has what is classed as a decoration, and that is a burnished lip. Smoothed surfaces predominate with five of the eleven motifs, followed by concentric circles with four, and burnished with two (excluding a burnished lip on a burnished vessel). By vessel form, the decorations are found only on the jars (Table 44). This reflects the small number of specimens included in this study sample .

TABLE 40

SURFACE FINISH, INTERIOR FINISH, LIPTYPE, RIMTYPE AND VESSEL FORM  
AT 31Rdl

## SURFACE FINISH

Finish	#	%
Smoothed	4	21.053
Corncob Impressed	4	21.053
Net Impressed, Knotted	3	15.789
Net Impressed, General	1	5.263
Burnished	3	15.789
Concentric Circles	2	10.527
Brushed	1	5.263
Cordmarked	1	5.263
Total	19	100.000

## INTERIOR FINISH

Finish	#	%
Smoothed	9	47.368
Smoothed Over Scraped	1	5.263
Burnished	7	36.842
Scraped	2	10.527
Total	19	100.000

## LIPTYPE

Type	#	%
Flat	13	68.421
Flat/Thinned	2	10.527
Rounded/Thinned	3	15.789
Rounded	1	5.263
Total	19	100.000

TABLE 40---Continued

## RIMTYPE

Type	#	%
Everted	7	36.842
Everted, Flaring	2	10.527
Everted, Flaring, Folded	1	5.262
Everted, Folded	4	21.053
Straight	3	15.789
Slightly Incurved	2	10.527
Total	19	100.000

## VESSEL FORM

Form	#	%
Jar	16	84.211
Bowl	3	15.789
Total	19	100.000

TABLE 41  
DECORATIONS PRESENT AND PLACEMENT OF DECORATIONS  
BY VESSEL SECTION, 31Rdl

Decoration	Lip	Lip/ Rim	Rim	Neck	Neck/ Shoulder	Shoulder	Total
V-shaped Notches	1	-	1	-	-	-	2
Fingertip Punctate	1	-	1	-	-	-	2
Circular Punctations	1	-	-	-	-	-	1
Oblong Punctations	-	-	1	1	-	-	2
Smoothed Band	-	-	1	-	-	-	1
Brushed Band	-	-	1	-	-	-	1
Band of Incised Lines	-	-	-	1	-	-	1
Perpendicular to Lip	-	-	-	-	-	-	-
<b>TOTAL</b>	<b>3</b>	<b>-</b>	<b>5</b>	<b>2</b>	<b>-</b>	<b>-</b>	<b>10</b>

Placement of Decorations by Vessel Section , 31Rdl

Section	Occurrences	# Decorated	% Decorated
Lip	19	3	15.790
Lip/Rim	19	-	-
Rim	19	4	21.052
Neck	7	2	28.571
Neck/Shoulder	2	-	-
Shoulder	2	-	-

TABLE 42  
DISTRIBUTION OF DECORATIONS BY VESSEL SECTION, 31Rdl

LIP DECORATION			
Decoration	#	%	Sample %
V-shaped Notch	1	33.33	5.263
Fingertip Notches	1	33.33	5.263
Circular Punctations	1	33.33	5.263
<b>TOTAL</b>	<b>3</b>	<b>100.00</b>	<b>15.789</b>

RIM DECORATIONS			
Decoration	#	%	Sample %
Fingertip Punctate	1	25.00	5.263
Brushed Band at top	1	25.00	5.263
Rectangular Punctations into Smoothed Rim Fold	1	25.00	5.263
V-shaped Notches into bottom of Rim Fold	1	25.00	5.263
<b>TOTAL</b>	<b>4</b>	<b>100.00</b>	<b>21.052</b>

NECK DECORATIONS			
Decoration	#	%	Sample %
Oblong Punctations	1	50.00	14.286
Band of short incised Lines Perpendicular to Lip	1	50.00	14.286
<b>TOTAL</b>	<b>2</b>	<b>100.00</b>	<b>28.570</b>

TABLE 43  
CROSS TABULATION OF SURFACE FINISH AND DECORATIONS, 31Rd1

Surface Finish	LIP DECORATION				Total
	V shaped notches	Fingertip notches	Circular punctations	Burnished	
Net, Knotted	-	-	-	-	-
Smoothed	1	-	1	-	2
Burnished	-	-	-	-	-
Concentric Circle	-	1	-	-	1
<b>TOTAL</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>-</b>	<b>3</b>

Finish	RIM DECORATIONS				Total
	Fingertip notches	Brushed band	Rectangular punctations*	V shaped notches bottom of rim fold	
Smoothed	-	-	-	1	1
Burnished	-	-	-	-	-
Concentric Circle	-	1	1	-	2
<b>TOTAL</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>4</b>

Finish	NECK DECORATIONS		Total
	Oblong punctations	Band of incised lines perpendicular to lip	
Smoothed	-	1	1
Burnished	1	-	1
<b>TOTAL</b>	<b>1</b>	<b>1</b>	<b>2</b>

\* into smoothed rimfold

TABLE 44  
CROSSTABULATION OF VESSEL FORM AND DECORATIONS, 31Rdl

LIP DECORATIONS

Vessel Form	Decoration			Total
	V shaped notches	Fingertip notches	Circular punctations	
Jar	1	1	1	3

RIM DECORATIONS

Vessel Form	Decorations				Total
	Fingertip Punctate	Brushed Band	Rectangular Punctations	V shaped Notches bottom into Smoothed Rimfold	
Jar	1	1	1	1	4

NECK DECORATIONS

Vessel Form	Decoration		Total
	Oblong Punctations	Band of Incised Lines Perpendicular to Lip	
Jar	1	1	2

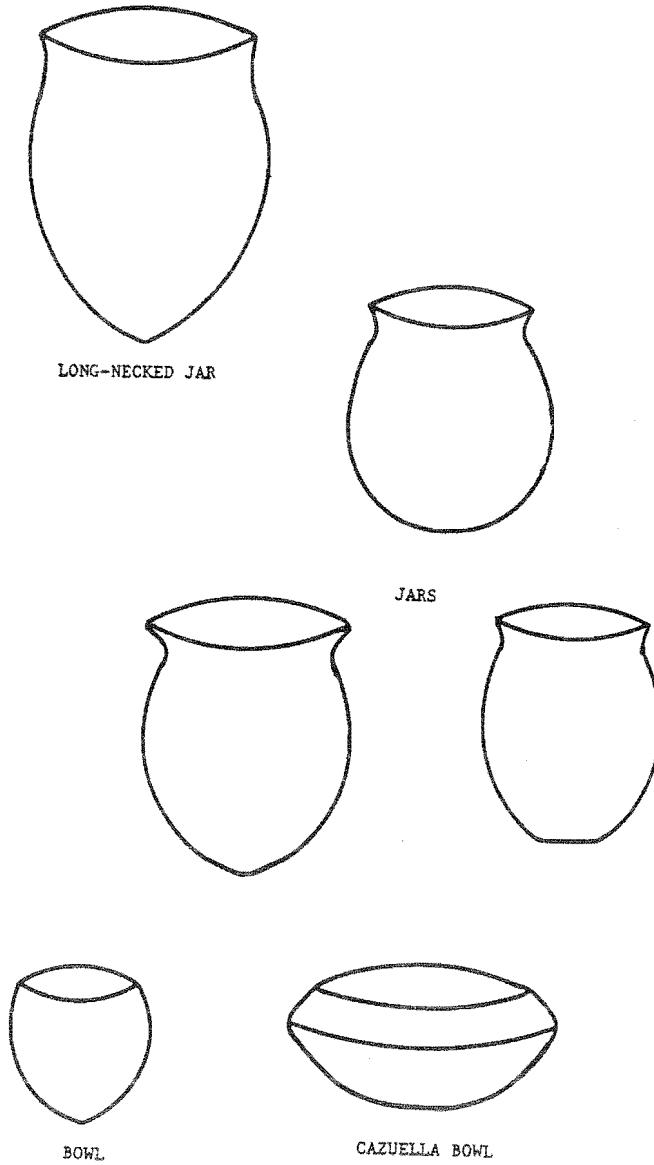


Figure 24.--Vessel forms (reconstructed) present, 31Rdl.  
(see also Coe n.d.).

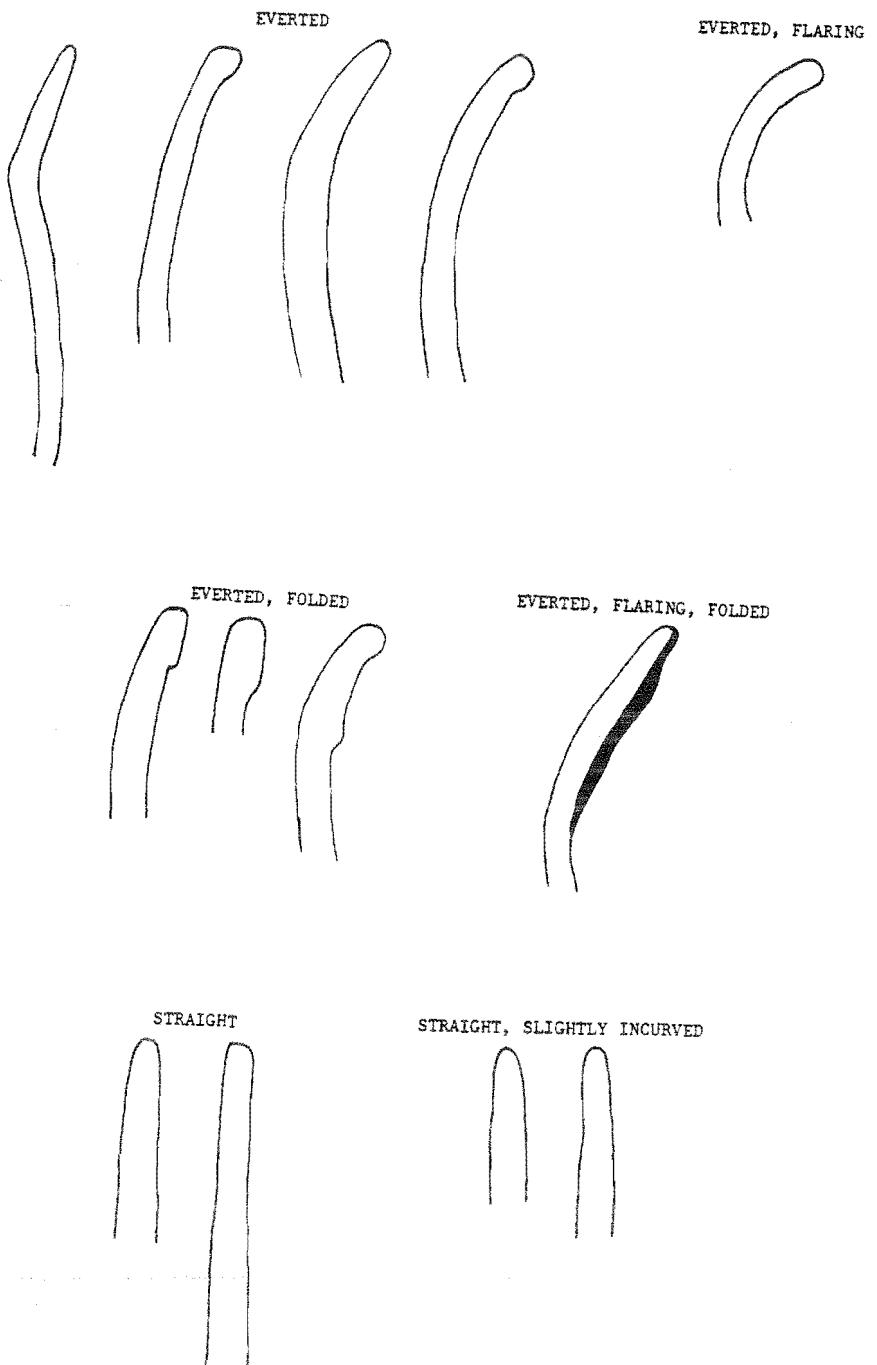


Figure 25.--Rim profiles, 31Rd1.

Plate XI.--Miscellaneous sherds of the Caraway Series from 31Rdl. (a) smoothed; (b) simple stamped; (c) net impressed; (d) burnished; (e) brushed; (f) cordmarked; and (g) concentric circle complicated stamped.

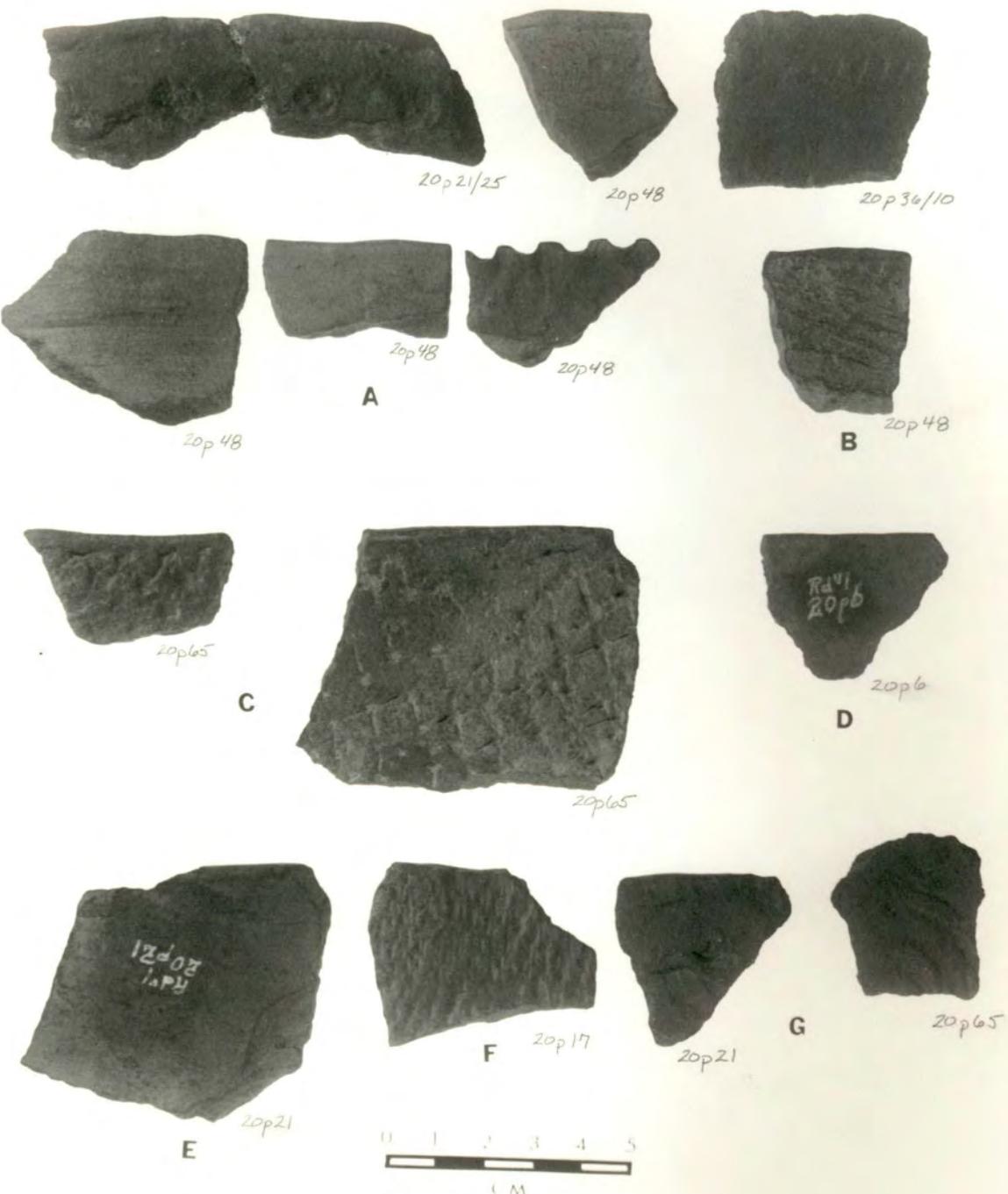
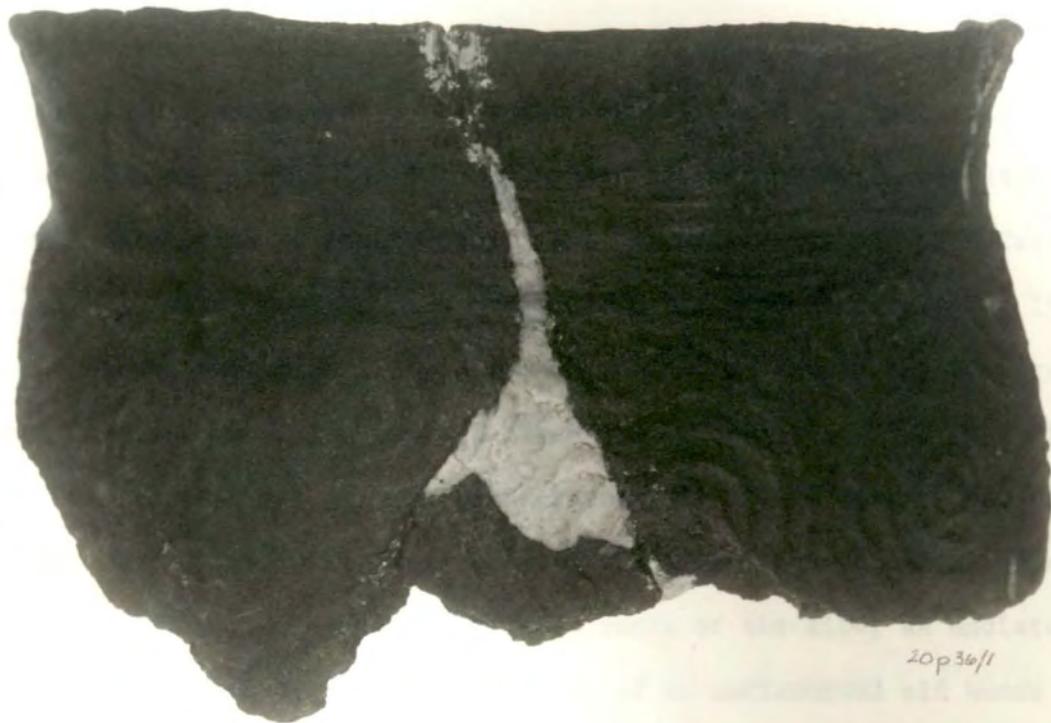


Plate XII.--Caraway concentric circle complicated stamped jar from Pit 27 at 31Rdl. The rim has been brushed/scraped.



0 1 2 3 4 5  
CM

## The Wall Site (310r11)

The excavations at the Wall site near Hillsboro, North Carolina (Figure 14), were conducted in the summer of 1937<sup>8</sup>, and the late fall and winter of 1940 and 1941. The Archaeological Society of North Carolina, the Research Laboratories of Anthropology, and the University of North Carolina at Chapel Hill were involved with one or both of these efforts. The 1940-1941 project was part of a WPA program administered through the University of North Carolina under the overall direction of Joffre L. Coe. The field director was Ed Lowery. An area of approximately 14,225 square feet was excavated. Stratigraphy consists of a plowzone over either subsoil, an old humus (disturbed also), or, in restricted parts of the site, an undisturbed midden. This midden, in turn, lies on top of an undisturbed old humus zone. The midden appears to have been associated with a palisade.

Numerous postholes were uncovered. The house structures noted were circular. A total of 66 features were unearthed and removed. The great majority ( $n=43$ ) were postholes of various sizes and shapes, or posthole clusters. A few small pits/"trash" pits ( $n=3$ ), and small shallow basins ( $n=5$ ) were present. A total of five large shallow basins were also found. These are similar to features identified as large earth ovens from the Historic Indian sites on the Dan River (Wilson 1980), and Feature 4 at the Poole Site. Three irregularly shaped features were identified as undisturbed remnants of the midden. Two of the features were of an unknown classification. Two features were hearths. One feature was a deep storage pit, similar in form to such features associated with the excavated sites on the Dan River. This pit was found during the 1937 season, and measured 2.25 feet in diameter and 2.5 feet deep (below the top of subsoil). A total of four burials were recovered, all of the shaft and side chamber

style (Coe 1952a:311). No European trade material was present with any of the inhumations. For the associated grave goods, Coe (1952b:311) described only marine shells cut and ground into beads of various kinds, and shell gorgets.

Artifacts of European manufacture from other contexts were few, and those from undisturbed contexts even less so (Table 45). The plowzone at the site contained one tin buckle, three gun flints, a single iron spoon fragment, and a solitary iron ring. The undisturbed soil of the 1937 excavation produced one glass trade bead, three "worked" (?) iron nails, two lead balls, one trade (kaolin ?) pipe stem, and one iron fragment. A single red glass trade bead was found in a posthole. The undisturbed midden of the 1940-1941 excavation possessed only one glass trade bead. At the top of the undisturbed midden two hand-forged nails, three glazed historic sherds, and one fused piece of glass were discovered. From tests placed on the river terrace at the site, a single trade (kaolin ?) pipe stem was recovered.

Most of the European manufactured items from the plowzone, river terrace, and top of undisturbed midden probably came from the Euro-American use of the site. This would place the site in the middle of the eighteenth Century, long after the Indians had abandoned the area. The material from the posthole and that definitely within the undisturbed midden--two glass beads--are all that can be positively associated with the aboriginal presence at the site. Coe (1941; 1952a:310-311; 1952b) identifies the Wall Site with the village of the Occaneechi visited by lawson in 1701. Based on the scarcity of European trade items at the site, Kit Wesler (1977:68-69) argues that 310r11 is best assigned to the period of early contact with the English, possible during the early 1650s.

TABLE 45  
ARTIFACTS OF EUROPEAN MANUFACTURE RECOVERED FROM THE WALL SITE, 310x11

Artifact	Flowzone	Provenience				Total
		Top of undisturbed midden	Midden (1941-42)	Undisturbed soil (1937)	Posthole	
Tin Buckle	1	-	-	-	-	1
Gunflints	3	-	-	-	-	3
Iron Spoon						
Fragments	1	-	-	-	-	1
Iron Ring	1	-	-	-	-	1
Glass Trade	-	-	1	1	1	3
Bead						
"Worked" Iron	-	-	-	1	-	1
Nails						
Hand-Forged	-	2	-	-	-	2
Nails						
Lead Balls	-	-	-	2	-	2
"Trade" Pipe	-	-	-	1	-	1
Stem						
Iron Fragment	-	-	-	1	-	1
Glazed	-	3	-	-	-	3
Historic						
Sherds						
Fused Piece	-	1	-	-	-	1
of Glass						
<b>TOTAL</b>	<b>6</b>	<b>6</b>	<b>1</b>	<b>4</b>	<b>1</b>	<b>20</b>

The pattern within the material culture at the Wall Site is very similar to that found at the Poole Site. 310r11 lacks a large amount of European trade items, and has numerous shell beads and three shell gorgets associated with the burials. The nature of the assemblage argues for its assignment to either the Late Prehistoric or Protohistoric period of the Piedmont. If this association is with the Spaniards, a date in the last half of the sixteenth century would be justified. However, the trade material is indicative of a relationship with the English of the Atlantic Coast. The one white "seed" glass bead, which dates between A.D. 1600 and 1879, is similar to those from the Poole Site, and the red glass trade bead from 310r11 was probably manufactured between A.D. 1600 and 1836 (Brain 1979:106). Combined with the paucity of the European trade material, and the quantity and configuration of the aboriginal artifacts, the site probably was occupied sometime during the first half of the seventeenth century, before direct contact with the English was established. It is possible that the European trade material represents contamination derived from the definite Historic period site of 310r231 that is adjacent to 310r11 (Roy Dickens, personal communication, 1983). If this is the case, then the site may date to the Late Prehistoric or Early Protohistoric period.

#### The Hillsboro Ceramics from the Wall Site

The ceramics recovered from the excavations at 310r11 belong to the Hillsboro Series. These ceramics have often had references made to them in the literature (Lewis 1951; Coe and Lewis 1952; Coe 1952a, 1952b, 1964), yet they have never formally been defined. Gardner (1980:74-77) recently described what Hillsboro meant to him. However, he did not have access to the ceramics from the type site as he developed his

description. It was based only on sherds collected from sites in the Dan River drainage (31Sk6 and the Leggett Site), and from beyond the Blue Ridge Mountains on the upper Roanoke River (the Buzzard Rock Site) in Virginia. Presented below will be a general description of Hillsboro ceramics based on the available literature.

Hillsboro ceramics have been sketchily described as a fine-sand tempered ware with a hard compact paste (Coe 1952a:311; Gardner 1980:74). Cryptically, Lewis noted that Hillsboro ceramics possessed fine sand with small particles of crushed quartz as temper (1951:260). Surface finishes (Table 46) associated with the ceramics were simple stamping, check stamping, corncob impressing and smoothing (Coe 1952a:311); simple stamping and smoothing (Lewis 1951:260-261); and check stamping, burnishing and complicated stamping (Gardner 1980:74). Interior finishes were smoothed or burnished. Vessel forms included conoidal jars, cazuella bowls, "cuspidors", which combined the incurved rim of the cazuella bowl as the shoulder of a vessel with the traditional everted rim, and hemispherical bowls (Coe 1952a:311; Gardner 1980:74). Decorations consisted of folded rims, notched lips, incised designs and punctations (Coe 1952a:311), and incised or trailed lines, and circular punctations on the neck (Gardner 1980:74). The presence of folded-everted, and incurved rim forms was implied by Coe (1952a:311), while Gardner (1980:75) listed flaring rims.

#### Attribute Analysis of the Wall Site Ceramics

Recently, I (1982) presented a detailed description of Hillsboro ceramics based upon an analysis of a sample of the rimsherds recovered from the 1937 and 1940-1941 excavations, and the results of a study present in manuscript form as part of the Primary Site Data File of the Research Laboratories of Anthropology. This manuscript detailed the analysis of

over 6000 sherds recovered from the 1940-1941 excavations. This provided data on the different kinds of surface finishes present in the ceramic collection. Information on surface treatment, and other technical aspects of the pottery presented below is derived from the examination (by the author) of 124 rim sherds, rim sherds articulated with the other sections of a vessel, and four whole pots recovered from the 1937 and the 1940-1941 excavations at the Wall Site. For the former excavation, sherds from both undisturbed levels and features were included in the analysis. Only sherds from features and postholes were selected from the 1940-1941 excavation. This was primarily to keep the sample sizes from the sites as equal as possible.

Plates XIII-XVIII show examples of the various surface finishes, vessel types, and decorations present in the ceramic collection from 31Or11. Hillsboro paste is composed of clay with fine sand temper added as temper. The size of the sand quartz particles ranges from .08mm to .30mm, with a mean of .13mm. Occasionally, particles up to .56mm are present. Sand is used in amounts varying from moderate, to small and none as temper.

Exterior colors range from buff to brown, orange, tan grey and dark grey. Surface finishes present, based on the manuscript analysis of the 1940-1941 sherds, are, in descending order by frequency (Table 46), simple stamped, smoothed, check stamped, burnished, cordmarked, net impressed, brushed/scraped, corncob impressed, fabric marked, and complicated stamped. The latter two are present only as a minute trace, the percentages representing one specimen of each. With the exception of the lack of cordmarked, brushed/scraped, fabric marked, and complicated stamped finishes, the recent study possesses the same surface finishes in the same relative order (Table 47). For the simple stamped treatments, two

TABLE 46

SURFACE FINISHES PRESENT IN THE CERAMIC COLLECTION OBTAINED DURING THE  
1940-1941 SEASON AT 310rl1 BY PERCENTAGE  
(BASED ON A SAMPLE OF 4210 SHERDS FROM ALL AREAS OF THE EXCAVATION)

Surface Finish	%
Simple Stamped	62.85
Smoothed	18.34
Checked Stamped	14.77
Burnished	1.47
Cordmarked	1.38
Net Impressed	0.74
Brushed	0.19
	100.00

different styles are present. One consists of simple stamped sections that are cross directional and form a checkered pattern. This variant was noted by Coe (1952a:Figure 166 A) as being the dominant form of simple stamping. The other style sees the pattern of simple stamping continue around the vessel in a spiral, starting from the rim. This is present only on a few specimens, although it is difficult to differentiate sherds of this style from sherds that once may have been part of the cross-directional pattern, but are too small to contain enough of the design to be recognized.

Interior finishes (Table 47) are predominately smoothed, with a very minor number of burnished, plain and scraped surfaces. Lips (Table 47) are either flat, rounded, rounded/thinned, and only rarely flat/thinned ( $n=4$ ). Jars continue as the dominant vessel form. The traditional constricted-necked jar with everted rim, and the open-mouthed flaring rim is present. The simple cuspidor is represented by one specimen.

Rims present for the jars are everted forms that range from practically straight to bent almost flat (Figure 27). Of the 113 rims placed in the everted category, only 45 (39.8%) are folded (Table 47). Rim folds present range from true folds to what degenerates almost to a thickened rim. Body forms are globular, conoidal and rounded. Bases are rounded, semi-conoidal and flat.

The bowls (Figure 26) identified are the traditional form with straight to slightly incurved rims, hemispherical to semi-hemispherical varieties, and a small number of cazuella bowls (Table 47). Rim forms are incurved for the hemispherical bowls, and slightly incurved to straight for cazuella bowls (Figure 27). Body forms are semi-conoidal/rounded/globular for the traditional bowls, and rounded for the hemispherical and cazuella bowls. Bottoms are semi-conoidal, rounded or flat.

Decorations are of two major kinds, and numerous miscellaneous designs (Tables 48 and 49). Some form of fingertip manufactured motif, with 65 occurrences, is one of the major types. This design includes fingertip notches, fingertip punctates, fingerpinched bands, shallow fingertip impressions, and fingernail punctations. Simple v-shaped notches are the next most prevalent motif ( $n=28$ ). Following this is the continuation of the body surface finish onto the lip. For the Hillsboro ceramics, simple ( $n=6$ ) and check stamped ( $n=6$ ) are present. Miscellaneous designs include oblong punctations ( $n=4$ ), smoothed bands ( $n=3$ ), single incised lines parallel to the lip ( $n=2$ ), complicated incised designs ( $n=2$ ), circular punctations ( $n=2$ ), incised inverted v's ( $n=1$ ), multiple lines incised parallel to the lip ( $n=1$ ), and u-shaped punctations made with a round instrument ( $n=1$ ). As for the placement of these decorations (Table 48), the lip/rim edge possesses the most ( $n=83$ ), followed by the lip ( $n=25$ ), rim ( $n=8$ ), shoulder ( $n=1$ ), and neck ( $n=2$ ).

The association of the decorations with surface finish and vessel form shows an interesting pattern. Jars are the predominate vessel form, and exhibit by far the great majority of the decorations (Table 50). The only designs not associated with jars are the two shoulder decorations, and the miscellaneous unique designs. The former two decorations are circular punctations placed on the shoulder of a hemispherical bowl, and a combined incised design (an incised line along the shoulder with u-shaped punctations underneath and half concentric circles on top) on a cazuella bowl. The miscellaneous unique design consists of incised lines of various geometric shapes on a small bowl with straight to slightly incurved sides.

When surface finish is considered (Table 51), the distribution of the decorations mirrors the popularity of a particular treatment. The exception to this is burnished surfaces. Here, the only decorations present are two examples of v-shaped notches across the lip, and the two shoulder decorations. The v-shaped notches represent the sole occurrence of this design on the lip. The rest are confined to the lip/rim area. No lip/rim decorations, the most numerous of all the motifs, are present on the burnished sherds. Nor are any rim decorations, except for the half concentric circles associated with the complicated incised design at the shoulder of a cazuella bowl.

In all, the majority of the decorations present are typical of those noted in the Prehistoric assemblages. New designs are the geometric incised lines (as opposed to the traditional linear incising present in the earlier ceramic assemblages). The geometric designs are associated with the burnished cazuella bowls, although the concept "spilled" over onto the smoothed semi-conoidal bowls. These last named bowls are affiliated with the traditional ceramic complexes of the northern Carolina Piedmont. Likewise, the only new surface treatment present is burnishing. Complicated stamping, noted on only one sherd, is certainly not characteristic of the Hillsboro ceramics at this time. Instead, lineal connections with the Roanoke Valley to the northeast, and in particular ceramics of the Gaston Series (Coe 1964:105-106), are strongly exhibited. Similarities include the predominance of simple stamped surface finishes, and fingertip decorations, primarily punctates and fingerpinched bands, placed on the lip/rim edge, rim and neck. The "southern influences", denoted by burnished and complicated stamped surface treatments, cazuella bowls, cuspidors, and geometric-curvilinear incising, are present, but not very strong.

TABLE 47

SURFACE FINISH, INTERIOR FINISH, LIPTYPE, RIM TYPE AND VESSEL FORM  
PRESENT, 310r11

Finish	#	%
Simple Stamped	58	46.774
Check Stamped	30	24.194
Smoothed	20	16.129
Burnished	7	5.645
Corncob Impressed	4	3.225
Net Impressed, Looped	2	1.612
Net Impressed, Knotted	1	0.806
Net Impressed, General	1	0.806
Unidentified	1	0.806
Total	124	100.000

## INTERIOR FINISH

Finish	#	%
Smoothed	105	87.500
Smoothed Over Scraped	4	3.333
Plain	4	3.333
Burnished	6	5.000
Scraped	1	0.833
TOTAL	120	100.000

## LIP TYPE

Type	#	%
Flat	55	44.355
Flat/Thinned	4	3.226
Rounded	44	35.484
Rounded/Thinned	21	16.935
TOTAL	124	100.000

TABLE 47—Continued

## RIM TYPE

Type	#	%
Everted	66	53.226
Everted, Flaring, Flat	2	1.613
Everted, Folded	45	36.290
Straight	4	3.226
Incurved	7	5.645
TOTAL	124	100.000

## VESSEL FORM

Form	#	%
Jar	110	88.710
Open-mouth Jar	2	1.613
Cuspider	1	0.806
Bowl	9	7.258
Hemispherical Bowl	1	0.806
Cazuela Bowl	1	0.806
TOTAL	124	100.000

TABLE 48  
DECORATIONS AND PLACEMENT OF DECORATIONS ACCORDING TO VESSEL SECTION,  
310x11

Decoration	Vessel Section					Total
	Lip	Lip/Rim	Rim	Neck	Shoulder	
V-shaped Notches	2	25	-	-	-	27
Fingertip Treatment	6	58	-	1	-	65
Single Line Incised	2	-	-	-	-	2
Parallel to Lip						
Circular Punctations	1	-	-	-	1	2
Oblong Punctations	2	-	-	-	-	2
Rectangular Punctations	1	-	1	-	-	2
Smoothed Bands	-	-	3	-	-	3
Incised, Inverted v's	-	-	1	-	-	1
Multiple Lines Incised	-	-	1	-	-	1
Parallel to Lip						
U-shaped Punctations	-	-	-	1	-	1
Complicated Incised	-	-	-	-	1	1
Geometric Design						
Simple Stamping	6	-	-	-	-	6
Check Stamping	6	-	-	-	-	6

Placement of Decorations According to Vessel Section

Vessel Section	Occurrences	# Decorated	% Decorated
Lips	124	25	20.161
Lip/Rim	124	83	66.935
Rim	124	8	6.452
Neck	54	1	1.852
Neck/Shoulder	23	-	-
Shoulder	21	2	9.524

TABLE 49  
DISTRIBUTION OF DECORATIONS ACCORDING TO VESSEL SECTION, 310r11

**LIP DECORATIONS**

Decoration	#	%	Sample %
V-shaped Notches	2	8.000	1.613
Fingertip Notches	5	20.000	4.032
Fingertip Notches with Simple Stamping	1	4.000	0.806
Simple Stamping	5	20.000	4.032
Check Stamping	6	24.000	4.839
Circular Punctations	1	4.000	0.806
Oblong Punctations	1	4.000	0.806
Rectangular Punctations	2	8.000	1.613
Single Line Incised down Middle	1	4.000	0.806
Single Line Incised along Interior Edge	1	4.000	0.806
<b>TOTAL</b>	<b>25</b>	<b>100.000</b>	<b>20.159</b>

**LIP/RIM DECORATIONS**

Decoration	#	%	Sample %
V-shaped Notches	25	30.120	20.161
Fingertip Notched/ Pinched/Impressed	57	68.675	49.968
Fingertip Notches and v-shaped Notches	1	1.205	0.806
<b>TOTAL</b>	<b>83</b>	<b>100.000</b>	<b>66.935</b>

**RIM DECORATIONS**

Decorations	#	%	Sample %
Smoothed Band	2	25.00	1.613
Smoothed Rim Fold	1	12.50	0.806
Suspension Holes	2	25.00	1.613
Incised Inverted v's, one line per side, into Smoothed Band	1	12.50	0.806
Multiple Lines Incised Parallel to Lip	1	12.50	0.806
Rectangular Punctations, center of Fold	1	12.50	0.806
<b>TOTAL</b>	<b>8</b>	<b>100.00</b>	<b>6.452</b>

TABLE 49—Continued

## NECK DECORATIONS

Decoration	#	%	Sample %
Fingernail Punctations in a Line Parallel to Lip	1	100.00	1.852

## SHOULDER DECORATIONS

Decoration	#	%	Sample %
Incised Line with U-shaped Punctations underneath and Incised Half Concentric Circles on top	1	100.00	4.762

## MISCELLANEOUS UNIQUE DESIGNS

Decoration	#	%	Sample %
Single Incised Line, curved like a hockey stick, from base up to right across body	1	50.00	0.806
Sets of two Incised Lines in a curve, one "x", and an occasional stray incised line	1	50.00	0.806
TOTAL	2	100.00	1.613

TABLE 50  
CROSSTABULATION OF VESSEL FORM AND DECORATION, 310r11

Form	Decoration										Line Incised down Middle	Line Incised along Exterior Edge	Total
	V-shaped Notches	Fingertip Notches	Fingertip Notched w/ Simple Stamping	Simple Stamp	Check Stamp	Circular Punct.	Oblong Punct.	Rectangular Punct.	Line Incised down Middle				
Jar	"	5	1	5	6	1	1	2	1	1	-	1	23
Hemispherical Bowl	1	-	-	-	-	-	-	-	-	-	-	-	1
Cazuella Bowl	1	-	-	-	-	-	-	-	-	-	-	-	1
TOTAL	2	5	1	1	6	1	1	2	1	1	1	1	25

## LIP/RIM DECORATION

Form	V-shaped notches	Decoration		Total
		Fingertip notched/ pinched/impressed	Fingertip notches and v shaped notches	
Jar	25	57	1	83

## RIM DECORATIONS

Form	Smoothed band	Smoothed rim fold	Suspension holes	Decoration			Total
				Incised inverted v's into smoothed band	Multiple incised lines	Rectangular punctations center of rim fold	
Jar	2	1	2	1	1	1	8

## NECK DECORATIONS

Form	Decoration		Total
	Fingernail punctations		
Jar		1	

## SHOULDER DECORATIONS

Form	Decoration		Total
	Circular punctations	Complicated combined incised and punctuated design	
Hemispherical Bowl	1	-	1
Cazuella Bowl	-	1	1
TOTAL	1	1	2

## MISCELLANEOUS UNIQUE DESIGN

Form	Decoration		Total
	Incised "hockey" stick	Sets of two incised lines	
Bowl	1	1	2

TABLE 51  
CROSSTABULATION OF SURFACE FINISH AND DECORATIONS, 310r11

LIP DECORATIONS

Finish	Decoration										Line Incised along Exterior Edge	Total
	V-shaped Notches	Fingertip Notches	Fingertip Notched w/ Simple Stamping	Simple Stamp	Check Stamp	Circular Punct.	Oblong Punct.	Rectangular Punct.	Line Incised down Middle			
Corn cob Impressed	-	-	-	-	1	-	-	-	-	-	-	1
Smoothed	-	-	-	-	1	-	-	1	1	-	-	3
Burnished	2	-	-	-	-	-	-	-	-	-	-	2
Simple Stamped	-	5	1	5	-	-	-	1	-	1	1	13
Check Stamped	-	-	-	-	5	-	1	-	-	-	-	6
TOTAL	2	5	1	5	6	1	1	2	1	1	1	25

LIP/RIM DECORATION

Finish	V shaped notches	Decoration		Total
		Fingertip notched/ pinched/impressed	Fingertip notches and v shaped notches	
Net Impressed (all)	-	2	-	2
Corn cob Impressed	2	1	-	3
Smoothed	5	6	-	11
Simple Stamped	13	29	-	42
Check Stamped	4	19	1	24
Unidentified	1	-	-	1
TOTAL	25	57	1	83

RIM DECORATIONS

Finish	Smoothed band	Smoothed rim fold	Suspension holes	Decoration			Total
				Incised inverted V's into smoothed band	multiple incised lines	Rectangular punctations center of rim fold	
Net Impressed (all)	1	-	-	-	-	1	2
Simple Stamped	-	1	2	1	1	-	5
Check Stamped	1	-	-	-	-	-	1
TOTAL	2	1	2	1	1	1	8

NECK DECORATIONS

Finish	Decoration		Total
	Fingernail punctations		
Check Stamped		1	

SHOULDER DECORATIONS

Finish	Circular punctations	Decoration		Total
		Complicated combined incised and punctated design		
Burnished	1	1		2

MISCELLANEOUS UNIQUE DESIGN

Finish	Decoration		Total
	Incised "hockey" stick	Sets of two incised lines	
Smoothed	1	1	2

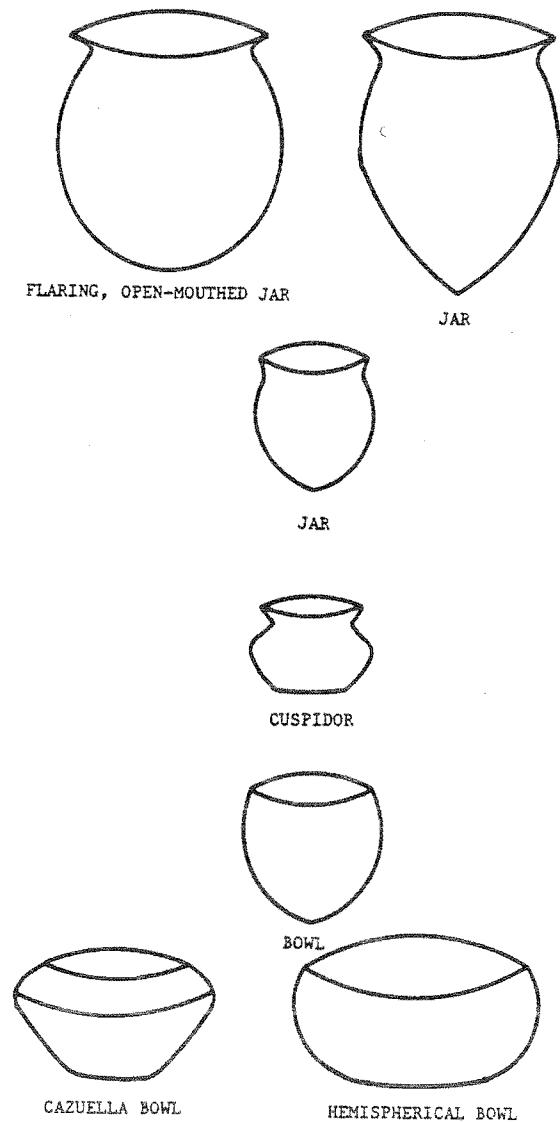


Figure 26.--Vessel forms (reconstructed) present, 310r11.  
(see also 1952a: Figure 166).

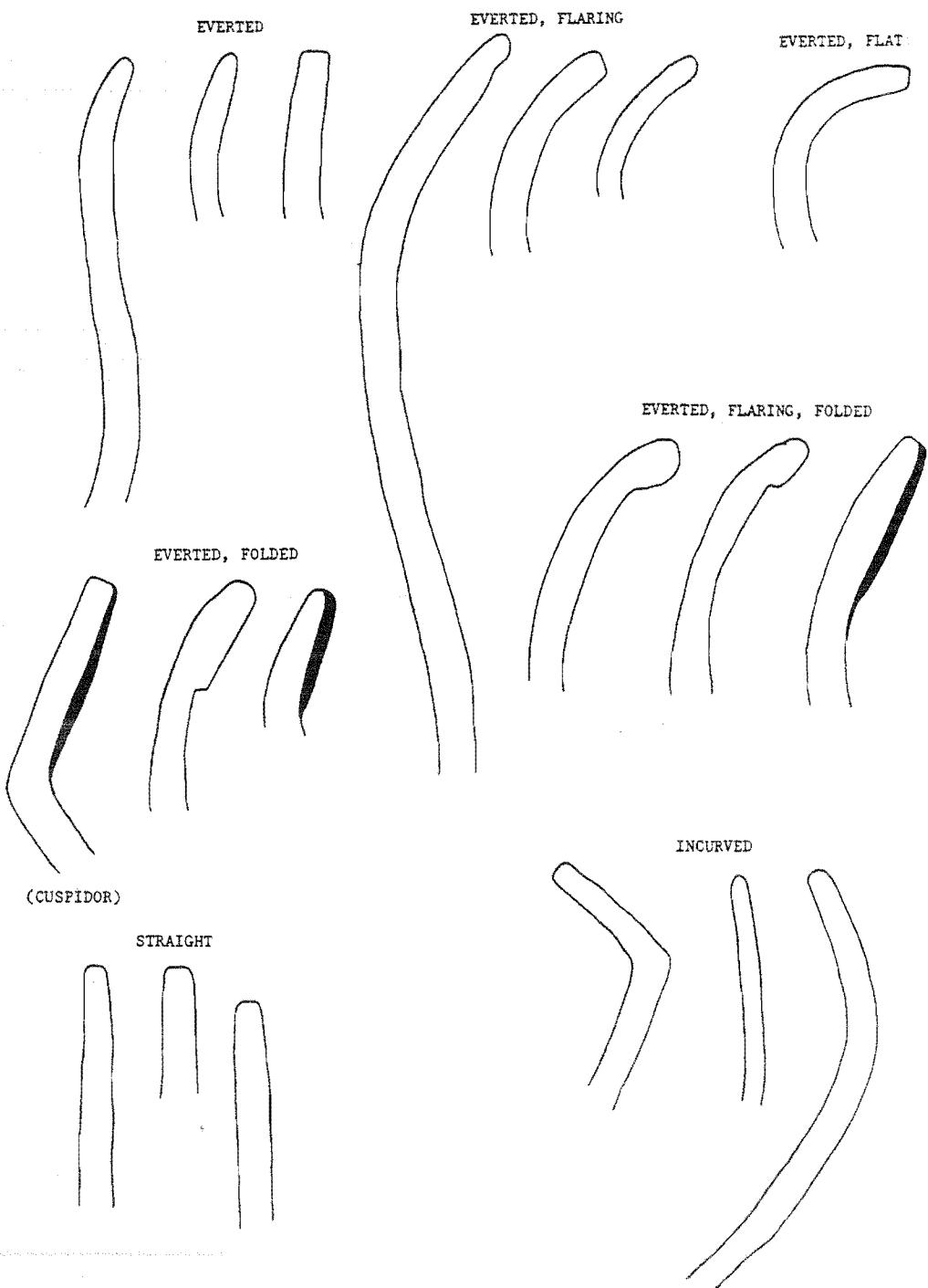


Figure 27.--Rim profiles, 310r11.

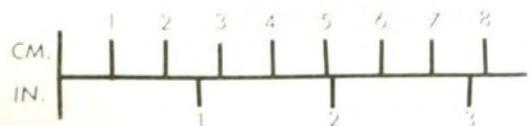
Plate XIII.--Hillsboro check stamped sherds from 310r11. Decorations are: (upper left) u-shaped notches cut into the lip-rim edge; (upper right) u-shaped notches cut into the lip-rim edge of a folded rim; (upper middle right, and center) check stamping continued onto the lip; and (lower left) u-shaped notches cut into the lip-rim edge and on the neck.



Plate XIV.--Hillsboro simple stamped sherds from 310r11 that show the cross-stamped block design. Decorations are: (left) u-shaped notches cut across the lip; and (right) u-shaped notches cut across the lip, with an everted, flaring, folded rim.



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Plate XV.--Hillsboro simple stamped (left) and Hillsboro net impressed (right) sherds from 310r11. The decoration placed on the net impressed folded rim is u-shaped notches cut across the lip-rim edge.



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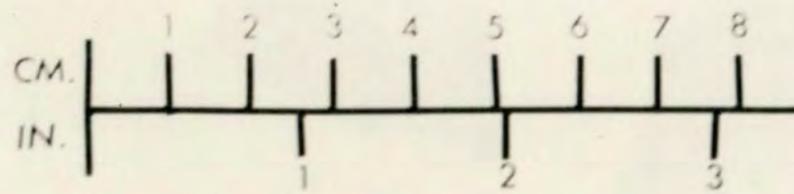


Plate XVI.--Miscellaneous surface finishes on Hillsboro Series sherds from 310r11. (a) burnished; (b) smoothed; (c) smoothed over simple stamped; and (d) smoothed over check stamped.

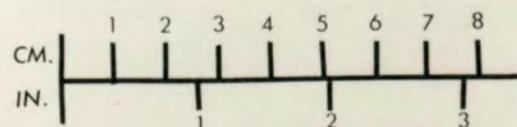
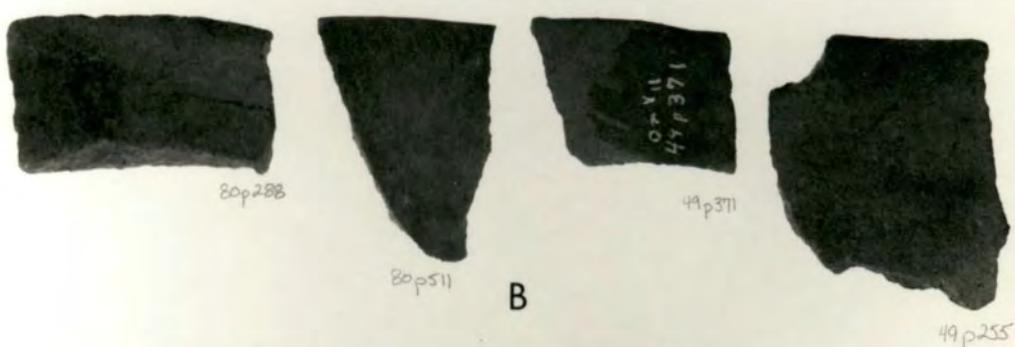


Plate XVII.--Smoothed-over Hillsboro check stamped jar from Burial 2 at  
310rl1.

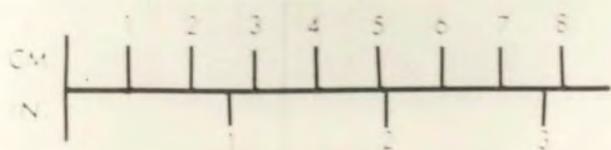
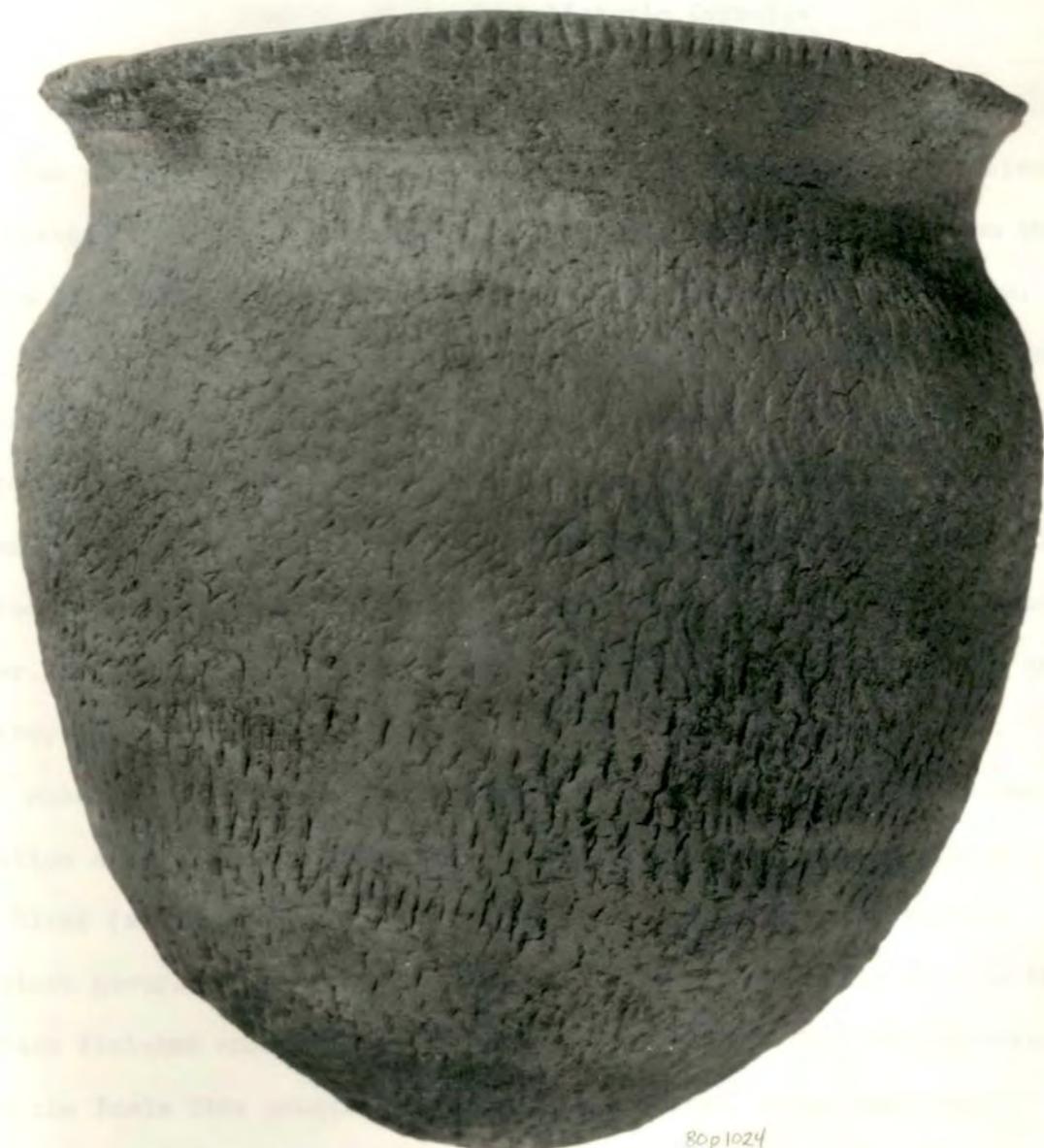
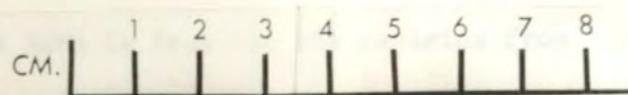


Plate XVIII.--Hillsboro corncob impressed jar from Burial 4 at 310r11.  
The decoration on the vessel is v-shaped notches cut across the lip.



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### Summary of the Protohistoric Ceramics

The two sites considered in this section on the Protohistoric period are from regions other than those represented by sites in the Prehistoric or Historic period ceramic chapters. The Poole Site (31Rd1) is from the Yadkin River drainage in the south central Piedmont of North Carolina. The Wall Site (31Or11) is located on the upper Neuse drainage in the northeast central North Carolina Piedmont. In neither case are the Prehistoric or Historic period archaeological assemblages with which they are associated known. Both exist as isolated islands of data between the unknown realms of the Catawba River and the better known areas along the Dan and Roanoke River. The temporal and spatial relationships of the two sites with one another and with the Prehistoric and Historic sites remains obscure.

When compared to one another, the two sites have little in common. The addition of the material from 31Skl, a early Historic period site on the Dan River (see Chapter 17), for comparative purposes creates a third distinct group. Differences between the three are generally tied to the surface finishes and decorations present (Table 52). The Caraway ceramics from the Poole Site possess predominately smoothed, burnished, and complicated stamped surface treatments, which have most of the decorations. For the Wall Site, simple stamped, check stamped, and smoothed surfaces comprise the majority, and they also have an overwhelming proportion of the decorations. The same is true for the ceramics from 31Skl, where net impressed, burnished, and smoothed finishes predominate.

Differences between the Caraway and Hillsboro ceramics also include the placement of decorations on the vessel (Table 53), with none being found on the lip/rim edge in the former, and an overwhelming majority in the latter. Variation in neck/shoulder and shoulder decorations, and the

distribution of decorations by surface finish and vessel form (Table 54) are not addressed in detail due to the small sample size of the Caraway ceramic collection available for study.

In the Caraway ceramics from the Poole Site, traces of Pee Dee influences from the Little River area of the lower Yadkin/upper Pee Dee River drainage can be observed, mainly in the surface and interior finishes present. Burnished and complicated stamped surfaces predominate, but only a concentric circle motif is common for the last named treatment (Table 55). Coe (n.d.) notes a few occurrences ( $n=3$ ) of a spiral and diamond design on sherds that possess a Caraway type paste. The other curvilinear designs associated with Pee Dee ceramics, described by Reid (1967:5-17), are lacking. These include the filfot cross and filfot scroll (second to concentric circles in popularity among Pee Dee complicated stamped designs), quartered circles, arc angles, nested squares, split diamonds, line blocks and herring bone patterns. Also absent, are common Pee Dee decorations such as nodes, shaped pellets, and rosettes.

The same degree of interaction with the "Pee Dee" cultures documented for the Catawba River Valley during the Late Prehistoric period is not evidenced by the Caraway assemblage. The possibility that the Caraway ceramics evolved under influences from both Pee Dee and Catawba Valley sources cannot be dismissed. But the precise nature of the processes involving Pee Dee, Caraway, the Prehistoric Uwharrie, and the Catawba River cultures, also, cannot be defined. Data pertinent to this interplay has yet to be systematically gathered.

The Hillsboro ceramics, in contrast to the Caraway, are better documented, due, primarily, to the presence of a larger collection. Also, some of the cultural/archaeological complexes with which it is possibly

associated are known. As noted earlier, the prevalence of simple stamped over net impressed surfaces implies a closer affinity with the Fall Line section of the Roanoke River for Hillsboro pottery, specifically, with the Gaston Series ceramics, first defined by South (1959:62-82), who was the first to notice the similarity of that series with both Hillsboro and Clarkesville ceramics (South 1959:68-70). The Gaston pottery type was later redefined by Coe (1964:105-106). Hillsboro, Clarkesville, and Gaston ceramics all share three general traits--folded rims, a predominance of fingertip treatment decorations, and a preference for decorating the lip/rim edge. However, a lineal relationship for Hillsboro and Clarkesville ceramics is not indicated. The replacement of simple stamping in Hillsboro for the net impressing of Clarkesville as the dominant surface finishes is probably not due to temporal factors. The thesis that these two ceramic assemblages represent the same group of Indians at two different points in time (Coe 1952a:310-311) has to be re-studied.

It is tempting to tie the Wall Site to the Iroquoian-language groups of the Inner Coastal Plain, but more research has to be conducted before such can be substantiated. Involved in such a study will be the question of the nature of the material culture and the affiliation of the Eno and other Indians of the upper Neuse River and upper Cape Fear drainages. In the ethnohistory section, I proposed that the Indians who had occupied the Wall Site may have been the Shakori. The re-examination of the Hillsboro ceramics lends credence to this speculation, and one can now go further, and suggest that the Shakori are an Iroquoian speaking group. In any event, given the eastward slant of the material remains at the Wall Site, a "non-Siouan" identification for its former inhabitants is a distinct possibility.

TABLE 52

DECORATIVE ELEMENTS PRESENT BY VESSEL SECTION AT TWO PROTOHISTORIC SITES,  
WITH 31Sk1 OF THE HISTORIC PERIOD ADDED FOR COMPARISON

## 31Rd1

Element	Lip	Lip/ Rim	Rim	Neck	Neck/ Shoulder	Shoulder	Total
V-shaped notches	1	-	1	-	-	-	2
Finger treatments	1	-	1	-	-	-	2
Smoothed band	-	-	1	-	-	-	1
Brushed band	-	-	1	-	-	-	1
Circular punctations	1	-	-	-	-	-	1
Oblong punctations	-	-	1	1	-	-	2
Short incised lines	-	-	-	1	-	-	1
perpendicular to lip							
Single incised lines parallel to lip	-	-	-	-	-	-	-
Multiple incised lines parallel to lip	-	-	-	-	-	-	-
Rectangular punctations	-	-	-	-	-	-	-
Surface treatment on lip	-	-	-	-	-	-	-
Incised inverted v's	-	-	-	-	-	-	-
Complicated incised punctate design	-	-	-	-	-	-	-
U shaped punctations	-	-	-	-	-	-	-
TOTAL	3	-	5	2	-	-	10

TABLE 52—Continued

## 310rl1

Element	Lip	Lip/ Rim	Rim	Neck	Neck/ Shoulder	Shoulder	Total
V shaped notches	2	25	-	-	-	-	27
Finger treatments	6	58	-	1	-	-	65
Smoothed band	-	-	3	-	-	-	3
Brushed band	-	-	-	-	-	-	-
Circular punctations	1	-	-	-	-	-	1
Oblong punctations	2	-	-	-	-	-	2
Short incised lines	-	-	-	-	-	-	-
perpendicular to lip							
Single incised lines parallel to lip	2	-	-	-	-	-	2
Multiple incised lines parallel to lip	-	-	1	-	-	-	1
Rectangular punctations	1	-	1	-	-	-	2
Surface treatment on lip	12	-	-	-	-	-	12
Incised inverted v's	-	-	1	-	-	-	1
Complicated incised punctate design	-	-	-	-	-	2	2
U shaped punctations	-	-	-	1	-	-	1
<b>TOTAL</b>	<b>26</b>	<b>83</b>	<b>6</b>	<b>2</b>	<b>-</b>	<b>2</b>	<b>119</b>

TABLE 52—Continued

## 31Skl

Element	Lip	Lip/ Rim	Rim	Neck	Neck/ Shoulder	Shoulder	Total
V shaped notches	1	2	-	-	-	1	4
Fingertip treatment	2	5	2	1	-	-	10
Smoothed band	-	-	5	-	-	-	5
Brushed band	-	-	1	-	-	-	1
Circular punctations	4	-	-	-	-	1	5
Oblong punctations	1	-	-	-	-	-	1
Short incised lines	-	-	-	-	-	-	-
perpendicular to lip							
Single incised lines parallel to lip	-	-	1	-	-	-	1
Multiple incised lines parallel to lip	-	-	-	-	-	-	-
Rectangular punctations	2	-	-	-	-	-	2
Surface treatment on lip	7	-	-	-	-	-	7
Incised inverted v's	1	-	2	-	-	-	3
Complicated incised punctate design	-	-	-	-	-	-	-
U shaped punctations	-	-	-	-	-	-	-
Applique strip	-	-	3	-	-	-	3
Corncob impressing	-	-	-	1	-	-	1
Triangular punctations	-	-	-	-	-	1	1
Quarter moon punctations	-	-	-	-	-	1	1
<b>TOTAL</b>	<b>18</b>	<b>7</b>	<b>14</b>	<b>2</b>	<b>-</b>	<b>4</b>	<b>45</b>

TABLE 53

PLACEMENT OF DECORATIONS BY VESSEL SECTION AT TWO PROTOHISTORIC SITES,  
WITH 31SK1 OF THE HISTORIC PERIOD ADDED FOR COMPARISON

Vessel Section	#	%	#	%	#	%
Lip	5	26.3	25	20.2	20	23.0
Lip/Rim	-	-	83	66.9	7	8.1
Rim	4	21.1	8	6.5	12	13.8
Neck	2	28.6	1	1.9	2	6.7
Neck/Shoulder	-	-	-	-	-	-
Shoulder	-	-	2	9.5	4	14.8

TABLE 54

## CROSSTABULATION OF VESSEL FORM AND DECORATION LOCATION FOR TWO PROTOHISTORIC SITES, WITH 31SK1 ADDED FOR COMPARISON

## 31Rd1

Vessel Form	Lip	Lip/ Rim	Rim	Neck	Neck/ Shoulder	Shoulder	Total
Jar	5	-	4	2	-	-	11
Cuspidor	-	-	-	-	-	-	-
Bowl	-	-	-	-	-	-	-
Hemispherical Bowl	-	-	-	-	-	-	-
Cazuela Bowl	-	-	-	-	-	-	-
<b>TOTAL</b>	<b>5</b>	<b>-</b>	<b>4</b>	<b>2</b>	<b>-</b>	<b>-</b>	<b>11</b>

## 310R11

Jar	23	83	8	1	-	-	115
Cuspidor	-	-	-	-	-	-	-
Bowl	-	-	-	-	-	-	-
Hemispherical Bowl	1	-	-	-	-	1	2
Cazuela Bowl	1	-	-	-	-	1	2
<b>TOTAL</b>	<b>25</b>	<b>83</b>	<b>8</b>	<b>1</b>	<b>-</b>	<b>2</b>	<b>119</b>

## 31Sk1

Jar	12	6	8	2	-	-	28
Cuspidor	-	-	-	-	-	-	-
Bowl	-	-	1	-	-	-	1
Hemispherical Bowl	4	1	1	-	-	-	6
Cazuela Bowl	3	-	-	-	-	4	7
<b>TOTAL</b>	<b>19</b>	<b>7</b>	<b>10</b>	<b>2</b>	<b>-</b>	<b>4</b>	<b>42</b>

TABLE 55

## CROSSTABULATION OF SURFACE FINISH AND DECORATION FOR TWO PROTOHISTORIC SITES, WITH 31Sk1 OF THE HISTORIC PERIOD ADDED FOR COMPARISON

Finish	Lip	Lip/ Rim	Rim	Neck	Neck/ Shoulder	Shoulder	Total
Net Impressed (all)	1	-	-	-	-	-	1
Corncob Impressed	-	-	-	-	-	-	-
Smoothed	2	-	1	1	-	-	4
Burnished	1	-	1	1	-	-	2
Simple Stamped	-	-	-	-	-	-	-
Check Stamped	-	-	-	-	-	-	-
Unidentified	-	-	-	-	-	-	-
Complicated Stamped	2	-	2	-	-	-	4
Cordmarked	-	-	-	-	-	-	-
<b>TOTAL</b>	<b>5</b>	<b>-</b>	<b>4</b>	<b>2</b>	<b>-</b>	<b>-</b>	<b>11</b>
310rl1							
Net Impressed (all)	-	2	2	-	-	-	4
Corncob Impressed	1	3	-	-	-	-	4
Smoothed	3	11	-	-	-	-	14
Burnished	1	2	-	-	-	2	4
Simple Stamped	13	45	5	-	-	-	63
Check Stamped	6	24	1	1	-	-	32
Unidentified	-	1	-	-	-	-	1
Complicated Stamped	-	-	-	-	-	-	-
Cordmarked	-	-	-	-	-	-	-
<b>TOTAL</b>	<b>25</b>	<b>83</b>	<b>8</b>	<b>1</b>	<b>-</b>	<b>2</b>	<b>112</b>

TABLE 55---Continued

## 31Sk1

Finish	Lip	Lip/ Rim	Rim	Neck	Neck/ Shoulder	Shoulder	Total
Net Impressed (all)	9	3	7	1	-	-	20
Corncob Impressed	2	-	-	-	-	-	2
Smoothed	2	3	-	1	-	-	6
Burnished	1	5	1	-	-	4	11
Simple Stamped	1	-	2	-	-	-	3
Check Stamped	-	-	-	-	-	-	-
Unidentified	-	-	-	-	-	-	-
Complicated Stamped	-	-	-	-	-	-	-
Cordmarked	-	-	-	-	-	-	-
Brushed/ Scraped	-	-	-	-	-	-	-
<b>TOTAL</b>	<b>19</b>	<b>7</b>	<b>10</b>	<b>2</b>	<b>-</b>	<b>4</b>	<b>42</b>

## Chapter 17

### HISTORIC CERAMICS

Three sites that have produced sufficient quantities of European trade material to be placed in the Historic Period category have been excavated by the Research Laboratories of Anthropology. Two of these sites, 31Skl and 31Skla (Figure 14), are within a half mile of each other in the same stretch of bottoms along the Dan River in Stokes County, North Carolina. These two sites, have generally been associated with the Sara Indians by most researchers (Keel 1972; Coe 1977; Wilson 1977, 1978, 1979, 1980, 1981; Gardner 1980; Navey 1982). The third site that can be placed in the Historic period is the Bell Farm Site (31Mk85), located on the Catawba River in Mecklenburg County, North Carolina (Figure 14). Following reports of the site's near destruction by pothunters, this site was the scene of a small scale salvage excavation in 1964. A few items of European manufacture were recovered from the features at this site.

For these three sites, the evidence of intense interaction with the Europeans varies. Of the two Dan River sites, 31Skl predates 31 Skla, based on the amount of trade material present. It will be suggested that the former village was occupied during the transition from the Protohistoric to the Historic period. The Bell Farm Site is included, as it provides some idea of the trends and changes that occurred within the "Catawba" Indian area, particularly in the ceramics.

### Early "Upper Saura Town" (31Skl)

This site is one of three within a mile of one another in the bottoms of the Dan River that have produced impressive amounts of European trade items in an aboriginal context. All three of these sites have been the scene of intensive pot-hunting since the middle 1960s. Work was initiated in 1972 at what was thought to be the least disturbed of the sites, 31Skla, in order to save as much information as possible from destruction. From conversations with various pothunters, it was determined that the site with the least amount of European items was 31Skl. The most elaborate materials, which included guns and wire bracelets, came from 31Sk6. The third site, 31Skla, was the last of the three at which pothunting was instigated. The European artifacts recovered by the pothunters were between 31Skl and 31Sk6 in richness. Of these three sites, 31Sk6 has been all but destroyed, and 31Skl has practically suffered the same fate.

The excavation at 31Skl in the summer of 1981 had a number of set goals. The first was to fix the site's chronological position in relation to the other two sites. The extent of the potting, and the damage done to the site, was to be evaluated. Of major importance, however, was the recovery of archaeological data pertinent to a study of the cultural continuity and change of the Indians who had lived along this section of the Dan River.

Previous work had been conducted at the site by R. P. Gravely, an "amateur" archaeologist from Martinsville, Virginia, who had excavated an area in the center of the site during the early 1960s. Unfortunately, this effort coincided with the onset of potting by the local inhabitants at these and other sites on the Dan River. The 1981 excavations had originally been envisioned as the prelude to a number of consecutive years

work at the site, but this has not materialized. It remains the only scientific excavation at the site to date.

The outline of 31Skl is delimited by a dark oblong/circular stain that, after the field is plowed, is easily seen from the built up bed of a highway just to the north. Twelve-and-one-half 10 foot squares (Plate XIX, Figure 28) were placed in the area of the site thought to encompass the southeastern section of the palisade around the village. A line of postholes that ran across the excavated trench in squares 80R250 and 85R240 was interpreted as possibly being part of this palisade. This amounted to only about 20 odd feet of possible palisade wall, so it was uncertain if the line was really part of such a feature. Sections of posthole lines with a more pronounced curve to them were also uncovered. These were sections of large circular house structures. Portions of at least two such houses were delineated.

A total of 40 features were removed during the summer's work (Plate XX). These consisted of straight-sided and bell-shaped storage pits; large diameter "earth oven" type basins; shallow "trash" pits; midden filled depressions; hearths; small shallow basins; and large diameter storage pits. With the exception of the latter, numerous counterparts to these feature types have been uncovered during the excavations at 31Skla.

The six burials at 31Skl were primarily of a shaft and side chamber type, although a simple pit ( $n=1$ ) and modified storage pit ( $n=1$ ) were also used. Grave goods recovered from the 1981 excavations consisted entirely of aboriginally made items, with one possible exception. In Burial 6 (Plate XXI), a bar-shaped gorget of either copper or brass was discovered. A determination of which it is, has yet to be made. If it is the latter, then the gorget is certainly of European origin. If it is the former, it

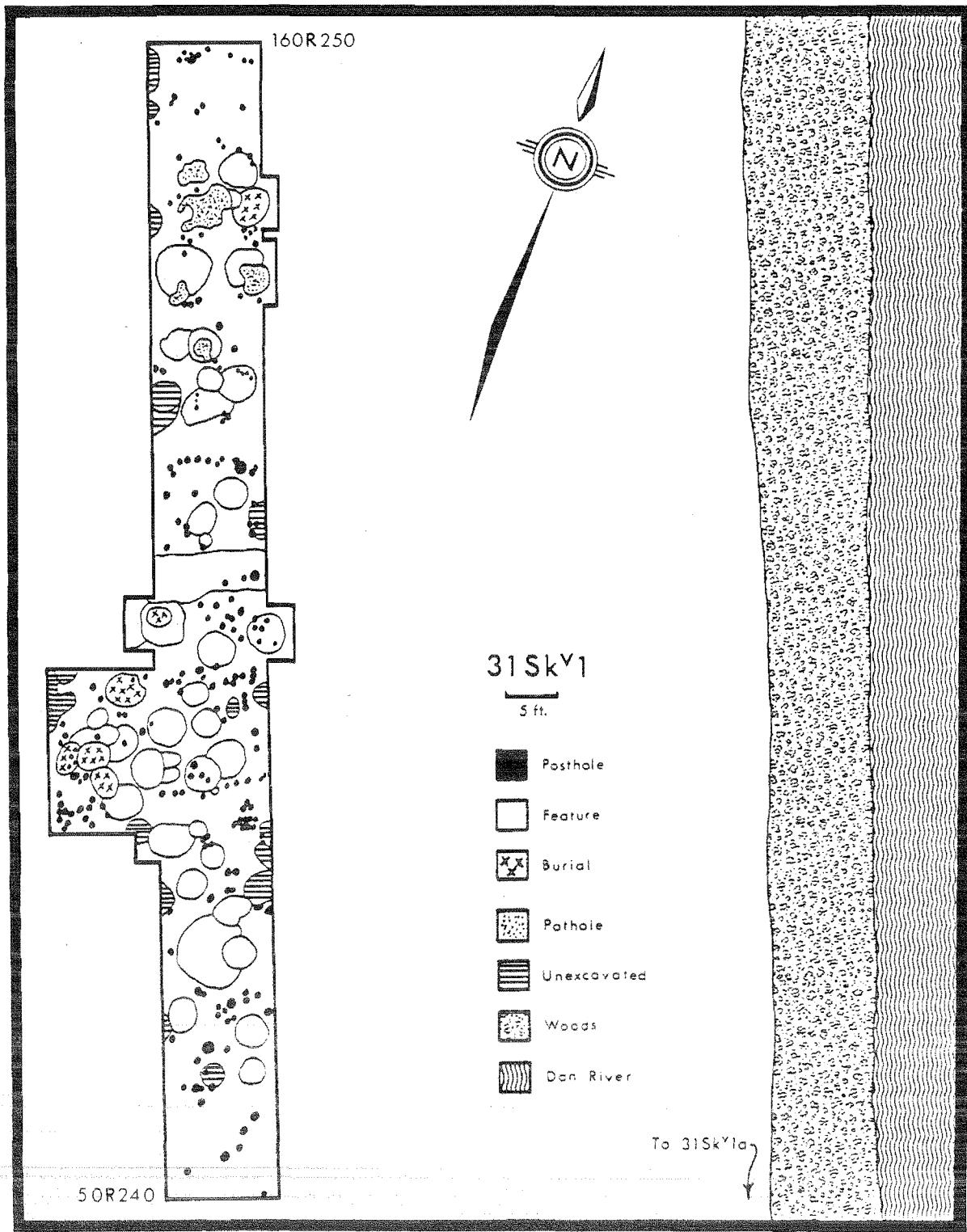


Figure 28.--Plan of features, burials, and postholes at the base of the plowzone based on the work through the 1981 field season, 31Skl.

Plate XIX.--Removing plowzone from square 150R250, 31Skl. S. Homes Hogue (left) and Annie Holm (right) throwing soil through a mechanical sifter. View is to the southwest.

Plate XX.--Excavating Features 19 and 20 in square 60R250, 31Skl. Corinne Daum (background) is cleaning Feature 20 for a profile photo, and Annie Holm is working on Feature 19. View is to the south.

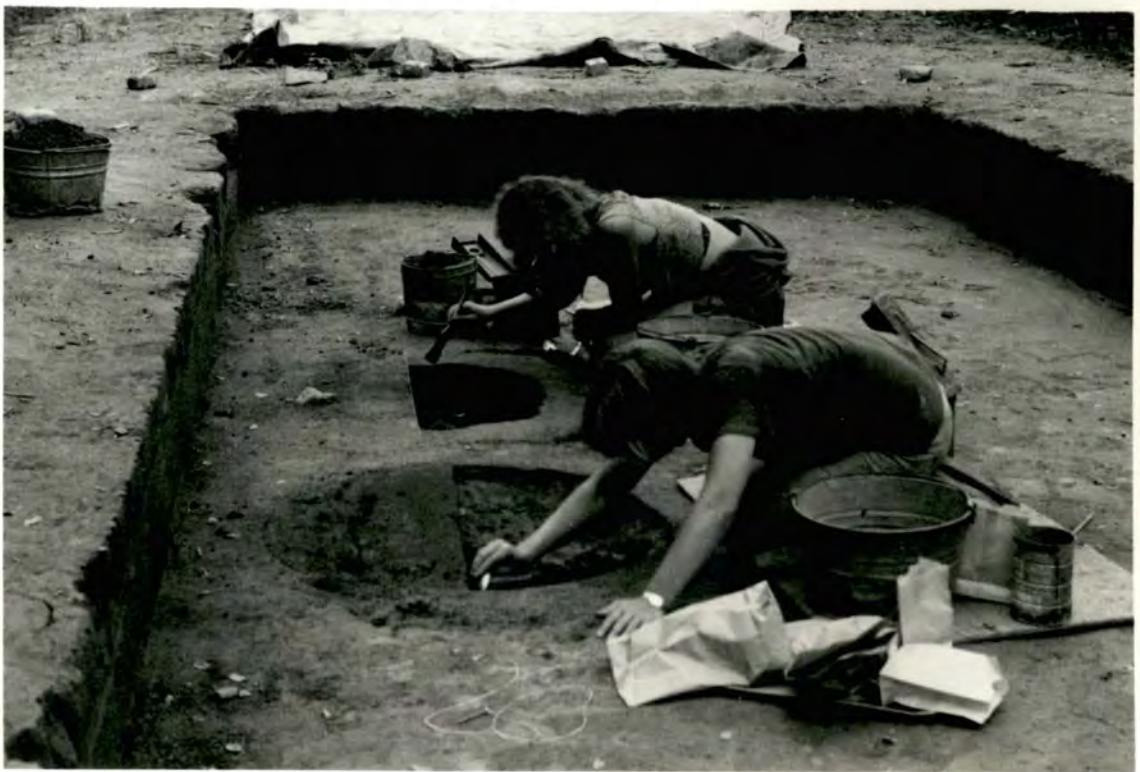


Plate XXI.--Burial 6 from 31Skl. Associated grave goods are: a coverlet/shawl embroidered with small cut-polished shell beads covering the body below the head; a "cloak" sewn with rabbit innominate and turkey phalanx bone beads that covered the body from head to foot; a "scarf" woven of marginella shell beads placed in back of the head; a turkey bone awl alongside the right arm; a serrated freshwater mussel shell at the left shoulder; a burnished cazuella bowl (see Plate XXIX) inverted over the top of the skull; cut turkey long-bone beads across the top of the skull that were originally tied in the hair; and a brass/copper bar "gorget" and preserved organic material (probably leather) in the upper chest. Burial 6 is a subadult aged 6 to 8 years. View is to the south.



may or may not be European, as it could have been made of native copper.

This possibility can also be checked through analysis.

Associated with Burial 6, identified as a subadult, was a coverlet or shawl embroidered with small cut/polished shell beads; a "scarf" woven of marginella shell beads, which had been placed in back of the head; a "cloak" sewn with rabbit innominate and turkey phalanx bone beads, that originally had covered the body from head to foot; hair pieces of long beads made from turkey long bones; a turkey bone awl placed alongside the right arm; a serrated fresh water mussel shell at the left shoulder; and a burnished cazuella bowl inverted over the top of the skull (Plate XXI). The pit, into which Burial 6 had been placed, was of a shaft and side chamber type.

Other burials interred in shaft and chamber pits included Burial 2, a sub-adult, Burial 3, an adult femal aged 20-30 years, and Burial 4, a sub-adult. Associated with Burial 2 was a few small shell beads and a shell gorget incised with a rattlesnake design. A number of aboriginal artifacts accompanied Burial 3 (Plate XXII). Two shell hair/ear pins were found at either ear; an incised rattlsnake gorget was over the chest; large, cut columella shell beads were at the neck; and a marginella shell bead "shawl" or sleeved garment lay in the chest area. Placed between the back of the burial and the pit, was a bead making kit composed of a mass of turkey phalanx, rabbit innomimates, small stones, one section of unworked shell, long bead "blanks" made out of cut turkey long bones, one turkey bone awl, two bone needles made from splintered deer long bones, and two quartz flakes. With Burial 4 were found three large columella shell beads at the left wrist, strands of small cut shell beads around the neck, and a large rock positioned just behind the skull.

Plate XXII.--Burial 3 from 31Skl. Associated grave goods include: shell hair/ear pins at either ear; an incised rattlesnake shell gorget inverted over the upper chest area; large columella shell beads in a strand around the neck; a marginella shell bead "shawl" or sleeved garment across the chest; and a bead-making kit composed of a mass of turkey phalanx, rabbit innominate and small pebbles, one section of unworked shell, cut turkey long-bone beads, one turkey bone awl, two needles from splintered deer long-bones, and two quartz flakes placed between the back of the individual and the west wall of the pit. Burial 3 is a female, aged 20-25 years. View is to the south.



The two burials not associated with shaft and chamber style pits possessed less in the way of associated artifacts. Both were sub-adults. Burial 1, placed in a shallow, simple pit, was devoid of any grave goods. Burial 5 was found in the bottom of a medium sized storage pit. The southwestern wall of the storage pit had been modified to provide a cavity into which the remains had been placed. Four large columella shell beads accompanied Burial 5.

The excavated features produced few items of non-aboriginal origin. A total of two glass trade beads, a piece of brass scrap, and one peach pit were the only materials recovered which could be tied to the Europeans. As all feature fill had been waterscreened through 1/16 inch mesh screen, the paucity of the number of European items was not due to bias in the recovery procedure. From the burials excavated during 1981, only one possible European artifact, the brass (or copper) bar gorget from Burial 6, was found. R. P. Gravely (n.d.) reported that of the burials he removed from 31Skl, only two had trade items--moderate amounts of glass trade beads. All the artifacts documented for the site, glass trade beads, the possible brass (?) gorget, and the peach pit, have low innovation values, when Brain's (1979) method of assemblage analysis is applied. This reflects a relatively low level of interaction with the English, and is taken to characterize activity associated with the late Protohistoric/early Historic period. For now, the material from 31Skl will be assigned to the twenty or so years before the early 1670s, the date that direct and continuing trade between the English colonists of the Atlantic Seaboard and the Carolina Piedmont Siouan groups began in earnest.

### The Ceramics From 31Skl

This work marks the first formal presentation of the ceramics contained in the archaeological assemblages from 31Skl and 31Skla. A complete typological study has not been conducted, and awaits future research. The emphasis is on the analysis of the ceramic attributes from the sites, which involves a typological study as an initial step in the process. The ceramics are named Oldtown, and the description presented here is of the Oldtown Series. A typological description of the Oldtown Series is presented in Appendix C. This is not intended as an exhaustive study, and the discussion of the types should be viewed as a preliminary statement. Oldtown ceramics are what Gardner (1980) had in mind when he created his Stokes Variety Group and described "Hillsboro" type ceramics. Also, most of the burnished sherds from 31Rkl, "Sauro Town" (cf. Lewis 1951), are probably of the Oldtown Series. Plates XXIII-XXXI illustrate examples of the various surface finishes, vessel types, and decorations present in the Oldtown ceramic collection from 31Skl.

A total of 87 rimsherds, rims and associated vessel sections, and whole pots from fourteen excavated features at 31Skl are classed as Oldtown. In general, these Oldtown ceramics possess a hard compact paste that is either untempered, or has varying amounts of fine sand in it. The size of the quartz particles that make up the sand ranges from .07mm to .25mm, with a mean of .10mm. Occasionally, particles up to 0.49mm are present in the paste, but these are probably "accidental" inclusions, either in the sand used as temper, or the clay to which it was added. The three divisions in the paste based on the quantity of sand included in the paste, none, small, and moderate, are present. Wall thickness varies from 3.6mm to 10.7mm, with a mean of 6.3mm.

Surface treatments (Table 56) present are net impressed, burnished, smoothed, simple stamped, corncob impressed, cordmarked, and complicated stamped (filfol scroll). Single occurrences of brushed/scraped, and a possible check stamped surface, are also in the sample. The high percentage of net impressed sherds, primarily the knotted variety, illustrates the lineal connection of these ceramics with the other ceramics of the Dan River Ware. The simple stamped surfaces are all of the style that spiral down from the rim and around the vessel body.

Interior finishes consist primarily of smoothed and burnished surfaces (Table 56). Only seven scraped interiors are present. Liptype is predominated by flat and flat/thinned ( $n=53$ ) varieties, with rounded and rounded/thinned treatments ( $n=34$ ) a distinct minority. Rimtypes (Table 56 and Figure 29) present are primarily everted. A total of 63 specimens are some variation of this type. Of these, 21 (33.3%), are folded or "thickened", the latter being the case where the fold edge is smoothed and thinned into the rim.

Vessel form (Table 56 and Figure 30) reflects the predominance of the everted rims. Jars comprise the vast majority of the vessels identified. Most of these are without the constricted necks so prevalent in the Dan River Series. Instead, the necks are longer in profile, and the rims not as sharply everted. Likewise, bodies tend to be more rounded, as do the bases, although the globular/semi-conoidal appearance is not completely eradicated. The typical constricted-neck jar with everted rim continues to be made, but in reduced numbers. These jars definitely have conoidal to semi-conoidal bodies and bases. A few specimens of the open mouthed jar with a sharply everted, flaring rim can also be identified. The bodies and bases are similar in form to the long-necked jars.

Bowls show a great change from those found in the Dan River Series, although the traditional forms continue to be made. Hemispherical or semi-hemispherical bowls ( $n=9$ ), and cazuella bowls ( $n=11$ ) outnumber the traditional forms ( $n=4$ ). For the hemispherical bowls, the rims are incurved. The cazuella bowls possess a straight to incurved rim, and a prominent shoulder. Body forms are rounded, and flat bases are present for these two types of bowls. The traditional bowl form possesses straight to only slightly incurved rims, and a semi-conoidal body and base.

Decorations (Table 57) mark a shift away from the frequencies that occur in the Dan River Series. Punctations ( $n=10$ ) of some kind, either circular, rectangular, oblong, triangular or 1/4 moon shaped, and fingertip treatments ( $n=10$ ), notched/pinched/punctated, predominate. Following these are smoothed bands ( $n=5$ ), v-shaped notches ( $n=4$ ), and incised inverted v's ( $n=3$ ). Decorations that occur only once include castellations, a burnished lip on a sherd with a net impressed surface finish, a single line incised parallel to the lip, and a brushed/scraped band. The continuation of the surface treatment onto the lip is still present in force ( $n=7$ ). A single corncob impressed neck is in the collection, probably the result of the use of a corncob to shape the neck (cf. Gardner 1980:61). Another questionable decoration is the single occurrence of suspension holes cut through the rim. New decorations, which are not present in the earlier ceramics of the Dan River area and aside from some of the punctations, include castellations ( $n=1$ ), burnished lips ( $n=1$ ), and an applique strip ( $n=3$ ), that is distinct from the folded/thickened rims.

The location (Table 57) of decorations favors the lip by percentage of vessel sections decorated. The shoulder is next, followed by the rim, the lip/rim edge, and the neck. No neck/shoulder decorations are present in

this sample. On the lip (Table 58), punctations and continued surface finishes prove to be the most popular designs. Fingertip treatments, v-shaped notches, castellations, incised inverted v's, and burnished lips all occur infrequently.

The shoulder (Table 57) usually possesses some kind of punctated design ( $n=3$ ), or a v-shaped notch ( $n=1$ ). The punctations consist of shallow reed punctations, and two of the new forms--the triangular and 1/4 moon shapes. On the rim, smoothed ( $n=5$ ) and brushed ( $n=1$ ) bands predominate, with applique strips ( $n=3$ ) (two of which had been fingerpinched), incised inverted v's ( $n=2$ ), and a single line incised across the rim parallel to the lip ( $n=1$ ), also present. The neck decorations consist of a fingertip punctate ( $n=1$ ) and the corncob impressions. Miscellaneous unique designs ( $n=2$ ) are disappointing, being only small sections of a corncob impressed, and a net impressed, sherd with a quantity of clay smoothed across the rim to obliterate the surface finish.

Some interesting statements can be made about the associations of the various attributes. Bowls possess either smoothed, burnished, scraped/brushed, looped net impressed, or corncob impressed surface finishes (Table 59). The last two surfaces are associated with traditional bowl forms. All of the surface finishes found on bowls also occur on jars.

The associations of the decorations mirrors the same pattern of the vessel form/surface finish. For the surface finishes (Table 60), six of the seven occurrences of punctations on the lip are associated with smoothed or burnished surfaces. Only one of the decorations identified with the Dan River Series is found on these surfaces, a set of incised lines that form inverted v's, with three lines per side. The rest of the lip decorations occur with simple stamped, net, and corncob impressed

finishes. By vessel form (Table 61), the distribution of the lip decorations is not as clear cut. Four of the sets of punctations are on hemispherical and cazuella bowls, and the sole occurrence of v-shaped notches is on a hemispherical bowl. The rest of the designs are on jars.

Moving to the shoulder, a clear pattern emerges. All shoulder decorations (Tables 60 and 61), which consist solely of punctations, are found only on burnished cazuella bowls. Likewise, the association of vessel form, surface finish, and rim decorations is striking (Tables 60 and 61). The only rim decoration on a burnished or smoothed vessel are incised inverted v's on the former, and suspension holes on the latter. The other designs are on net impressed sherds, with the exception of two of the applique strips. These, both fingerpinched, are on vessels with simple stamped surfaces. The plain applique strip is on a net impressed sherd. By vessel form (Table 61), the incised inverted v's on a rim are from a hemispherical bowl. And the brushed band is on a traditional bowl which is net impressed. The rest of the rim decorations are on jars.

The lip/rim edge decorations are dominated by jars, and net impressed and smoothed surface finishes (Tables 60 and 61). One of the two v-shaped notches present is on a burnished hemispherical bowl. The rest of the lip/rim motifs are on smoothed or net impressed jars.

Neck decorations are not numerous. The two present are associated with a net impressed jar and a smoothed jar. No bowls would have been present, because they do not possess necks.

TABLE 56

SURFACE FINISH, INTERIOR FINISH, LIP TYPE, RIMTYPE, AND VESSEL FORMS  
PRESENT, 31Sk1

## Surface Finish

Finish	#	%
Net, General	1	1.149
Net, Knotted	27	31.034
Net, Looped	5	5.747
Cordmarked	2	2.299
Corncob Impressed	5	5.747
Smoothed	18	20.699
Burnished	19	21.839
Simple Stamping (one way)	7	8.046
Brushed/Scraped	1	1.149
Complicated Stamped (filigree scroll)	2	2.299
TOTAL	87	100.000

## INTERIOR FINISH

Finish	#	%
Smoothed	63	72.414
Smoothed Over Scraped	3	3.448
Burnished	14	16.092
Scraped	5	5.747
Faintly Scraped	2	2.299
TOTAL	87	100.000

## LIP TYPE

Type	#	%
Flat	47	54.023
Flat, Thinned	6	6.897
Rounded	17	19.540
Rounded, Thinned	17	19.540
TOTAL	87	100.000

TABLE 56--Continued

RIMTYPE		
Type	#	%
Everted	42	48.276
Everted, Folded	21	24.138
Straight, Slightly Incurved	8	9.195
Incurved	16	18.391
TOTAL	87	100.000

VESSEL FORM		
Form	#	%
Jar	63	72.414
Bowl	9	10.345
Hemispherical Bowl	4	4.598
Cazuela Bowl	11	12.644
TOTAL	87	100.000

TABLE 57  
DECORATIONS PRESENT AND LOCATION OF DECORATIONS BY VESSEL SECTION, 31Sk1

Decoration	Lip	Lip/ Rim	Rim	Neck	Shoulder	Total
V-shaped Notches	1	2	-	-	1	4
Fingertip Treatments	2	5	2	1	-	10
Net Impressing	5	-	-	-	-	5
Corn cob Impressing	1	-	-	-	-	1
Simple Stamping	1	-	-	-	-	1
Oblong Punctations	1	-	-	-	-	1
Rectangular Punctations	2	-	-	-	-	2
Circular Punctations	4	-	-	-	1	5
Triangular Punctations	-	-	-	-	1	1
Quarter Moon Punctations	-	-	-	-	1	1
Incised Inverted v's	1	-	2	-	-	3
Single Line Incised Parallel to Lip	-	-	1	-	-	1
Smoothed Band	-	-	5	-	-	5
Brushed Band	-	-	1	-	-	1
Applique Strip	-	-	3	-	-	3
Burnishing	1	-	-	-	-	1
Castellation	1	-	-	-	-	1
Suspension Holes	-	-	1	-	-	1

Location of Decoration by Vessel Section

Section	Occurrences	# Decorated	% Decorated
Lip	87	20	23.00
Lip/Rim	87	7	8.10
Neck	30	2	6.70
Neck/Shoulder	17	-	-
Shoulder	27	4	14.80
Rim	87	12	13.80

TABLE 58  
DISTRIBUTION OF DECORATIONS BY VESSEL SECTION, 31Sk1

**LIP DECORATION**

Decoration	#	%	Sample %
V-shaped Notches	1	5.00	1.149
Fingertip Notches	2	10.00	2.299
Net Impressing	5	25.00	5.747
Corn cob Impressing	1	5.00	1.149
Simple Stamping	1	5.00	1.149
Oblong Punctations	1	5.00	1.149
Rectangular Punctations	2	10.00	2.299
Circular Punctations	4	20.00	4.600
Sets of Incised Lines, Forming inverted v's, 3 Lines Per Side	1	5.00	1.149
Burnishing	1	5.00	1.149
Castellation	1	5.00	1.149
<b>TOTAL</b>	<b>20</b>	<b>100.00</b>	<b>22.989</b>

**LIP/RIM DECORATIONS**

Decoration	#	%	Sample %
V-shaped Notches	2	28.571	2.299
Fingertip Notched/ Pinched	5	71.429	5.747
<b>TOTAL</b>	<b>7</b>	<b>100.00</b>	<b>8.05</b>

TABLE 58--Continued

## RIM DECORATIONS

Decoration	#	%	Sample %
Single Lined Incised Parallel to Lip	1	8.333	1.149
Smoothed Band	4	33.333	4.600
Brushed Band	1	8.333	1.149
Incised Inverted v's Into Smoothed Band	1	8.333	1.149
Incised Inverted v's	1	8.333	1.149
Fingerpinched Applique Strip	2	16.667	2.299
Plain Rim Applique Strip	1	8.333	1.149
Suspension Holes	1	8.333	1.149
<b>TOTAL</b>	<b>12</b>	<b>100.000</b>	<b>13.793</b>

## NECK DECORATION

Decoration	#	%	Sample %
Fingertip Punctate	1	50.00	3.333
Corn cob Impressing	1	50.00	3.333
<b>TOTAL</b>	<b>2</b>	<b>100.00</b>	<b>6.667</b>

## SHOULDER DECORATION

Decoration	#	%	Sample %
V shaped Notches	1	25.00	3.704
Circular Punctations	1	25.00	3.704
Triangular Punctations	1	25.00	3.704
Quarter Moon Punctations	1	25.00	3.704
<b>TOTAL</b>	<b>4</b>	<b>100.00</b>	<b>14.815</b>

## MISCELLANEOUS UNIQUE DESIGN

Decoration	#	%	Sample %
Lumps of Clay Placed on Rim and Irregularly Smoothed Out	2	100.00	2.299

TABLE 59

## CROSSTABULATION OF SURFACE FINISH AND VESSEL FORM, 31SK1

Finish	Vessel Form					Total
	Jar	Bowl	Hemispherical Bowl	Cazuella Bowl	Total Bowl	
Net, General	1	-	-	-	-	1
Net, Knotted	26	1	-	-	-	27
Net, Looped	5	1	-	-	-	5
Cordmarked	2	-	-	-	-	2
Corncob Impressed	2	3	-	-	-	5
Smoothed	12	3	2	1	18	
Burnished	5	2	2	10	19	
Simple Stamping (one way)	7	-	-	-	-	7
Brushed/Scraped	1	-	-	-	-	1
Complicated Stamped (filfot scroll)	2	-	-	-	-	2
<b>TOTAL</b>	<b>63</b>	<b>9</b>	<b>4</b>	<b>11</b>	<b>87</b>	

TABLE 60

## CROSSTABULATION OF SURFACE FINISH AND DECORATIONS, 31SK1

## LIP DECORATION

Decoration	Surface Finish					Simple Total	Stamp (one way)
	Net Knotted	Net Looped	Corncob Impressed	Smoothed	Burnished		
V-shaped Notches	1	-	-	-	-	-	1
Fingertip Notches	1	-	1	-	-	-	2
Net Impressing	4	1	-	-	-	-	5
Corncob Impressing	-	-	1	-	-	-	1
Simple Stamping	-	-	-	-	-	1	1
Oblong Punctations	-	-	-	-	1	-	1
Rectangular Punctations	1	-	-	1	-	-	2
Circular Punctations	-	-	-	1	3	-	4
Sets of Incised Lines, Forming inverted v's,	-	-	-	-	1	-	1
Burnishing	1	-	-	-	-	-	1
Castellation	1	-	-	-	-	-	1
TOTAL	9	1	2	2	5	1	20

## LIP/RIM DECORATIONS

Decoration	Surface Finish			Total
	Net Knotted	Smoothed	Burnished	
V-shaped Notches	1	-	1	2
Fingertip Notched/ Pinched	2	3	-	5
TOTAL	3	3	1	7

TABLE 60—Continued

## RIM DECORATIONS

Decoration	Surface Finish					Simple Stamped (one way)	Total
	Net, General	Net, Knotted	Smoothed	Burnished			
Single Lined Incised	-	1	-	-	-	-	1
Parallel to Lip							
Smoothed Band	-	3	-	-	-	-	3
Brushed Band	-	1	-	-	-	-	1
Incised Inverted v's	-	1	-	-	-	-	1
Into Smoothed Band							
Incised Inverted v's	-	-	-	1	-	-	1
Fingerpinched Applique	-	-	-	-	2	2	2
Strip							
Plain Rim Applique Strip	1	-	-	-	-	-	1
Suspension Holes	-	-	-	-	-	-	-
<b>TOTAL</b>	<b>1</b>	<b>6</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>11</b>	

## NECK DECORATION

Decoration	Net Knotted	Surface Finish		Total
		Smoothed	Burnished	
Fingertip Punctate	1	-	-	1
Cornucob Impresssing	-	1	-	1
<b>TOTAL</b>	<b>1</b>	<b>1</b>		<b>2</b>

## SHOULDER DECORATION

Decoration	Surface Finish	
	Burnished	
V shaped Notches	1	
Circular Punctations	1	
Triangular Punctations	1	
Quarter Moon Punctations	1	
<b>TOTAL</b>	<b>4</b>	

TABLE 60--Continued

## MISCELLANEOUS UNIQUE DESIGN

Decoration	Surface Finish			Total
	Net	Corncob	Impressed	
	Knotted			
Lumps of Clay Placed on Rim and Irregularly Smoothed Out	1	1		2

TABLE 61  
CROSSTABULATION OF VESSEL FORM AND DECORATION, 31Sk1

Decoration	Jar	Bowl	Vessel Form		Total
			Hemispherical	Bowl	
V-shaped Notches	-	1	-	-	1
Fingertip Notches	2	-	-	-	2
Net Impressing	5	-	-	-	5
Cornucob Impressing	-	1	-	-	1
Simple Stamping	1	-	-	-	1
Oblong Punctations	1	-	-	-	1
Rectangular Punctations	1	1	-	-	2
Circular Punctations	1	-	-	3	4
Sets of Incised Lines, Forming inverted v's,	-	-	1	-	1
Burnishing	1	-	-	-	1
Castellation	1	-	-	-	1
<b>TOTAL</b>	<b>13</b>	<b>3</b>	<b>1</b>	<b>3</b>	<b>20</b>

**LIP/RIM DECORATIONS**

Decoration	Jar	Vessel Form		Total
		Bowl		
V-shaped Notches	1		1	2
Fingertip Notched/ Pinched	5		-	5
<b>TOTAL</b>	<b>6</b>		<b>1</b>	<b>7</b>

TABLE 61--Continued

## RIM DECORATIONS

Decoration	Jar	Bowl	Vessel Form	Total
			Hemispherical Bowl	
Single Line Incised Parallel to Lip	1	-	-	1
Smoothed Band	4	-	-	4
Brushed Band	-	1	-	1
Incised Inverted v's Into Smoothed Band	1	-	-	1
Incised Inverted v's	-	-	1	1
Fingerpinched Applique Strip	2	-	-	2
Plain Rim Applique Strip	2	-	-	2
Suspension Holes	1	-	-	1
<b>TOTAL</b>	<b>10</b>	<b>1</b>	<b>1</b>	<b>12</b>

## NECK DECORATION

Decoration	Vessel Form
	Jar
Fingertip Punctate	1
Corncob Impressing	1
<b>TOTAL</b>	<b>2</b>

## SHOULDER DECORATION

Decoration	Vessel Form
	Cazuella Bowl
V shaped Notches	1
Circular Punctations	1
Triangular Punctations	1
Quarter Moon Punctations	1
<b>TOTAL</b>	<b>4</b>

## TABLE 61--CONTINUED

## MISCELLANEOUS UNIQUE DESIGN

Decoration	Vessel Form
Lumps of Clay Placed on Rim and Irregularly Smoothed Out	Jar

Lumps of Clay Placed on Rim and Irregularly Smoothed Out	2
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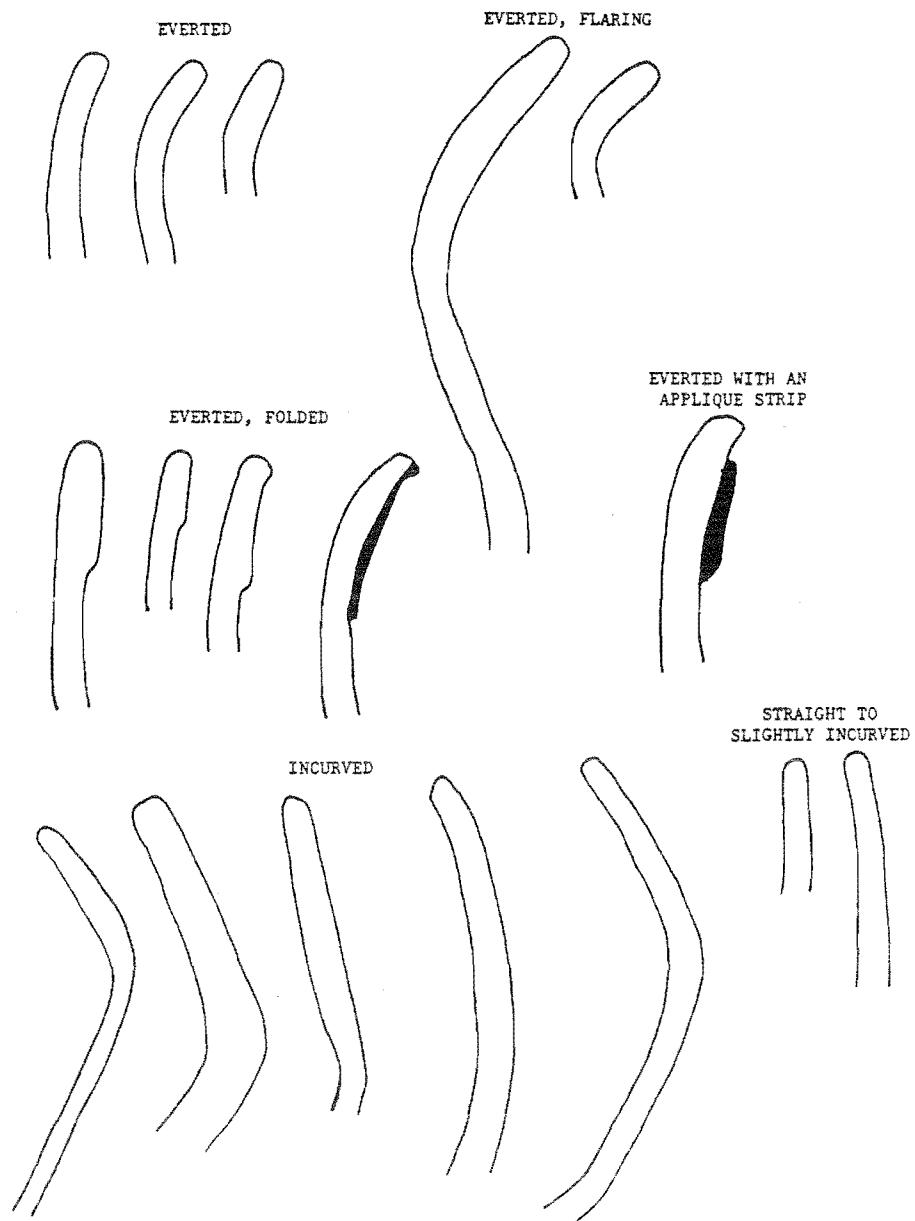


Figure 29.--Rim profiles, 31Sk1.

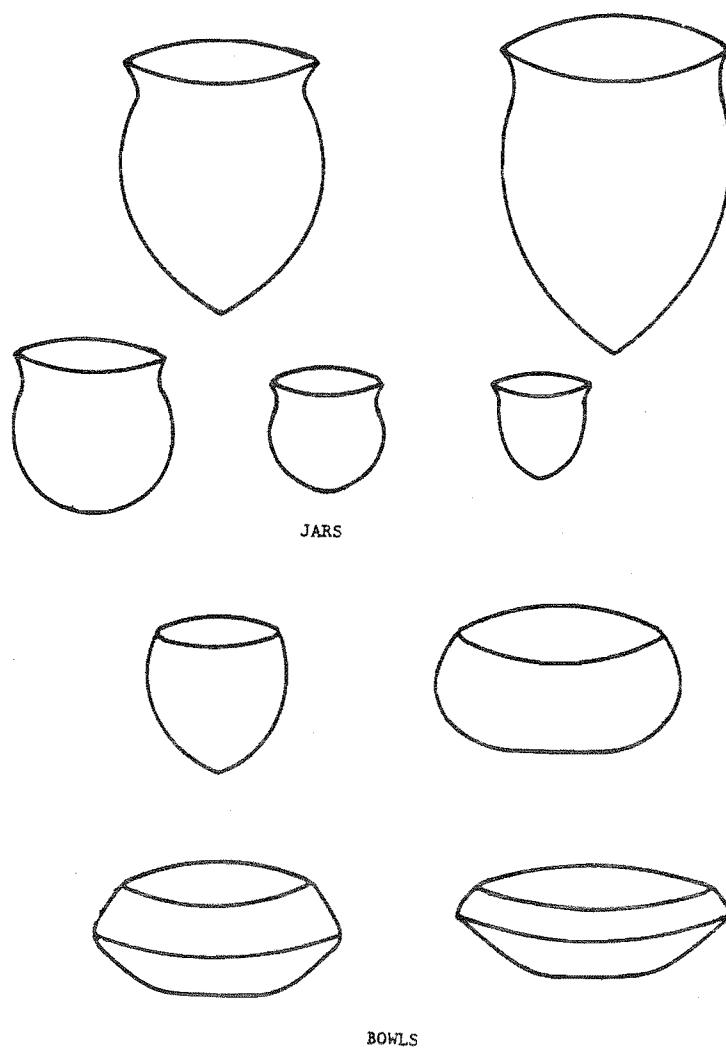


Figure 30.--Vessel forms (reconstructed) present, 31Skl.

Plate XXIII.--Miscellaneous surface finishes found on Oldtown Series ceramics from 31Skl. (a) corncob impressed; (b) simple stamped with a finger-pinched applique rim-strip (left) and an applique rim-strip with v-shaped notches cut into the top half of the strip (right); (c) check stamped (faint); (d) net impressed with a smoothed lip (left), v-shaped notches cut across the lip (second from left), smoothed turned over lip (second from right), and three incised lines on the rim parallel to a smoothed lip (right); (e) net impressed with folded rims (incised inverted v's are cut into the folded rim of the lower right sherd); and (f) net impressed with an applique rim strip.

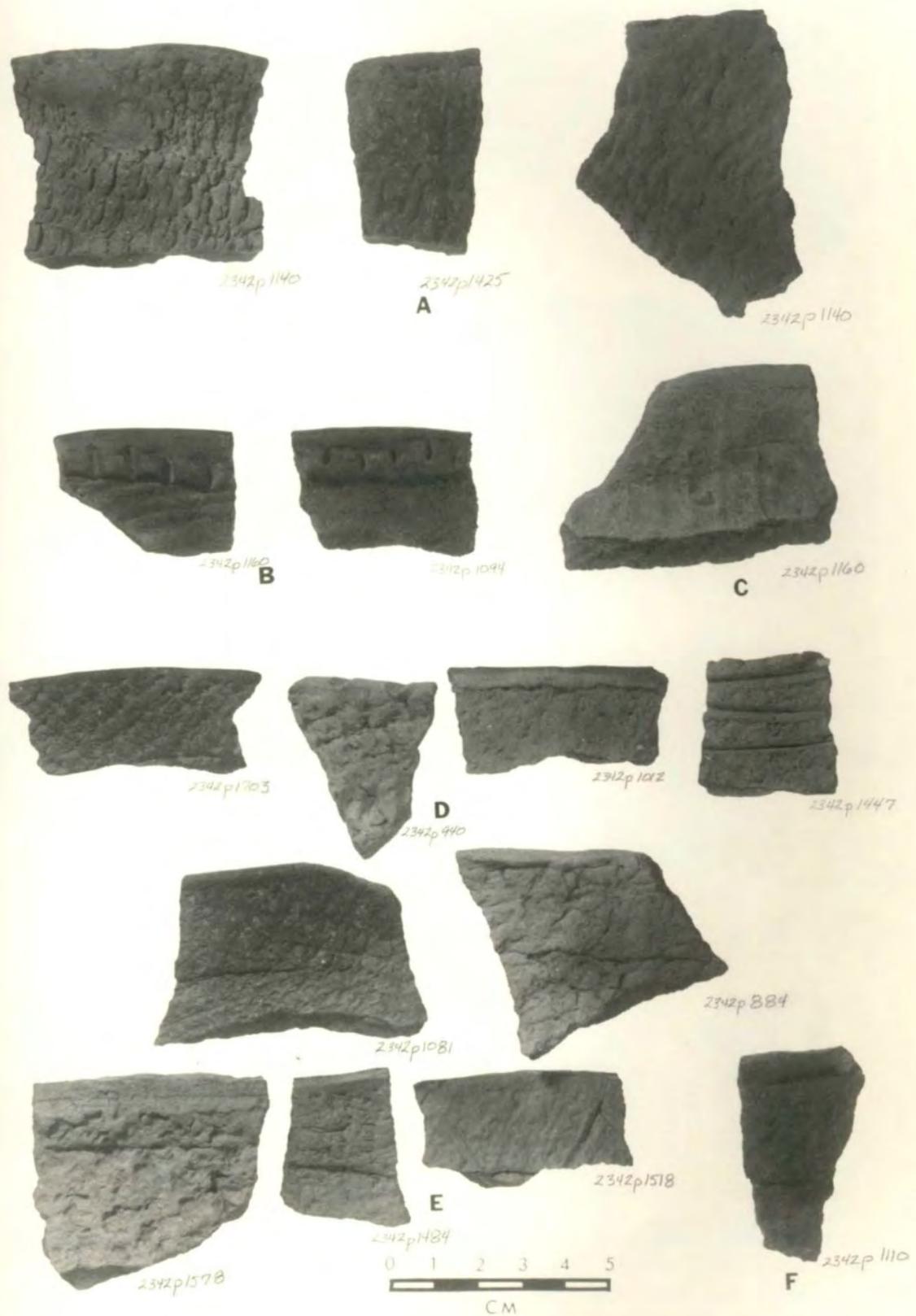


Plate XXIV.--Oldtown Series ceramics with smoothed and burnished surface finishes from 31Skl. (a) smoothed sherds, with three suspension holes cut into the rim (top row, second from right), and v-shaped notches cut across the lip (top right); (b) burnished rims from bowls, with triangular punctations placed at the shoulder (top left, and bottom left), and circular punctations placed in the lip (bottom row, second from the left).

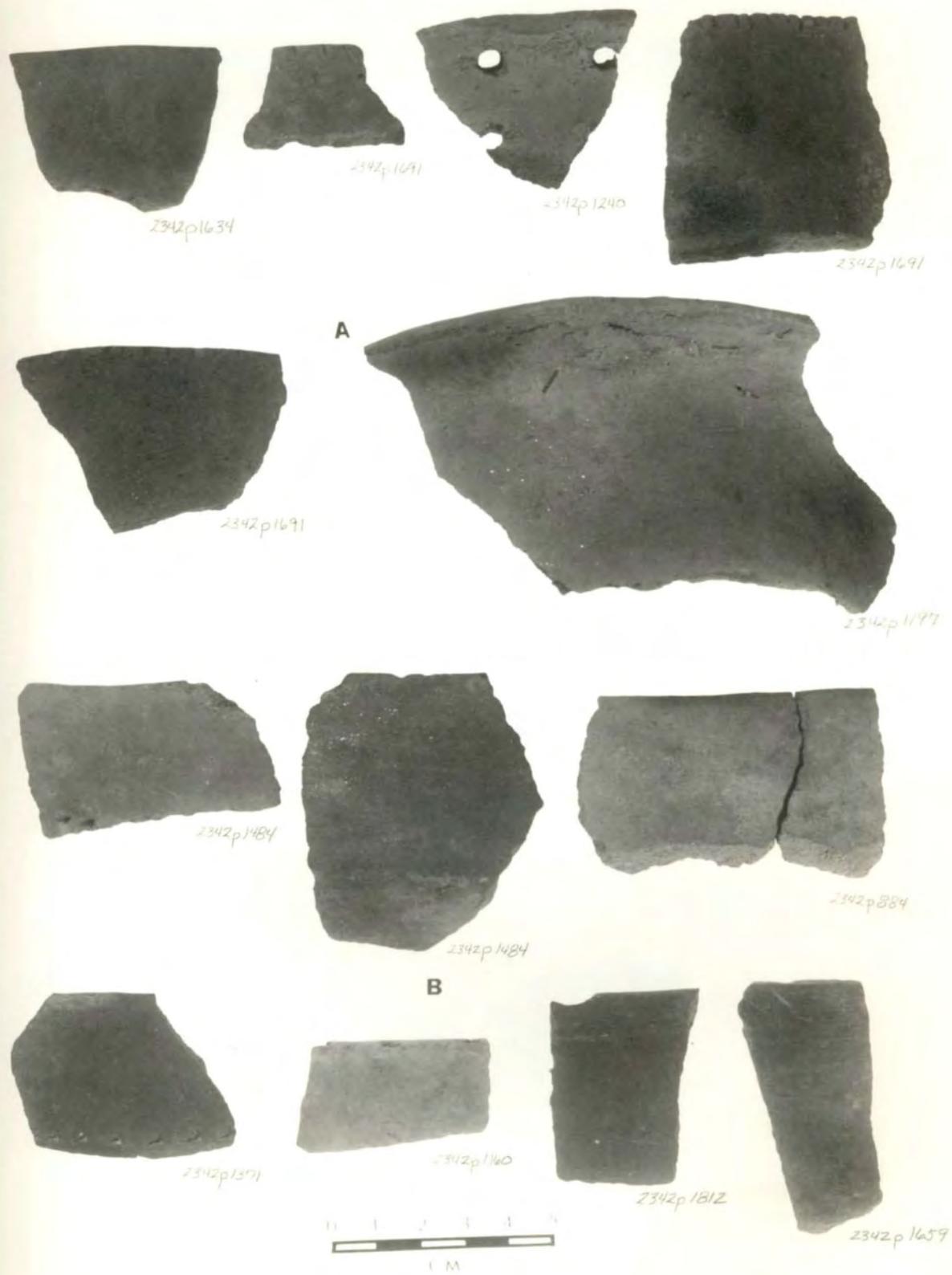


Plate XXV.--Oldtown net impressed jars from 31Skl. (top) jar fragment with a folded rim; and (bottom) long-necked jar fragment.



2392p 1140  
Fig. 5



2392p 842

0 1 2 3 4 5  
CM

nt

25  
SK1

Plate XXVI.--Oldtown corncob impressed jar (top) and an Oldtown simple stamped jar (bottom) from 31Skl. The corncob impressed jar has u-shaped notches cut across the lip. The stamping on the simple stamped jar slants one-way to the right toward the bottom of the vessel.



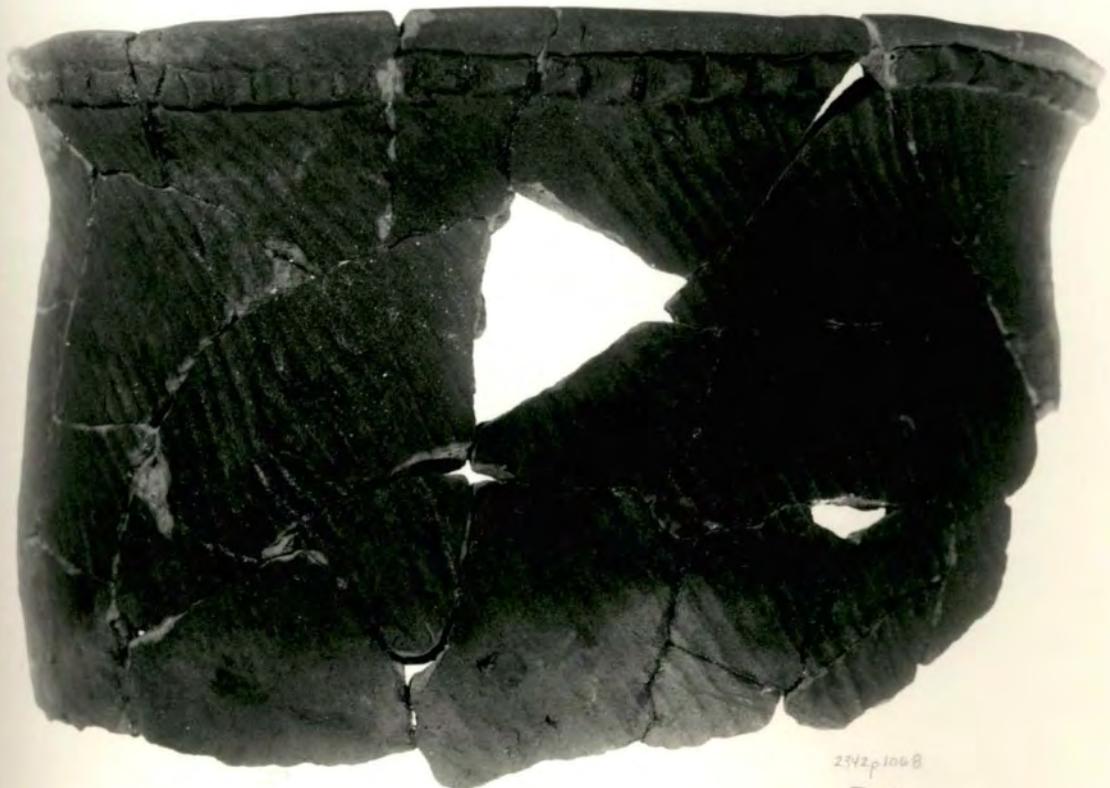
2342p 884  
Fig. 2



2342p 1518  
Fig. 10

0 1 2 3 4 5  
CM

Plate XXVII.--Oldtown simple stamped jar from 31Skl. A finger-pinched  
applique strip is on the rim.



2942 p.1068

Fig. 3

Fig. 2



Plate XXVIII.--Oldtown cordmarked jar with a folded rim from 31Skl.  
The cordmarking continues onto the lip.



p 589  
2347 p 1001  
Fea. 3  
Fea. 2

0 1 2 3 4 5  
CM

Plate XXIX.--Oldtown burnished cazuella bowl from Burial 6 at 31Skl.  
Circular reed punctations are on the shoulder. (see Plate XXI).



2342  
Bue 6

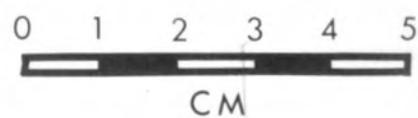
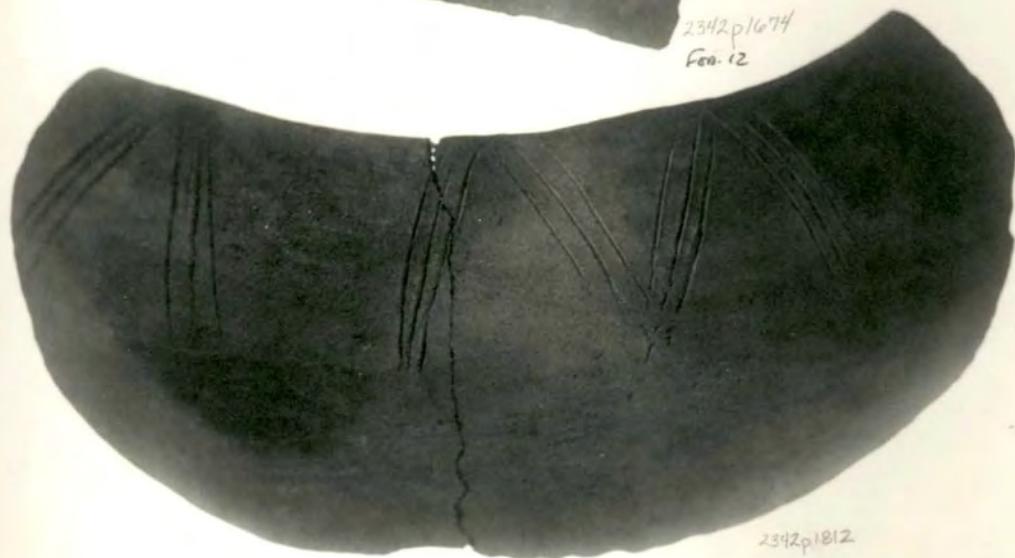


Plate XXX.--Oldtown burnished vessels from 31Skl. (top) burnished jar fragment with an everted rim, and (bottom) burnished hemispherical bowl fragment with incised inverted v's on the rim.



2342p1674  
Fig. 12



2342p1812  
Fig. 14



Plate XXXI.--Oldtown filfot scroll complicated stamped jar and a burnished soapstone-tempered jar from 31Skl. The complicated stamped jar fragment has a folded rim.



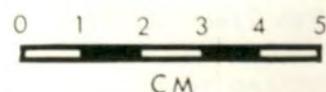
2342 p 884

Fig. 2



2342 p 16 91

Fig. 12



"Upper Saura Town" (31Skla)

The second site in the bottoms with 31Skl that has also been excavated is 31Skla (Figure 14). Excavations were initiated at the site in the summer of 1972 in an attempt to salvage some of information that was rapidly being destroyed by pothunters. Along the southern boundary of the site an old road cut is located. Known as Oldtown Road, it once ran from Walnut Cove, North Carolina, to a ford just south of the site, and from thence on to Madison, North Carolina.

Stratigraphy at the site is relatively simple. The plowzone over most of the site varies between eight and twelve inches in depth, except along the river bank. Here, flooding and plowing has led to a buildup of overburden to a height of five to eight feet above the original ground surface. When the Indians lived at this location, the ground surface sloped gently down to the level of the river. In the center of the site, alongside and behind the highest part of the levee on which a great portion of the site sits, an old humus zone, mistakenly called midden by some (Keel 1972), is present under the plowzone. This old humus is approximately three- to five-tenths of a foot thick. As one moves east or west from the center of the site, the humus zone gradually disappears. The underlying subsoil consists of a bright yellow/orange clay.

To date, over 16,400 square feet of the site has been laboriously excavated (Figure 31). A total of 225 features, 111 burials, portions of at least four palisade lines, and all or part of thirteen houses have been uncovered. The site structure is fairly well defined from these excavations. The village is surrounded by palisade lines on three sides, and possibly a fourth. This stockade curves around the southern edge of the site, where it is apparently obliterated by the old road cut. No



Figure 31.--Plan of features, burials, and postholes at the base of the plowzone based on the work through the 1981 field season, 31Sk1a.

palisade line has yet been documented for the river bank, as only two ten foot wide trenches have been excavated to the river's edge.

Within the palisades and bordering the bank of the Dan are the circular houses of the aboriginal inhabitants (Plates XXXII-XXXIII). Lack of substantial center support posts, necessary to hold up the roofs of structures, some of which are 30 or more feet in diameter, indicates that a the houses are of a bower construction. The houses surround a small central area that appears to be devoid of any major structure.

Bands of features are situated between the houses and the palisade lines, within the palisade line area, and along the river bank. Most of the large, shallow basins, probably used as earth ovens, are intermixed with storage pits and "trash" pits in these bands. Other features, predominately storage pits and "trash" pits, are found within the interior of the site.

Burials are numerous at the site. Liane Navey (1982) has recently completed a Master's Thesis, which details much of the information on 87 of the 111 burials present. Most of the burial pits are variations on the shaft and chamber type. Over 55% of the burials are shaft and central chamber pits, and only 10% are shaft and side chamber. Another 23% are simple pit burials, and the remaining 12% could not be typed, primarily due to destructive activities of pothunters. Of the 111 burials, 33 (30%) are partially, or completely, potted. Grave goods accompanying the burials vary widely by both age and sex (Plates XXXIV-XXXIX). Aboriginal items include clay pipes, clay pots, shell beads and ear pins, polished celts, and in one instance, a shell gorget incised with an rattlesnake design. Among the European items found in the burials are brass gorgets, brass

Plate XXXII.--Structures 5 and 6, excavated, from 31Skla being troweled for a photograph. A total of 24 man-hours were required to trowel the area for the photo, with troweling beginning at 5:00 A.M.. View is to the south.

Plate XXXIII.--Structure 5, excavated, and Structure 6, unexcavated, at 31Skla after troweling.



Plate XXXIV.--Burial 1 at 31Sk1a. Disturbance from pothunter vandalism has removed the right leg below the knee and the left leg below the middle of the tibia and fibula. Pit type is a shaft and side chamber variant. Grave goods present are: deer astralagi, a silver-plated brass spoon, two pairs of iron scissors, and three unidentified metal fragments to the right of the skull; approximately 36,000 small blue, and white, glass beads sewn on a cloak that had a hood, sleeves, and a belt/sash that covered the individual from head to mid-thigh; 60 brass bells extending across the chest and down the right side of the body; 45 brass bells along the left side of the body; four brass bells at the right ear; nine brass bells, two conical brass beads, and 15 triangular brass pendants across the body in the area of the belt/sash; 80 columella shell beads in a strand in the area of the left ear; 60 columella shell beads from the right shoulder to the right elbow; 100 large columella shell beads in strands around the neck, which are probably associated with a circular brass gorget to the right of the skull; and 130 small brass beads near the left knee. Also, 200 small brass beads were recovered from the fine-screening of the disturbed and undisturbed fill. The brass bells along the left and right sides of the burial may be associated with a cloak and/or the beaded garment that was originally worn by the individual. Burial 1 is a female aged 17 to 21 years. View is to the east-southeast.



Plate XXXV.--Burial 17 from 31Skla. Grave goods include: an iron hoe overlying a bone-handled knife just left of the skull; an iron nail from over the hoe that was removed in the field; over 10,000 blue, and white, glass beads lying in the chest and abdominal area that were sewn on a cloak ; a brass gorget at the left elbow; three brass rings on fingers of the right hand; two brass rings in the abdominal area; three brass rings in a row alongside the left temporal; and fragments of six brass rings with two each in the pelvic area, near the feet, and near the south wall of the pit. Burial 17 was a female aged 40+years. View is to the east.

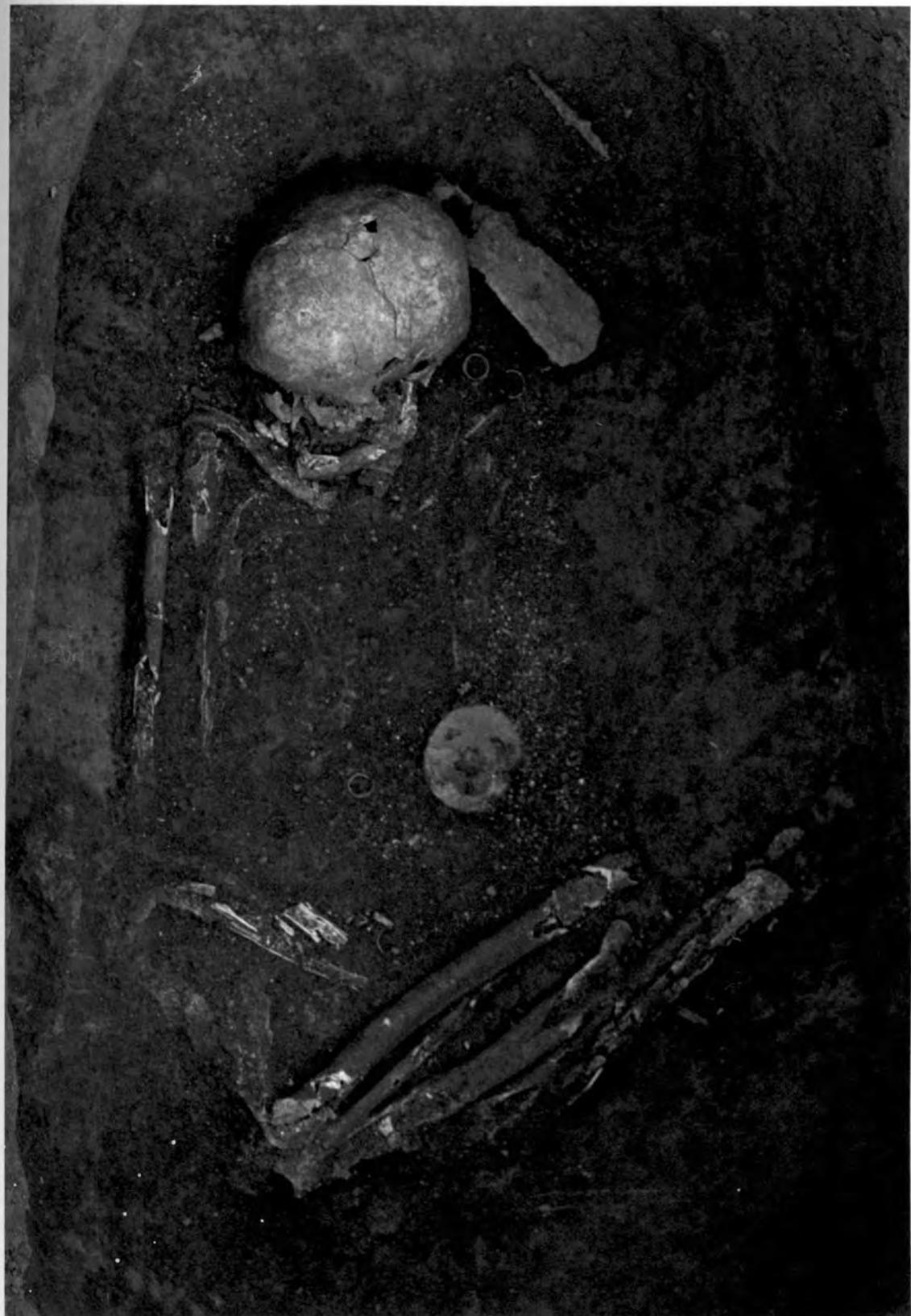


Plate XXXVI.--Burial 15 from 31Skla. Grave goods are: an Oldtown burnished cuspidor (see Plate L) containing a turtle shell located just in front of the head; 27 large brass conical "tinklers" and 18 porcupine quills just back of the skull, temporal to temporal; two large columella shell beads below the mandible; and a columella bead fragment below the left temporal. Burial 15 is a subadult aged 4 years  $\pm$ 12 months. View is to the east.

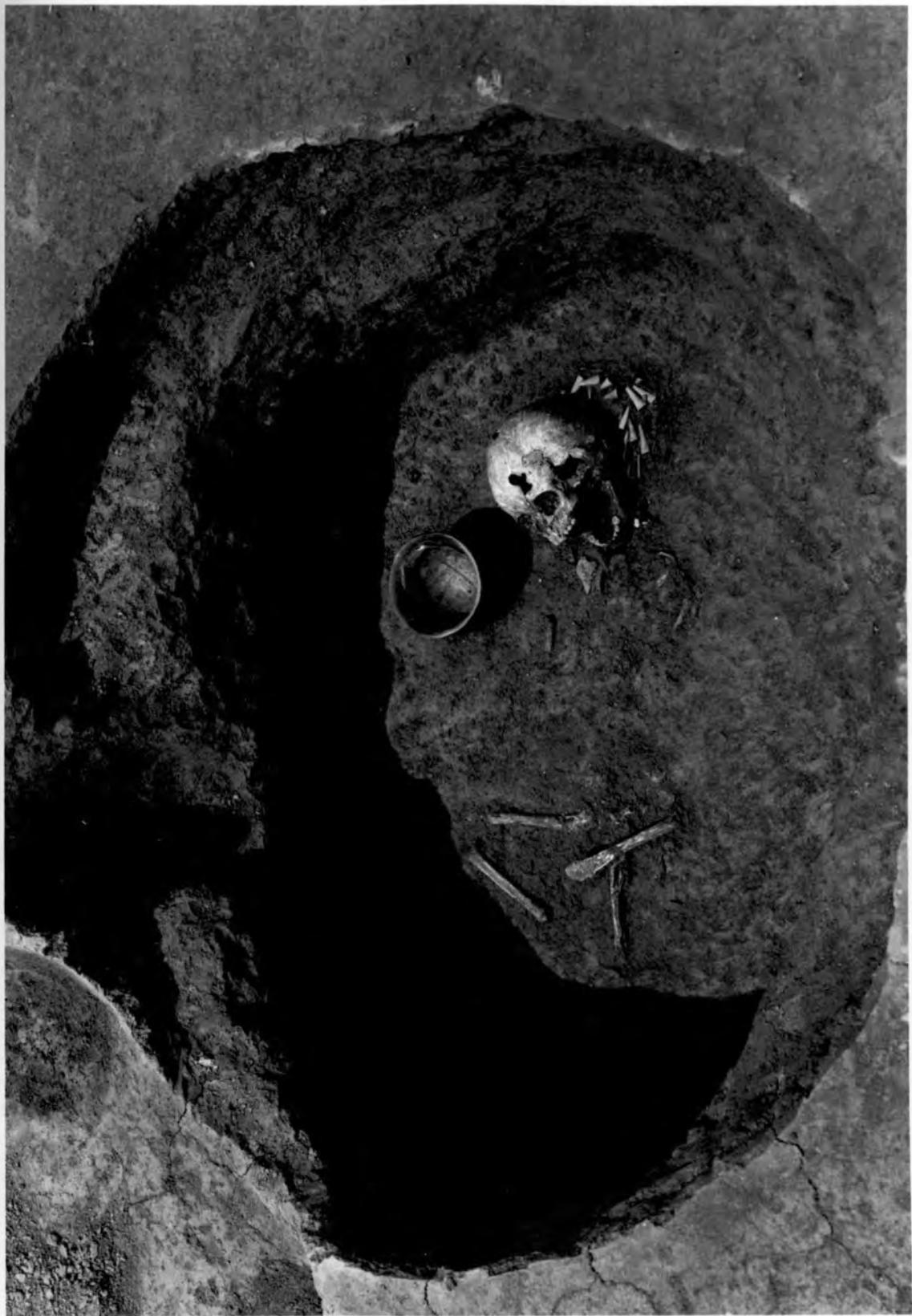


Plate XXXVII.--Burial 53 from 31Skla. Grave goods present are: 80 large columella shell beads around the neck; thousands of blue, and white, glass beads in strands beneath the head, around the neck, and across the chest; and brass bells (and preserved wood from the burial chamber covering, leather, and cane matting over the bells) around both legs. Burial 53 is a subadult aged 4 years  $\pm$ 12 months. View is to the east.



Plate XXXVIII.--Burial 55 from 31Skla. Grave goods are: over 15,000 blue, and white, glass beads located around the head and over the upper body that were sewn on a hooded garment; and a brass gorget (covered with preserved leather and cane matting that were removed in the field) and a jew's-harp in the right chest area. Burial 55 is a subadult aged 3 years  $\pm$ 12 months. View is to the east.



Plate XXXIX.--Burial 49 from 31Sk1a. Grave goods include; an Oldtown concentric circle complicated stamped jar (see Plate XXXIX) south of the head; and an elbow pipe at the right elbow. Burial 49 is an adult aged 18 to 30 years of unknown sex. View is to the east.



spangles, brass rings, brass hair pieces, brass bells, a hoe, spoons, and thousands of glass trade beads of all sizes and shapes.

The features at 31Skla are as varied in their form and content as are the burials. There are five basic kinds of features. Large, relatively shallow basins, that are either elongated (measuring four to ten feet on the major axis) or circular (three to ten feet in diameter), are interpreted as being earth ovens. These features usually measure between three-tenths and a foot in depth below subsoil. A large quantity of charred plant remains, including numerous plant foods, and animal bone is present in such features. Small, shallow basins (only about one or two feet in diameter and seldom over three- or four-tenths of a foot in depth), are common, especially in the palisade area. Straight-sided and bell-shaped storage pits are present, and are usually around two feet in diameter at the top of subsoil, and over two feet in depth (from the top of subsoil). Trash pits, which come in varying sizes and depths, are usually about two feet in diameter and two feet in depth. Few hearths are present, as most have been destroyed by plowing.

Miscellaneous features include washouts along the riverbank that have filled with midden, and the center slumps over the central chambered burial pits. The latter are created by the collapse of a burial's chamber covering, which usually consisted of split (cedar ?) logs laid across the pit with their ends resting on ledges cut into the pit about half way down the sides. The fill was then placed over the covered chamber. Eventually the wood covering rotted and collapsed, the clay burial fill settled, and a depression at ground surface created. This cavity was filled with whatever material was handy, such as garbage, sand, midden, or excess clay.

The features excavated at 31Skla possess a wealth of information in the form of material remains, that include pottery, worked stone, animal bone, charred plant remains, and discarded or lost European trade items. The charred plant remains and animal bone from 12 of these features are included in the analyses that follows this section on the sites and ceramics. The typological and attribute analyses of the pottery from these same 12 features will be presented now.

#### Analysis of the Ceramics from 31 Sk la

The ceramics from 31Skla are identified as part of the Oldtown Series. A total of 102 rims, rims with vessel sections, and whole pots are used in this study. Plates XXXX-L illustrate examples of the surface finishes, vessel types, and decorations present in the Oldtown ceramic collection from 31Skla. The paste of Oldtown ceramics is fired to a hard compact state. More non-tempered sherds ( $n=26$ , 25%) are in this collection than in 31Skl's. The size of the quartz particles is similar to that noted for 31Skl. They range from .04mm to .20mm in size, with a mean of .10mm. Occasional quartz particles, probably accidental inclusions, that measure up to .37mm, are also found. The three general categories of paste denoted by the quantity of sand included--none, small and moderate--are present. Wall thickness continues to be relatively thin, varying from 2.5mm to 9.4mm, with a mean of 6.1mm.

Surface finishes present are similar to those found at 31Skl, with some changes being evident. Smoothed, or roughly smoothed surfaces ( $n=35$ ) now predominate, having finally replaced net impressing ( $n=23$ ) as the favored surface treatment (Table 62). If the burnished sherds ( $n=19$ ) are included with the smoothed, then their combined total would represent a clear majority (52.9%). Following these three, by frequency of occurrence,

are brushed/scraped (usually very sloppily executed), a concentric circle curvilinear complicated stamped design, crude check stamped, and corncob impressed. Unique surface treatments are cordmarked, simple stamping (one-way spiral down and around the vessel), textile impressed (?), and a simple stamped (one way) rim combined with a net impressed body.

Interior surfaces (Table 62) are dominated by smoothed treatments ( $n=86$ ), with a marked decline in the use of burnishing ( $n=9$ ). Scraping ( $n=9$ ) continues as a very minor style. Lip types (Table 62) are split, with flat ( $n=57$ ) and flat/thinned ( $n=3$ ) being a majority over rounded ( $n=26$ ) and rounded/thinned ( $n=15$ ) types. As for the rim forms present (Table 62 and Figure 33), the most significant feature noted is the precipitous decline in the number of folded rims. Of the 71 everted rims present, only two (2.8%) have been folded.

As for vessel form, jars continue to predominate, representing 69.6% ( $n=72$ ) of the population (Table 62 and Figure 33). The long-necked jar with slightly everted rims is the most numerous form, with a minor number of open-mouthed jars with flaring rims also present. A total of three cuspidors appear as a minor type of jar. Generally, the jars possess examples of all the major surface finishes, in roughly the same frequency as they occur in the entire collection, and almost all of the minor treatments as well (Table 63). Jars range from 13cm to 38cm in diameter, with a mean of 28cm.

Bowls represent a slightly larger percentage of the vessel forms (30.4%), than had been the case for 31Skl. Hemispherical and semi-hemispherical forms are in the majority ( $n=15$ , 50% of the bowls, and 14.7% of all vessels). The traditional semi-conoidal bowl with straight to slightly incurved rim maintains a steady presence in the collection ( $n=10$ ,

33.3% of bowls, and 9.8% of all vessels). The frequency of cazuella bowls (n=5, 16.7% of bowls, and 5% of all vessels) drops. Hemispherical and cazuella bowls average 30.5cm in diameter, and the traditional bowls range from 10cm to 28cm in diameter, with a mean of 17cm. The surface finishes associated with the various kinds of bowls (Table 63) are as follows: hemispherical bowls are either smoothed (n=10) or burnished (n=5); the semi-conoidal bowls are net impressed (n=6) or smoothed (n=4); and all the cazuella bowls (n=5) have been poorly burnished.

The decorations present (Tables 62 and 63) show a change in the frequencies of the most popular styles in the 31Skl material. Fingertip treatments, notching/pinching/punctating/ impressing (n=16), regain the top spot of the category from the punctations (n=10). The latter consists of circular (n=7), rectangular (n=1), oblong (n=1) and triangular (n=1) punctations. This decorative class ties with v-shaped notches (n=10) for the second spot. Following these in popularity, are smoothed bands (n=7) (none of which have incised designs associated with them), multiple lines incised across the vessel parallel to the lip (n=2), complicated incised/punctate designs (n=1), single line incised across the vessel parallel to the lip (n=1), castellations (n=1), and incised inverted v's (n=1). As usual in ceramics of the Dan River Ware, the continuation of the surface treatment from the body onto the lip, represented with three observations, is present. Also found are suspension holes (n=3) on the rim, and an irregularly shaped protrusion that is best described as a node (n=1). The miscellaneous unique designs consist of an incised flintlock rifle (n=1), and lumps of clay partly covering a net impressed vessel (n=1). Properly, the latter may not be a "decoration", but is classed as such for convenience.

The place favored for the location of the decorations (Table 64), is also changed from that noted for the 31Skl ceramics. The lip rises in prominence, as 21.5% of all lips are decorated. The lip/rim edge follows (17.7%), then the rim (12.8%), the neck (6.3%) and the shoulder (4.8%). The distributions of the various decorations by vessel location, surface finish, and vessel form are informative (Tables 65, 66, and 67). For the lip, the punctations are associated with brushed/scraped ( $n=4$ ), smoothed ( $n=3$ ), burnished ( $n=1$ ), and concentric circle complicated stamped ( $n=1$ ) surface treatments. For burnished surfaces, the only other lip decoration noted is one of the three v-shaped notched designs. The brushed/scraped finish possess one of the other two v-shaped notches. Smoothed treatments have the only two examples of fingertip notches on the lips. No other lip motif is present on a vessel with a concentric circle surface finish.

For the lip/rim edge (Table 66), two of the seven v-shaped notches are on burnished sherds, one is on a concentric circle stamped surface, and another is on a smoothed surface. Fingertip treatments (punctate/pinched/shallow impressions) are usually associated with smoothed ( $n=4$ ), brushed/scraped ( $n=1$ ), and concentric circle ( $n=1$ ) surface finishes.

At the rim (Table 66), incised designs prevail on burnished surfaces. These include inverted v's, the complicated incised/punctate design, and multiple lines incised acrosss a vessel parallel to the lip. A smoothed finish also possesses a single line incised across the vessel parallel to the lip. The rest of the designs occur on net impressed vessels.

The neck decorations (Table 66) consist of a smoothed band ( $n=1$ ), and a band of multiple lines incised parallel to the lip ( $n=1$ ). These occur on brushed/scraped surface finishes. The triangular punctations that comprise the shoulder decoration (Tables 66 and 67) is on a burnished cazuella bowl.

The various unique designs (Table 66) are distributed on smoothed, brushed/scraped, and knotted net impressed surfaces.

By vessel type (Table 67), the jars possess a majority (81.8%) of the lip decorations, as would be expected. Hemispherical bowls account for the others, which consist of three v-shaped notched motifs, and one of the circular punctuation designs. For the lip/rim edge, the jars again have the great majority ( $n=16$ ). Bowls have only two decorations on this vessel section, both v-shaped notches. Rim decorations follow a similar pattern, as seven of the thirteen designs are on jars. Three of the elements (two smoothed bands and the suspension holes) are on net impressed, semi-conoidal bowls. Rims of the cazuella bowls possess three incised designs--inverted incised v's, the complex incised/punctated design, and a band of multiple lines incised across the vessel parallel to the lip.

Decorated shoulders, consisting of triangular punctations, are only on burnished cazuella bowls. All three of the miscellaneous unique designs are on jars, as are both neck decorations. This last observation is expected, as only jars have necks.

The two folded rim sherds present in the collection have smoothed folds (Table 66). One possesses a lip with circular punctations. The other has shallow fingertip impressions on the lip/rim edge, and a single line incised parallel to the lip on the rim.

TABLE 62

SURFACE FINISH, INTERIOR FINISH, LIP TYPE, RIMTYPE,  
AND VESSEL FORMS PRESENT, 31Skla

## Surface Finish

Finish	#	%
Net, General	6	5.882
Net, Knotted	14	13.725
Net, Looped	3	2.941
Cordmarked	1	0.980
Corncob Impressed	2	1.961
Smoothed	35	34.314
Burnished	19	18.627
Brushed/Scraped	12	11.765
Simple Stamping (one way)	1	0.980
Check Stamped	3	2.941
Complicated Stamped, Concentric Circles	3	2.941
Simple Stamped (one way) top, Net Bottom	1	0.980
Textile (?)	1	0.980
Unidentified	1	0.980
TOTAL	102	100.000

## INTERIOR FINISH

Finish	#	%
Smoothed	83	81.373
Smoothed Over Scraped	2	1.961
Burnished	7	6.863
Plain	1	0.980
Scraped	6	5.882
Faintly Scraped	3	2.941
TOTAL	102	100.000

## LIP TYPE

Type	#	%
Flat	57	56.436
Flat, Thinned	3	2.970
Rounded	26	25.743
Rounded, Thinned	15	14.851
TOTAL	102	100.000

TABLE 62--Continued

RIMTYPE		
Type	#	%
Everted	64	62.378
Everted, Flaring	5	4.950
Everted, Folded	2	1.980
Straight	3	2.970
Straight, Slightly Incurved	4	3.960
Incurred	24	23.762
TOTAL	102	100.000

VESSEL FORM		
Form	#	%
Jar	65	62.725
Bowl	11	10.784
Hemispherical Bowl	15	14.706
Cazuella Bowl	5	4.902
Cuspidor	3	2.941
Open Mouthed Jar	3	2.941
TOTAL	102	100.000

TABLE 63  
CROSSTABULATION OF SURFACE FINISH AND VESSEL FORM, 31Sk1a

Surface Finish	Jar	Cuspidor	Open Mouthed	Bowl	Hemispherical	Cazuella	Total
			Jar		Bowl	Bowl	
Net, General	3	-	-	3	-	-	6
Net, Knotted	9	1	1	3	-	-	14
Net, Looped	2	-	-	1	-	-	3
Cordmarked	1	-	-	-	-	-	1
Corncob Impressed	1	1	-	-	-	-	2
Smoothed	21	-	-	4	10	-	35
Burnished	7	1	1	-	5	5	19
Brushed/Scraped	12	-	-	-	-	-	12
Simple Stamping (one way)	1	-	-	-	-	-	1
Check Stamped	3	-	-	-	-	-	3
Complicated Stamped, Concentric Circle	3	-	-	-	-	-	3
Simple Stamped (top), Net Body	1	-	-	-	-	-	1
Textile (?)	1	-	-	-	-	-	1
Unidentified	-	-	1	-	-	-	1
TOTAL	65	3	3	11	15	5	102

TABLE 64  
DECORATIONS PRESENT AND LOCATION OF DECORATIONS BY VESSEL SECTION, 31Skla

Decoration	Lip	Lip/ Rim	Rim	Neck	Shoulder	Total
V-shaped Notches	3	7	-	-	-	10
Fingertip Treatments	5	11	-	-	-	16
Net Impressing	1	-	-	-	-	1
Check Stamping	1	-	-	-	-	1
Single Line Incised	1	-	1	-	-	2
Parallel to Lip						
Multiple Lines Incised	-	-	1	1	-	2
Parallel to Lip						
Oblong Punctations	1	-	-	-	-	1
Rectangular	1	-	-	-	-	1
Punctations						
Circular Punctations	7	-	-	-	-	7
Triangular Punctations	-	-	-	-	1	1
Incised Inverted v's	-	-	1	-	-	1
Complicated Incised/	-	-	1	-	-	1
Punctated Design						
Smoothed Band	-	-	6	1	-	7
Castellation	1	-	-	-	-	1
Suspension Holes	-	-	3	-	-	3
Raised "Node"	1	-	-	-	-	1
<b>TOTAL</b>	<b>22</b>	<b>18</b>	<b>13</b>	<b>2</b>	<b>1</b>	<b>56</b>

**Location of Decoration by Vessel Section**

Section	Occurrences	# Decorated	% Decorated
Lip	102	22	21.57
Lip/Rim	102	18	17.65
Rim	102	13	12.75
Neck	32	2	6.25
Neck/Shoulder	15	-	-
Shoulder	21	1	4.76

TABLE 65

## DECORATIONS PRESENT ACCORDING TO VESSEL SECTION, 31Skla

## LIP DECORATION

Decoration	#	%	Sample %
V-shaped Notches	3	13.636	2.941
Fingertip Notches	2	9.091	1.961
Fingernail Impressed	2	9.091	1.961
Fingertip Impressed	1	4.545	0.980
Net Impressing	1	4.545	0.980
Check Stamping	1	4.545	0.980
Line Incised Down Middle	1	4.545	0.980
Oblong Punctations	1	4.545	0.980
Rectangular Punctations	1	4.545	0.980
Circular Punctations	7	31.818	6.863
Small Raised "Node"	1	4.545	0.980
Castellation	1	4.545	0.980
TOTAL	22	100.000	100.000

## LIP/RIM DECORATIONS

Decoration	#	%	Sample %
V-shaped Notches	7	38.889	6.862
Fingertip Notched/ Pinched/Impressed	11	61.111	10.784
TOTAL	18	100.000	17.646

## RIM DECORATIONS

Decoration	#	%	Sample %
Single Lined Incised Parallel to Lip	1	7.692	0.980
Smoothed Band	6	46.154	5.882
Incised Inverted v's	1	7.692	0.980
Multiple Lines Incised Parallel to Lip	1	7.692	0.980
Complicated Incised/ Punctated Design	1	7.692	0.980
Suspension Holes	3	23.077	2.941
TOTAL	13	100.000	12.745

TABLE 65--Continued

## NECK DECORATION

Decoration	#	%	Sample %
Smoothed Band	1	50.00	3.125
Multiple Lines Incised Parallel to Lip	1	50.00	3.125
<b>TOTAL</b>	<b>2</b>	<b>100.00</b>	<b>6.250</b>

## SHOULDER DECORATION

Decoration	#	%	Sample %
Triangular Punctations	1	100.00	4.762

## MISCELLANEOUS UNIQUE DESIGN

Decoration	#	%	Sample %
Incised Flintlock Rifle	1	50.00	0.980
Lumps of Clay Placed on Rim and Irregularly Smoothed Out	1	50.00	0.980
<b>TOTAL</b>	<b>2</b>	<b>100.00</b>	<b>1.960</b>

TABLE 66  
CROSSTABULATION OF SURFACE FINISH AND DECORATIONS, 31Skla

Decoration	LIP DECORATION								Total
	Net General	Net Knotted	Surface Finish			Concentric Circle	Check Stamped		
			Net Looped	Brushed/ Scraped	Smoothed	Burnished			
V-shaped Notches	-	-	1	1	-	1	-	-	3
Fingertip Notches	-	-	-	-	2	1	-	-	2
Fingernail Impressed	-	1	-	-	-	1	-	-	1
Fingertip Impressed	-	1	-	-	-	1	-	-	1
Net Impressing	-	1	-	-	-	1	-	-	1
Check Stamping	-	-	-	-	-	-	1	-	1
Line Incised Down Middle	-	1	-	-	-	1	-	-	1
Oblong Punctations	-	-	-	-	-	1	-	-	1
Rectangular Punctations	-	-	-	-	-	1	-	-	1
Circular Punctations	-	-	-	3	2	1	-	-	7
Small Raised "Node"	1	-	-	-	-	-	-	1	1
Castellation	-	-	-	-	-	-	-	1	1
TOTAL	1	4	1	5	5	3	1	2	22

Decoration	LIP/RIM DECORATIONS								Total
	Net General	Net Knotted	Surface Finish			Concentric Circle	Simple Stamp Top, Net Body		
			Brushed/ Scraped	Smoothed	Burnished				
V-shaped Notches	-	3	-	1	2	1	-	1	7
Fingertip Notched/ Pinched/Impressed	1	3	1	4	-	1	1	-	11
TOTAL	1	6	1	5	2	2	1	1	18

TABLE 66--Continued

## RIM DECORATIONS

Decoration	Surface Finish					Total
	Net General	Net Knotted	Net Looped	Smoothed	Burnished	
Single Lined Incised Parallel to Lip	-	-	-	1	-	1
Smoothed Band	2	3	1	-	-	6
Incised Inverted v's	-	-	-	-	1	1
Multiple Lines Incised Parallel to Lip	-	-	-	-	1	1
Complicated Incised/ Punctated Design	-	-	-	-	1	1
Suspension Holes	-	1	-	1	1	1
TOTAL	2	4	1	2	4	13

## NECK DECORATION

Decoration	Surface Finish		Total
	Brushed/Scraped		
Smoothed Band	1		1
Multiple Lines Incised Parallel to Lip	1		1
TOTAL	2		2

## SHOULDER DECORATION

Decoration	Surface Finish	
	Burnished	
Triangular Punctations	1	

## MISCELLANEOUS UNIQUE DESIGN

Decoration	Surface Finish			Total
	Net Knotted	Brushed/ Scraped		
Incised Flintlock Rifle	-	1		1
Lumps of Clay Placed on Rim and Irregularly Smoothed Out	1	-		1
TOTAL	1	1		2

TABLE 67  
CROSSTABULATION OF VESSEL FORM AND DECORATIONS, 31Skla

LIP DECORATION

Decoration	Jar	Vessel Form			Total
		Open Mouthed Jar	Bowl	Hemispherical Bowl	
V-shaped Notches	2	-	1	-	3
Fingertip Notches	2	-	-	-	2
Fingernail Impressed	2	-	-	-	2
Fingertip Impressed	-	-	1	-	1
Net Impressing	-	1	-	-	1
Check Stamping	1	-	-	-	1
Line Incised Down Middle	1	-	-	-	1
Oblong Punctations	1	-	-	-	1
Rectangular Punctations	1	-	-	-	1
Circular Punctations	6	-	-	1	7
Small Raised "Node"	1	-	-	-	1
Castellation	1	-	-	-	1
<b>TOTAL</b>	<b>18</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>22</b>

LIP/RIM DECORATIONS

Decoration	Jar	Vessel Form			Total
		Open Mouthed Jar	Cuspidor	Bowl	
V-shaped Notches	3	1	1	2	7
Fingertip Notched/ Pinched/Impressed	11	-	-	-	11
<b>TOTAL</b>	<b>14</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>18</b>

TABLE 67--Continued

## RIM DECORATIONS

Decoration	Vessel Form					Total
	Jar	Open Mouthed Jar	Bowl	Cazuella Bowl	Total	
Single Lined Incised Parallel to Lip	1	-	-	-	-	1
Smoothed Band	4	-	2	-	-	6
Incised Inverted v's	-	-	-	1	1	1
Multiple Lines Incised Parallel to Lip	-	-	-	1	1	1
Complicated Incised/ Punctated Design	-	-	-	1	1	1
Suspension Holes	1	1	1	-	-	3
<b>TOTAL</b>	<b>6</b>	<b>1</b>	<b>3</b>	<b>3</b>	<b>13</b>	

## NECK DECORATION

Decoration	Vessel Form	
	Jar	
Smoothed Band	1	
Multiple Lines Incised	1	
Parallel to Lip		
<b>TOTAL</b>	<b>2</b>	

## SHOULDER DECORATION

Decoration	Vessel Form	
	Cazuella Bowl	
Triangular Punctations	1	

## MISCELLANEOUS UNIQUE DESIGN

Decoration	Vessel Form	
	Jar	
Incised Flintlock Rifle	1	
Lumps of Clay Placed on Rim and Irregularly Smoothed Out	1	
<b>TOTAL</b>	<b>2</b>	

TABLE 68  
CROSSTABULATION OF RIMTYPE AND DECORATIONS, 31Skla

LIP DECORATION

Decoration	Rimtype				Total
	Everted	Everted, Flaring	Everted, Folded	Incurved	
V-shaped Notches	2	-	-	1	3
Fingertip Notches	2	-	-	-	2
Fingernail Impressed	2	-	-	-	2
Fingertip Impressed	-	-	-	1	1
Net Impressing	1	-	-	-	1
Check Stamping	1	-	-	-	1
Line Incised Down Middle	1	-	-	-	1
Oblong Punctations	1	-	-	-	1
Rectangular Punctations	1	-	-	-	1
Circular Punctations	4	1	1	1	7
Small Raised "Node"	1	-	-	-	1
Castellation	1	-	-	-	1
<b>TOTAL</b>	<b>17</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>22</b>

LIP/RIM DECORATIONS

Decoration	Rimtype					Total
	Everted	Everted Flaring	Everted Folded	Straight	Incurved	
V-shaped Notches	4	1	-	1	1	7
Fingertip Notched/ Pinched/Impressed	9	-	1	1	-	11
<b>TOTAL</b>	<b>13</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>18</b>

TABLE 68--Continued

## RIM DECORATIONS

Decoration	Rimtype						Total
	Everted	Everted Flaring	Everted Folded	Straight	Straight, Slightly Incurved	Incurved	
Single Lined Incised	-	-	1	-	-	-	1
Parallel to Lip							
Smoothed Band	3	-	-	1	1	1	6
Incised Inverted v's	-	-	-	-	-	1	1
Multiple Lines Incised	-	-	-	-	-	1	1
Parallel to Lip							
Complicated Incised/	-	-	-	-	-	1	1
Punctated Design							
Suspension Holes	1	1	-	-	-	1	3
TOTAL	4	1	1	1	1	5	13

## NECK DECORATION

Decoration	Rimtype
	Everted
Smoothed Band	1
Multiple Lines Incised	1
Parallel to Lip	
TOTAL	2

## SHOULDER DECORATION

Decoration	Rimtype
	Incurved
Triangular Punctations	1

## MISCELLANEOUS UNIQUE DESIGN

Decoration	Rimtype
	Everted
Incised Flintlock Rifle	1
Lumps of Clay Placed on	1
Rim and Irregularly	
Smoothed Out	
TOTAL	2

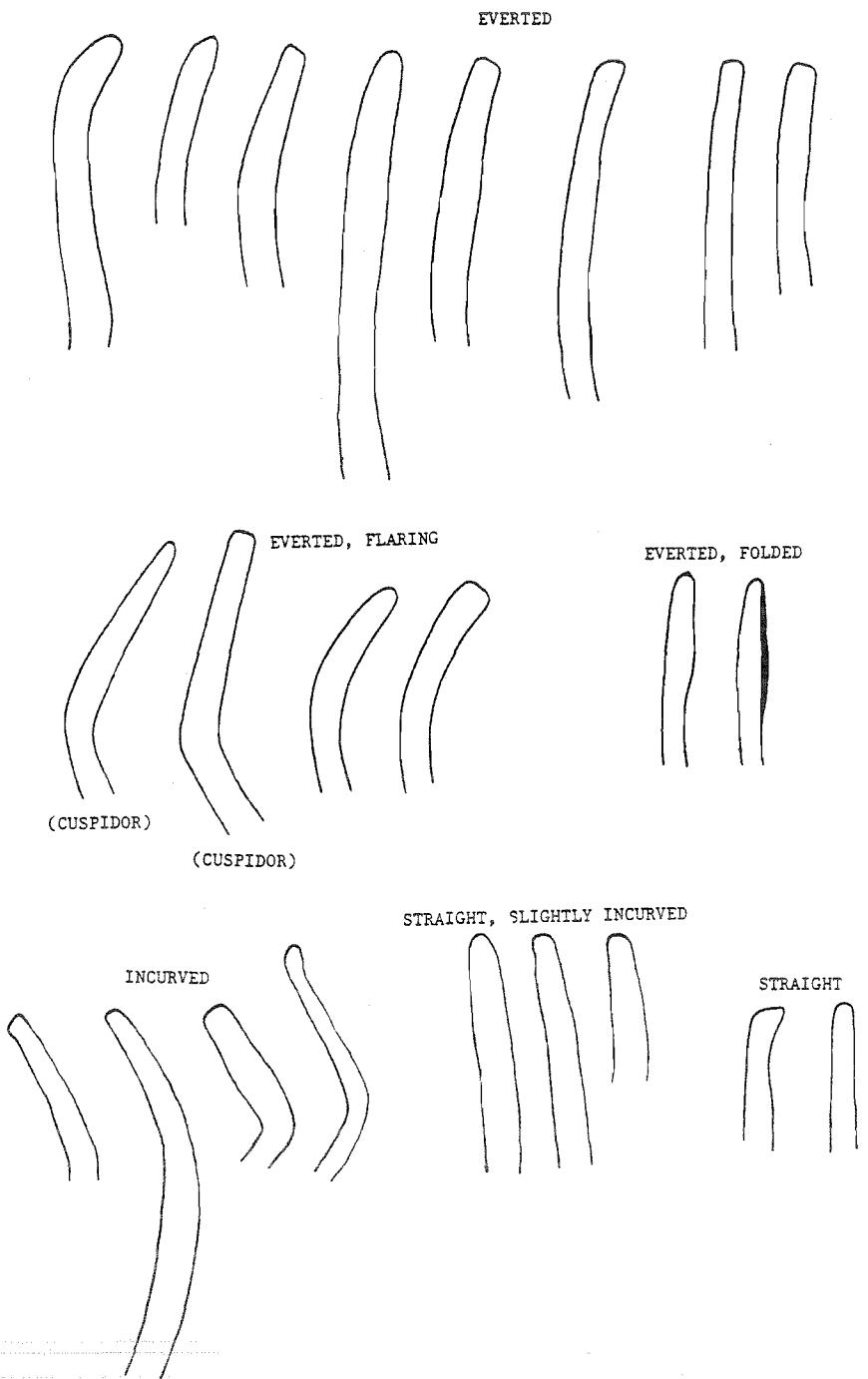


Figure 32.--Rim profiles, 31Skla.

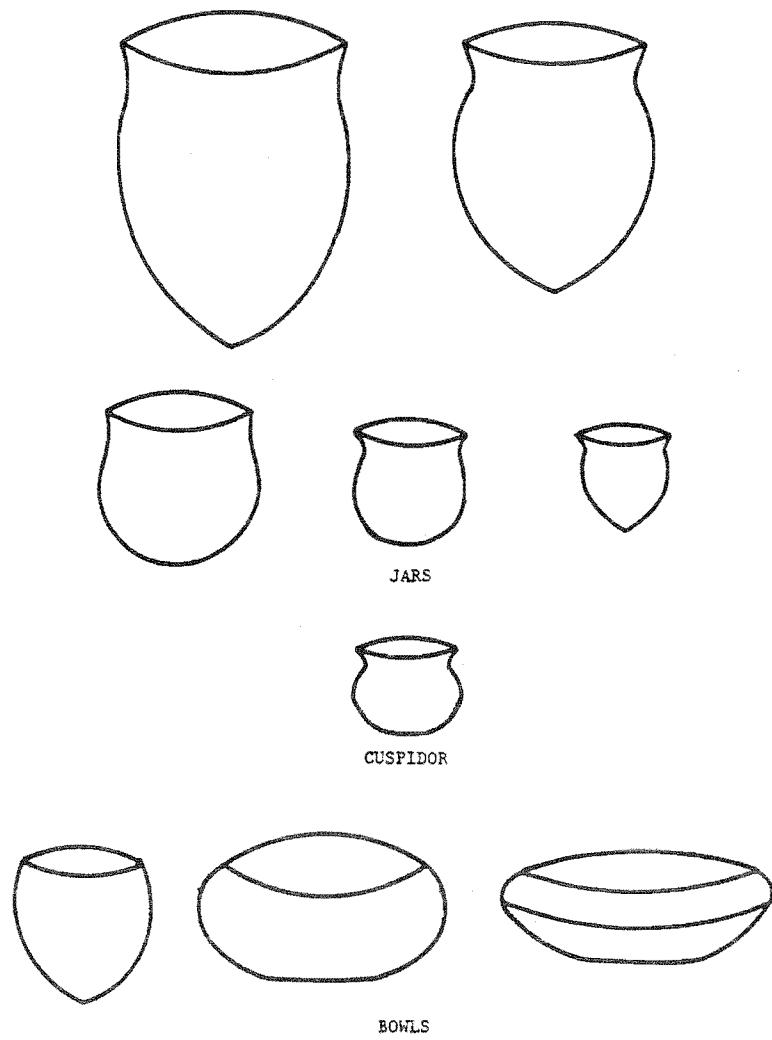


Figure 33.--Vessel forms (reconstructed) present, 31Sk1a.

Plate XXXX.--Oldtown net impressed sherds from 31Sk1a. Decorations are: (top row, left) fingertip impressions placed on the lip-rim edge; (middle row, left) v-shaped notches cut across the exterior half of the lip and a smoothed band just above the neck; (bottom row, left) v-shaped notches cut across the lip; and (bottom row, middle and right) u-shaped notches cut across the lip-rim edge.

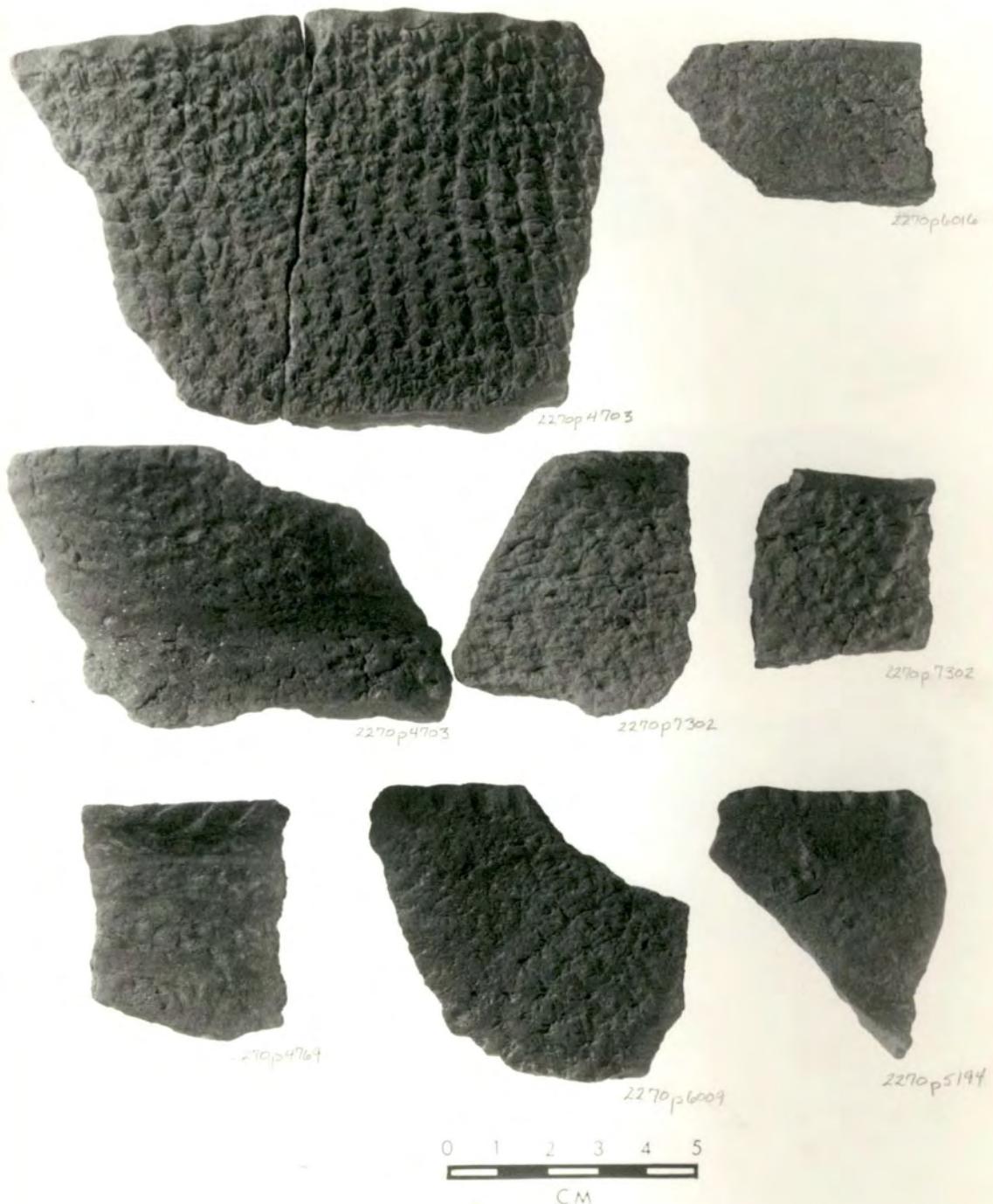


Plate XXXI.--Oldtown burnished sherds from 31Skla. Decorations are: (middle row, left) three lines with a tail incised across the rim parallel to the lip with a double row of quarter-moon punctations below the incised lines; (middle row, middle) three lines with a tail incised across the rim parallel to the lip; (bottom row, left) circular punctations placed into the lip; and (bottom row, right) v-shaped notches cut across the lip-rim edge.



2270p 4760



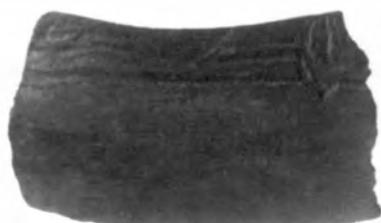
2270p 4760



2270p 4934



2270p 6012



2270p 7302



2270p 4760



2270p 4883



2270p 4705

0 1 2 3 4 5  
CM

Plate XXXII.--Miscellaneous surface finishes on Oldtown ceramics from 31Sk1a. (a) corncob impressed; (b) simple stamped; (c) brushed/scraped; (d) smoothed; and (e) smoothed. Notable decorations are: (c, left) v-shaped notches cut across the lip; (e, bottom left) u-shaped notches cut across the lip-rim edge; and (e, middle) incised inverted v's placed on a cazuella bowl rim.

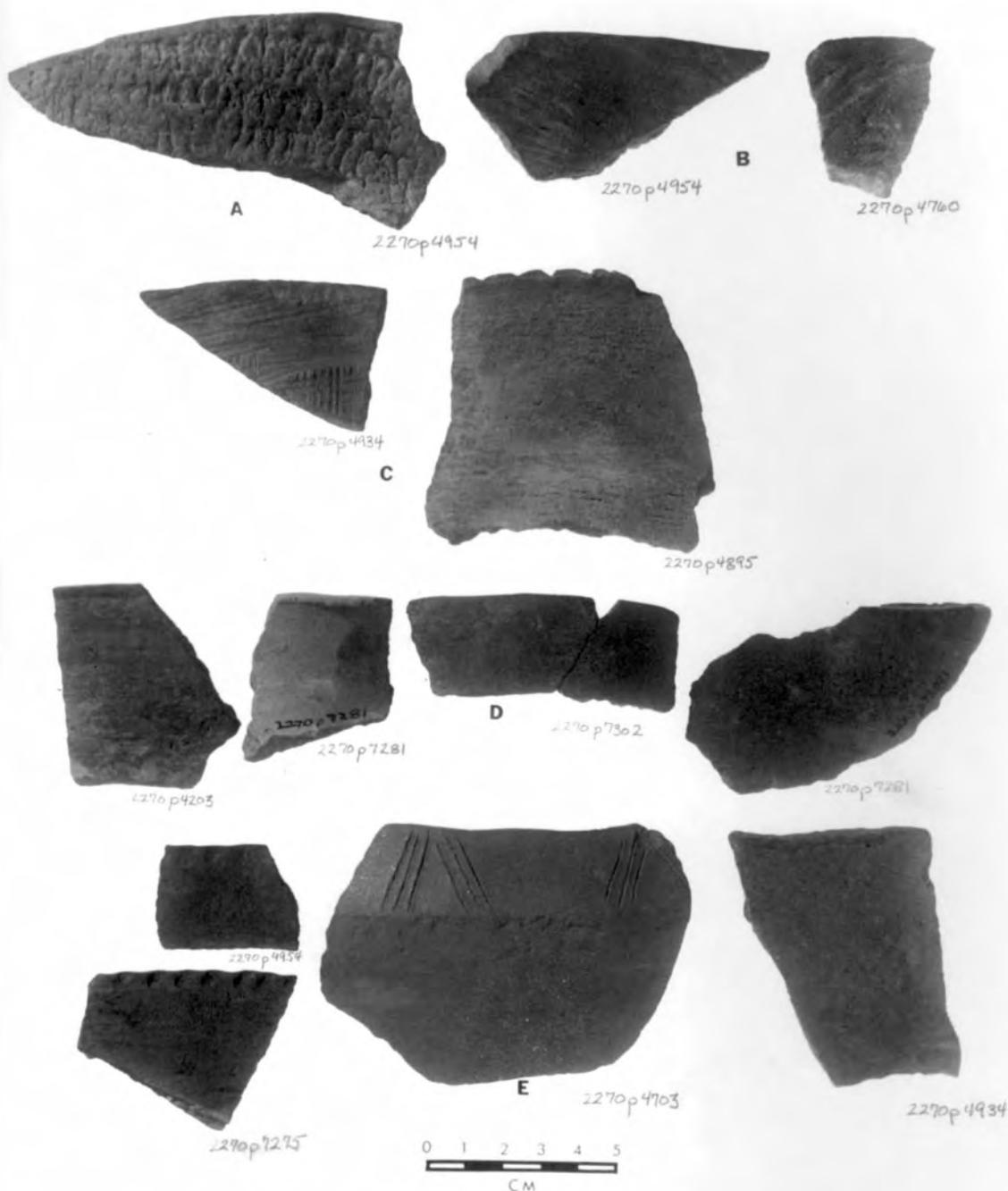


Plate XXXIII.--Smoothed-over Oldtown net impressed bowl from 31Skla.  
The vessel form is a traditional conoidal bowl with similar forms  
being found in earlier assemblages of the Dan River Ware.



2270 p 5199

0 1 2 3 4 5  
CM

Plate XXXIV.--Oldtown burnished jar from 31Sk1a. Tool marks are still visible. Decoration consists of v-shaped notches cut across the lip-rim edge.



L170 P 6016



Plate XXXV.--Oldtown smoothed jar with a conoidal shaped body from  
31Skla.



2270 p 3690



Plate XXXVI.--Oldtown smoothed jar with a rounded body from 31Sk1a.



2270p 729B

0 1 2 3 4 5  
C M

Plate XXXVII.--An example of a form and a rim attribute of Oldtown net impressed jars from 31Sk1a. The top jar has a rounded body. The bottom jar has a flaring, everted rim with a "castellation" on the lip.



2270p5199



2270p4954

0 1 2 3 4 5  
CM

Plate XXXVIII.--Oldtown brushed jars from 31Skla. The top jar has rectangular punctations placed on the lip, and a flint-lock trade rifle incised on the rim. The top jar also has a long-necked rim profile.



2270 p 3466



0 1 2 3 4 5

CM

2270 p 4760

Plate XXXIX.--Oldtown concentric circle complicated stamped jar from Burial 49, 31Skla. Decoration consists of v-shaped notches cut across the lip. (see Plate XXXVIII).



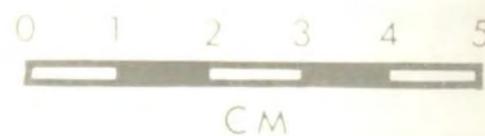
-270p6119



Plate L.--Oldtown burnished cuspidor found with Burial 15, 31Skla.  
(see Plate XXXVI).



2295p/858



CM

### The Bell Farm Site (31Mk85)

The Bell Farm Site is located on the east bank of the Catawba River in Mecklenberg County, North Carolina (Figure 14). The section of the river on which the site lies is just west of Charlotte. Work was performed on the site after accounts surfaced that described the active looting of the site by pothunters. A weekend in the fall of 1964 was spent at the site in an attempt to recover some of the information that was in the process of being destroyed.

Two ten foot, three five foot, and three irregularly shaped test squares were excavated at the site. Little information on the stratigraphy encountered exists. The soil was described as sandy loam. Two features were uncovered and removed. One of these appears to have been a large, elongated shallow basin that resembles the "roasting pits" found at the two Historic Period Dan River sites. Recovered from the features were 102 glass trade beads, 354 potsherds, clay pipe fragments, animal bone, acorn and hickory shell/meat, burnt cane, carbonized peach pit, a bone awl, flakes, and a small triangular chipped stone projectile point. From the square excavations and surface collection, an additional 193 potsherds were found, along with four glass trade beads, a brass bangle, clay pipe fragments, animal bone, and flakes. The presence of a large number of glass trade beads, the brass bangle, and the peach pit, places this site well within the Historic period. The exact dating can not be determined, but the late seventeenth or early eighteenth century represents an excellent approximation.

#### The Ceramics from 31Mk85

A total of only eight rims and accompanying vessel sections is present in the assemblage obtained from this site. Plates LI-LIII illustrate examples of the surface finishes and decorations present in the ceramic

collection from 31Mk85. The ceramics possess varying amounts of fine sand as temper ( $n=4$ ), or appear to be untempered ( $n=4$ ). The size of the particles in the fine sand ranges from .08mm to .12mm, with a mean of .10mm. Occasional particles up to .31mm in size can be seen. These are probably only accidental inclusions. Vessel walls are thin, with a mean thickness of 5.7mm, and a range from 4.6 to 6.9mm.

Surface finishes (Table 69) are split between curvilinear complicated stamped ( $n=3$ ), burnished ( $n=2$ ), smoothed ( $n=1$ ), corncob impressed ( $n=1$ ), and simple stamped ( $n=1$ ) (in which the lands and grooves are in one direction). Both the filfot scroll ( $n=2$ ) and the concentric circle ( $n=1$ ), are present as curvilinear stamped designs. Interior finishes (Table 69) are predominately burnished. Only jars are represented in this small sample. The lip type is evenly split, with four being rounded/thinned, and four flat (of which two had also been thinned). Half of the everted rims have been folded, and half have not (Table 69 and Figure 35).

Vessel forms present (Figure 34) include the open-mouthed jar ( $n=1$ ), the long-necked jar with fairly straight to slightly everted rims ( $n=4$ ), and a form ( $n=3$ ) that is between the long-necked jar and the constricted neck/everted rim type of the Dan River Series.

Decorations (Tables 70 and 71) are topped by fingertip notches/punctates ( $n=4$ ), and smoothed bands ( $n=3$ ). The latter are either by itself, with an incised design, or in conjunction with fingertip punctates on a folded rim. Decorations that occur once are v-shaped notches, incised inverted v's (which possesses filled zones of incised lines), and complex complicated curvilinear incised design. The rim (Table 70) is the favored place for decorations, with 62.5% ( $n=5$ ) of the specimens from this section of a vessel being decorated. Folded rims have fingertip punctations placed

into smoothed folds ( $n=3$ ), and fingertip notches placed on the bottom of the rim fold ( $n=1$ ). The other motif noted on the rim is a complex complicated design that incorporates linear and curvilinear incised lines.

The neck possesses the next largest number of decorations by percentage, with two (50.0%). Both are smoothed bands. One possesses incised inverted v's that have had the smoothed band filled with lines incised parallel to the lip. The only other vessel section that has any true decorations is the lip/rim edge. Here, a single occurrence of v shaped notches is present. The burnished lip "decorations" are not a true design. These represent the continuation of the interior finish onto the lip. This pattern follows a similar trend for the other ceramics with different temporal and spatial relationships, where smoothing would have been substituted for burnishing. Almost all of the lip decorations that have been discussed for the ceramics in this study have been placed on lips that possess the same treatment that the interior of the vessel has--smoothing or burnishing. This is not treated as a decoration.

The distribution of the decorations are considered only for surface finish (Table 72). Vessel form is not included as only jars are present. The v-shaped notches ( $n=1$ ) are on the lip/rim edge of a simple stamped sherd. Rim decorations are typically found with burnished surfaces ( $n=4$ ), with only one being on another surface. The complicated curvilinear/linear incised design is associated with a smoothed treatment. At the neck, the smoothed band ( $n=2$ ) is present on a corncob impressed vessel. The smoothed band with incised inverted v's with the filled zones ( $n=1$ ) is on a vessel with a burnished finish.

Decorations are associated with all three rim types present (Table 73). The v-shaped notches of the lip/rim edge are on a vessel with an

TABLE 69

SURFACE FINISH, INTERIOR FINISH, LIP TYPE, RIMTYPE,  
AND VESSEL FORMS PRESENT, 31MK85

## Surface Finish

Finish	#	%
Corn cob Impressed	1	12.50
Smoothed	1	12.50
Burnished	2	25.00
Complicated Stamped, Concentric Circle	1	12.50
Complicated Stamped, Filfot Scroll	2	25.00
Simple Stamped, One Direction	1	12.50
TOTAL	8	100.00

## Interior Finish

Finish	#	%
Burnished	7	87.50
Smoothed	1	12.50
TOTAL	8	100.00

## Lip Type

Type	#	%
Rounded, Thinned	4	50.00
Flat	2	25.00
Flat, Thinned	2	25.00
TOTAL	8	100.00

## Rimtype

Type	3	5
Everted	4	50.00
Everted, Folded	4	50.00
TOTAL	8	100.00

TABLE 69--Continued

Vessel Form		
Form	3	%
Jar	7	87.50
Open Mouthed Jar	1	12.50
TOTAL	8	100.00

TABLE 70

## DECORATIONS PRESENT AND LOCATION OF DECORATIONS BY VESSEL SECTIONS, 31Mk85

Decoration	Lip	Lip/Rim	Rim	Neck	Total
V-shaped Notches	-	1	-	-	1
Fingertip Treatment	-	-	4	-	4
Smoothed Band	-	-	-	2	2
Burnished	6	-	-	-	6
Complicated Incised Design	-	-	1	-	1
Incised Inverted v's With Fill Zones of Incised Lines	-	-	-	1	1
TOTAL	6	1	5	3	15

## Location of Decorations by Vessel Section

Vessel Section	Occurrences	# Decorated	% Decorated
Lip	8	-	-
Lip/Rim	8	1	12.50
Rim	8	5	62.50
Neck	4	2	50.00
Neck/Shoulder	3	-	-
Shoulder	3	-	-

TABLE 71  
DISTRIBUTION OF DECORATION BY VESSEL SECTION, 31MR85

<b>LIP DECORATION</b>			
Decoration	#	%	Sample %
Burnished	6	100.00	75.00
<b>LIP/RIM DECORATION</b>			
Decoration	#	%	Sample %
V-shaped Notches	1	100.00	12.50
<b>RIM DECORATION</b>			
Decoration	#	%	Sample %
Fingertip Punctations Into Smoothed Rim Fold	3	60.00	37.50
Fingertip Notches Placed Along Bottom of Rim Fold	1	20.00	12.50
Complicated Incised Design	1	20.00	12.50
<b>TOTAL</b>	<b>5</b>	<b>100.00</b>	<b>62.50</b>
<b>NECK DECORATION</b>			
Decoration	#	%	Sample %
Smoothed Band	1	50.00	25.00
Smoothed Band with Incised v's, filled with Incised Lines	1	50.00	25.00
<b>TOTAL</b>	<b>2</b>	<b>100.00</b>	<b>50.00</b>

TABLE 72  
CROSSTABULATION OF SURFACE FINISH AND DECORATION, 31Mk85

		LIP DECORATION					
Decoration		Surface Finish					
		Corncob	Smoothed	Concentric	Filfot	Simple	
	Impressed			Circle	Scroll	Stamped	
Burnished		1	1	1	2	1	6
LIP/RIM DECORATION							
Decoration		Surface Finish					
		Simple					
V-shaped Notches				1			
RIM DECORATION							
Decoration		Surface Treatment					
		Smoothed		Burnished		Total	
Fingertip Punctations		-		3		3	
Into Smoothed Rim Fold							
Fingertip Notches Placed		-		1		1	
Along Bottom of Rim Fold							
Complicated Incised Design		1		-		1	
TOTAL		1		4		5	
NECK DECORATION							
Decoration		Surface Finish					
		Corncob		Burnished		Total	
	Impressed						
Smoothed Band		1		-		1	
Smoothed Band with		-		1		1	
Incised v's, filled							
with Incised Lines							
TOTAL		1		1		2	

TABLE 73  
CROSSTABULATION OF RIMTYPE AND DECORATION, 31MK85

LIP DECORATION

Decoration	Rimtype		Total
	Everted	Everted, Folded	
Burnished	2	4	6

LIP/RIM DECORATION

Decoration	Rimtype	
	Everted	
V-shaped Notches		1

RIM DECORATION

Decoration	Rimtype		Total
	Everted	Everted, Folded	
Fingertip Punctations Into Smoothed Rim Fold	-	3	3
Fingertip Notches Placed Along Bottom of Rim Fold	-	1	1
Complicated Incised Design	1	-	1
TOTAL	1	4	5

NECK DECORATION

Decoration	Rimtype		Total
	Everted	Everted, Folded	
Smoothed Band	-	1	1
Smoothed Band With Incised v's, Filled With Incised Lines	1	-	1
TOTAL	1	1	2

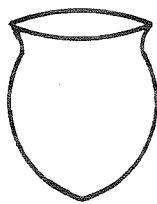
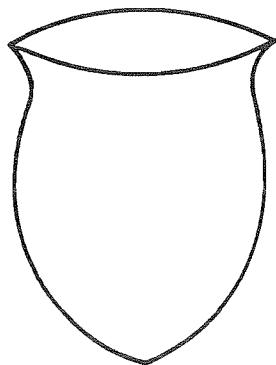
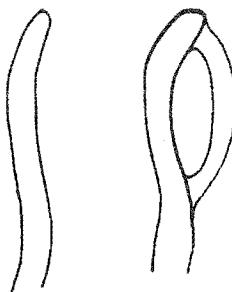


Figure 34.--Vessel forms (reconstructed) present, 31Mk85.  
All three vessels are jars.

EVERTED



EVERTED WITH A STRAP HANDLE

EVERTED, FOLDED

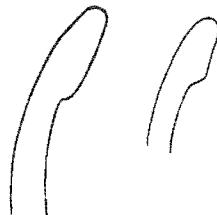
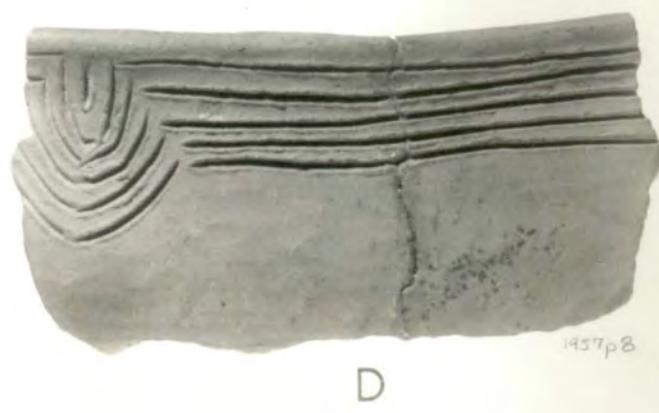


Figure 35.--Rim profiles, 31Mk85.

Plate LI.--Miscellaneous surface finishes and decorations found on sherds from 31Mk85. (a) concentric circle complicated stamped with u-shaped notches placed on the bottom of the rim fold; (b) simple stamped (possibly part of a filfot scroll design) with a folded rim; (c) simple stamped (possibly part of a filfot scroll design) with oblong punctations placed in the center of the rim fold; (d) burnished rim from a jar with a complicated incised design across the neck and rim; (e) smoothed-over cordmarked jar with a burnished strap handle; (f) burnished jar with incised inverted v's and a burnished strap handle.



0 1 2 3 4 5  
CM

Plate LII.--Corncob impressed jar from 31Mk85. The jar has a flaring, flat, folded rim, and u-shaped punctations/notches placed in the lower portion of the rim fold.



0 1 2 3 4 5  
CM

Plate LIII.--Complicated stamped body sherds from 31Mk85. (top) filfot scroll (?), over stamped; and (bottom) concentric circles, over stamped.



0 1 2 3 4 5  
CM

everted rim. Of the six rim decorations, all but one (the complicated curvilinear/ linear design) are on everted/folded rims. The two neck decorations are evenly split, with the smoothed band being on a jar with an everted/folded rim, and the smoothed band with the incised inverted v's on a jar with a simple everted rim.

Two appendages are present in the ceramic collection--two strap handles found on two burnished rimsherds that belong to the same vessel. They are associated with the neck decoration that consists of a smoothed band and incised inverted v's with incised fill lines.

#### Summary of the Historic Period Ceramics

The ceramics of all three Historic period sites are similar in that the paste is tempered with very fine sand, or none at all. Beyond this fact, differences can be noted between the pottery of the Dan River and the Catawba River during this time. However, the small size of the collection from the Catawba, and the lack of secure cross-dating for 31Skla and 31Mk85, the two latest sites known for each area, precludes any in depth study and comparison. The two Oldtown ceramic assemblages from the Dan River will be discussed before the question of the relationships between the two river drainages and their associated ceramics will be addressed.

As the Oldtown Series is included within the Dan River Ware, similarities with the other ceramics included in this group are expected. The continuation of net impressing as the leading surface finish in the earlier Oldtown assemblage from 31Skl, and as the second most important type at 31Skla, is the most visible trait that highlights the lineal affiliation of these ceramics with that of the Dan River and Clarkesville Series. Likewise, the presence of fingertip treatments and v-shaped notches

as important decorations, primarily of the lip and lip/rim edge, in the Oldtown assemblages (Table 74) documents the strong connections with the earlier ceramics. Smoothed bands at the rim and neck resemble similar decorations found in the Dan River Series. Linear incised designs, that include single and multiple lines incised parallel to the lip, and incised inverted v's, continue to be found. Another popular decoration is the continuation of the body surface finish onto the lip of the vessel. Turning to the placement of the decorations by vessel section, designs found on the lip, lip/rim edge, rim, and neck are similar for the Dan River and Oldtown Series (Table 75).

The earlier Oldtown ceramics possess a trait that has been considered characteristic of the Clarkesville ceramics (usually associated with the Occaneechi Indians). This is the folded rim, which comprises a good portion of the everted rims in the 31Skl collection ( $n=21$ , 33.3% of all everted rims). Note has already been taken of the prevalence of folded rims in a number of site assemblages along the Roanoke River upstream from the Fall Line. It should also be noted that folded rims appear to be an important attribute in the ceramics of the Indians of the lower Catawba River, and possibly the middle/lower Yadkin River, during the Historic period.

The association of a majority of the decorations with net impressed surface finishes in the Oldtown Series (Table 76) mirrors a similar pattern present in the Dan River and Clarkesville Series. Also, jars possess a majority of the decorations (Table 77), which reflects the dominance of this vessel form. But the number and variety of decorations associated with Oldtown bowls changes dramatically from the two earlier series of the Dan River Ware. This is tied to the introduction of new vessel forms into the Oldtown assemblages.

Vessel forms present in the Oldtown Series are not completely different, however, from those noted in the preceding collections. The traditional jar form that possesses a constricted neck and everted rim, and bowls with straight to slightly incurved rims, continue to be produced, but in diminished numbers. Body forms of such vessels continue to be conoidal or globular. Among the obvious new forms present are long-necked jars with slightly everted rims, open mouthed jars without the tightly constricted neck of the Dan River Series, and a few examples of cuspids. The latter are tied to the presence of numerous cazuella bowls in the earlier Oldtown ceramics from 31Skl. Hemispherical bowls also make their first appearance in the region in the assemblage from 31Skl. Within the Oldtown ceramics, this vessel form grows in popularity through time at the expense of cazuella bowls.

Tied to the increased number of new bowl forms in the Oldtown ceramics is the rise in the number of shoulder decorations from that noted for the Dan River and Clarkesville Series. Other differences in decorations are an increase in non-fingertip punctations, which include circular, oblong, rectangular, triangular, and quarter moon forms. Also, applique strips appear briefly as a minor decorative style in the early Oldtown ceramics. Burnishing as a surface treatment occurs on a small number of Dan River Series sherds at the type site, 31Rkl (Lewis 1951:262), but it is not nearly as prevalent there as it is in the later material from the two Stokes County sites. Complicated stamped surfaces appear for the first time in the Dan River Ware with their presence on the Oldtown pottery. The Oldtown simple stamped surfaces represent what can best be described as the spiral type, which is different from the style present in the early Protohistoric period Hillsboro ceramics. There, the simple stamping occurs

in sections that are placed perpendicular to one another. This gives a checkered effect to the surface finish. Simple stamping of the spiral variety, as in the Oldtown ceramics, starts at the rim, and curls down and around the vessel surface. This provides a barber-shop pole effect. Simple stamping of either kind is not present in the Dan River Series. The small quantities of simple stamped pottery in Clarkesville assemblages can not be assigned to either of the two categories discussed here.

In addition to these differences between the Oldtown and the earlier Dan River Series, there is a certain amount of variation between the two Historic period Oldtown collections. Already noted have been the disappearance of applique rim strips in the late material, and the decrease in folded rims, the number of cazuella bowls, and the percentage of burnished and net impressed surface finishes from the early assemblage at 31Skl to the later one at 31Skla. For the surface finishes, smoothing and brushing/scraping increase from early to late. The decrease in burnished surface finishes in the later Oldtown ceramics is accompanied by a decrease in interior burnishing. Another change noted among the surface treatments is the replacement of the filfot scroll by concentric circles as the complicated stamped motif. The implications of, and driving force behind, this fact cannot be fathomed due to a lack of comparative data. Among the decorations, the different kinds of non-fingertip punctations decreases from early to late, although, as a group, they continue to be numerous. The general "feeling" is that the new elements introduced into the Dan River Ware, represented by the early Oldtown pottery at 31Skl, gradually fades in importance and/or popularity as time passes.

There is not much that can be said about temporal and spatial relationships when comparing particular traits of the ceramic assemblage

from 31Mk85 in the Catawba River valley with the other complexes due to its small sample size. Instead, only a few general statements will be offered. The overt Pee Dee influences noted in the earlier Catawba Valley collection from 31Id41 disappears by the Historic period. True nodes and applique strips disappear from the tradition. Lasting Pee Dee influences can be seen in the presence of burnished and complicated stamped surface finishes, and, by inference, hemispherical and cazuella bowl forms. The lack of lip decoration in the Bell Farm (31Mk85) ceramics is a continuation of a pattern noted in the Prehistoric collection. Rim folds, not present at 31Id41, replace applique strip decorations as a rim treatment in the later ceramic collection. The origins of the rim folds can not be determined, although possible candidates include Indian cultures along the middle Yadkin River, the upper Cape Fear River, or the upper Neuse. Vessels with complicated stamped surfaces possess all the folded rims from 31Mk85.

The discussion of the ceramics from the Bell Farm Site will be stopped at this point. The small quantities of sherds available for study from the lower Catawba River Valley suggests that a pattern of change through time, similar to the one noted for the Dan River Ware, may have existed. This is documented by the reduction of temper size, the change to smoothed and/or burnished surface finishes, and a fading of overt Pee Dee influences. Research into these questions, and numerous others associated with the ceramics of the Catawba Valley, has been sorely neglected. The basic framework of time, space, and content has yet to be adequately described at even the most insignificant level of inquiry. Before more can be said now, or in the future, this glaring omission will have to be corrected by research.

TABLE 74  
DECORATIVE ELEMENTS PRESENT BY VESSEL SECTION AT THREE HISTORIC SITES

31SK1

Element	Lip	Lip/ Rim	Rim	Neck	Neck/ Shoulder	Shoulder	Total
V-shaped Notches	1	2	-	-	-	1	4
Fingertip Treatment	2	5	2	1	-	-	10
Smoothed Band	-	-	5	-	-	-	5
Brushed Band	-	-	1	-	-	-	1
Circular Punctations	4	-	-	-	-	1	5
Oblong Punctations	1	-	-	-	-	-	1
Short Incised Lines, Perpendicular to Lip	-	-	-	-	-	-	-
Single Line Incised, Parallel to Lip	-	-	1	-	-	-	1
Multiple Line Incised, Parallel to Lip	-	-	-	-	-	-	-
Rectangular Punctations	2	-	-	-	-	-	2
Surface Treatment on Lip	7	-	-	-	-	-	7
Incised Inverted v's	1	-	2	-	-	-	3
Applique Strip	-	-	3	-	-	-	3
Complicated Incised/ Punctate Design	-	-	-	-	-	-	-
Corncob Impressing	-	-	-	1	-	-	1
Triangular Punctations	-	-	-	-	-	1	1
Quarter Moon Punctations	-	-	-	-	-	1	1
<b>TOTAL</b>	<b>18</b>	<b>7</b>	<b>14</b>	<b>2</b>	<b>-</b>	<b>4</b>	<b>45</b>

TABLE 74--Continued

## 31Skla

Element	Lip	Lip/ Rim	Rim	Neck	Neck/ Shoulder	Shoulder	Total
V-shaped Notches	3	7	-	-	-	-	10
Fingertip Treatment	5	11	-	-	-	-	16
Smoothed Band	-	-	6	1	-	-	7
Brushed Band	-	-	-	-	-	-	-
Circular Punctations	7	-	-	-	-	-	7
Oblong Punctations	1	-	-	-	-	-	1
Short Incised Lines, Perpendicular to Lip	-	-	-	-	-	-	-
Single Line Incised, Parallel to Lip	1	-	1	1	-	-	3
Multiple Line Incised, Parallel to Lip	-	-	1	-	-	-	1
Rectangular Punctations	1	-	-	-	-	-	1
Surface Treatment on Lip	2	-	-	-	-	-	2
Incised Inverted v's	-	-	1	-	-	-	1
Applique Strip	-	-	-	-	-	-	-
Complicated Incised/ Punctate Design	-	-	1	-	-	1	2
Corncob Impressing	-	-	-	-	1	-	1
Triangular Punctations	-	-	-	-	-	-	-
Quarter Moon Punctations	-	-	-	-	-	-	-
TOTAL	20	18	10	2	1	1	52

TABLE 74--Continued

## 31Mk85

Element	Lip	Lip/ Rim	Rim	Neck	Neck/ Shoulder	Shoulder	Total
V-shaped Notches	-	1	-	-	-	-	1
Fingertip Treatment	-	-	4	-	-	-	4
Smoothed Band	-	-	-	2	-	-	2
Brushed Band	-	-	-	-	-	-	-
Circular Punctations	-	-	-	-	-	-	-
Oblong Punctations	-	-	-	-	-	-	-
Short Incised Lines, Perpendicular to Lip	-	-	-	-	-	-	-
Single Line Incised, Parallel to Lip	-	-	-	-	-	-	-
Multiple Line Incised, Parallel to Lip	-	-	-	-	-	-	-
Rectangular Punctations	-	-	-	-	-	-	-
Surface Treatment on Lip	-	-	-	-	-	-	-
Incised Inverted v's	-	-	-	1	-	-	1
Applique Strip	-	-	-	-	-	-	-
Complicated Incised/ Punctate Design	-	-	1	-	-	-	1
Corncob Impressing	-	-	-	-	-	-	-
Triangular Punctations	-	-	-	-	-	-	-
Quarter Moon Punctations	-	-	-	-	-	-	-
<b>TOTAL</b>	-	1	5	3	-	-	9

TABLE 75

## PLACEMENT OF DECORATIONS BY VESSEL SECTION AT THREE HISTORIC SITES

Vessel Section	Number of Decorations on a Vessel Section					
	31Sk1		31Sk1a		31Mk85	
	#	%	#	%	#	%
Lip	20	23.0	22	21.6	-	-
Lip/Rim	7	8.1	18	17.7	1	12.5
Rim	12	13.8	13	12.8	5	62.5
Neck	2	6.7	2	6.3	2	50.0
Neck/Shoulder	-	-	-	-	-	-
Shoulder	4	14.8	1	4.8	-	-

TABLE 76

CROSSTABULATION OF SURFACE FINISH AND DECORATION LOCATION  
FOR THREE HISTORIC SITES

## 31Sk1

Surface Finish	Lip	Lip/ Rim	Rim	Neck	Shoulder	Total
Net Impressed, (all)	9	3	7	1	-	20
Corncob Impressed	2	-	-	-	-	2
Cordmarked	-	-	-	-	-	-
Smoothed	2	3	-	1	-	6
Burnished 1	5	1	1	-	4	11
Simple Stamped	1	-	2	-	-	3
Check Stamped 2	-	-	-	-	-	-
Complicated Stamped	-	-	-	-	-	-
Brushed/Scraped	-	-	-	-	-	-
TOTAL *	19	7	10	2	4	42

## 31Sk1a

Net Impressed, (all)	5	8	7	-	-	20
Corncob Impressed	-	-	-	-	-	-
Cordmarked	-	-	-	-	-	-
Smoothed	5	5	2	-	-	12
Burnished 1	3	2	4	-	1	10
Simple Stamped	-	-	-	-	-	-
Check Stamped 2	1	-	-	-	-	1
Complicated Stamped	1	2	-	-	-	3
Brushed/Scraped	5	1	-	1	-	7
TOTAL *	20	18	13	1	1	53

## 31Mk85

Net Impressed, (all)	-	-	-	-	-	-
Corncob Impressed	1	-	-	1	-	2
Cordmarked	-	-	-	-	-	-
Smoothed	1	-	-	-	-	2
Burnished 1	-	-	4	1	-	5
Simple Stamped	-	1	-	-	-	1
Check Stamped 2	-	-	-	-	-	-
Complicated Stamped	3	-	-	-	-	3
Brushed/Scraped	-	-	-	-	-	-
TOTAL *	5	1	5	2	-	13

1- slanting one way

2- filifot scroll at 31Sk1, concentric circle at 31Sk1a, and both at 31Mk85

\*- Totals will not match other tables due to inclusion of suspension holes, castellation, etc. that other tables do not, and because more than one decoration occurs on some sections.

TABLE 77

CROSSTABULATION OF VESSEL FORM AND DECORATION LOCATION  
FOR THREE HISTORIC SITES

## 31Sk1

Vessel Form	Lip	Lip/ Rim	Rim	Neck	Shoulder	Total
Jar	12	6	8	2	-	28
Cuspidor	-	-	-	-	-	-
Bowl	-	-	1	-	-	1
Hemispherical Bowl	4	1	1	-	-	6
Cazuela Bowl	3	-	-	-	4	7
TOTAL	19	7	10	2	4	42

## 31Sk1a

Vessel Form	Lip	Lip/ Rim	Rim	Neck	Shoulder	Total
Jar	17	15	6	1	-	41
Cuspidor	-	1	1	-	-	2
Bowl	2	-	3	-	-	5
Hemispherical Bowl	1	2	-	-	-	3
Cazuela Bowl	-	-	3	-	1	4
TOTAL	20	18	13	1	1	52

## 31Mk85

Vessel Form	Lip	Lip/ Rim	Rim	Neck	Shoulder	Total
Jar	5	1	5	2	-	13
Cuspidor	-	-	-	-	-	-
Bowl	-	-	-	-	-	-
Hemispherical Bowl	-	-	-	-	-	-
Cazuela Bowl	-	-	-	-	-	-
TOTAL	5	1	5	2	-	13

## Chapter 18

### A SYNTHESIS OF THE CERAMIC STUDY

Research into the archaeological remains associated with the Siouan Indians of the Carolina and Virginia Piedmont was initiated in the mid-1930s as part of a project to discover the ancestors and/or descendants of the Indians who had been associated with the Fort Ancient Aspect of the central Ohio Valley (Coe 1964:6; 1982). The investigation was spurred by James B. Griffin and Eli Lilley who had sponsored research that eliminated the Iroquois as pretenders (Coe 1982). Lilley, who was a lay archaeologist and heir to the pharmaceutical fortune, had financed a number of other archaeological studies. Griffin was the noted archaeologist from the University of Michigan who had analyzed the Fort Ancient material.

The direct result of the effort to determine if the Siouan Indians were the sought-after group, was the identification of a number of ceramic series for the Carolina and Virginia Piedmont. These were named Dan River, Clarkesville, Caraway, Hillsboro, Elkin, and Linwood (Griffin 1945; Lewis 1951; Coe 1952b). As noted earlier, only the first two of these were formally described in the interval following their construction in the 1930s.

By the end of these initial investigations, which lasted only a couple of years, James Griffin (1945:328) was led to conclude that there was little connection between Fort Ancient and the Piedmont Siouan materials. Following this assessment, Griffin (1945:322-326) turned to a consideration of the split of the Historic period Siouans into Northern and Southern divisions by John Swanton and Frank Speck. The Northern division

supposedly constituted a linguistic group containing the Manakan, Manohoac, Saponi, Tutelo, Occaneechi, and Mohetan Indians (Swanton 1936:379). In the other category were the Cheraw (Sara), Keyauwee, Eno, Catawba, Waxhaw, Shakori, Santee, Winyau, Sewee and Waccamaw (Swanton 1936:379). Griffin (1945:321) referred to the Northern "Tutelo" division as the Virginia Siouans, and the Southern "Catawba" branch as the Carolina Siouans.

An examination (Griffin 1945:323) of the archaeological material from the sites along the Roanoke River at Clarkesville, Virginia showed the ceramics to be fairly homogeneous. The latest of these were associated with the Virginia Siouan division, the Tutelo, Occaneechi, and Saponi of 1650-1675. The basis for this identification was the presence of unidentified European trade items with aboriginal material in an unspecified context.

Upstream from Clarkesville on the Dan River in North Carolina were two assemblages of a similar time period thought to belong to the Carolina/Catawba Siouan division (Griffin 1945:323). These were the sites identified as Upper and Lower Sara Town in Stokes and Rockingham counties, North Carolina. An archaeological site thought to be associated with the Southern division at a somewhat later date, 1701, was the "Keyauwee" village (31Rd1) on Caraway Creek near the town of Asheboro in Randolph County, North Carolina (Griffin 1945:325-327).

Two sites identified as late Northern/Virginia division sites, and dated to 1701, were also present in the central Carolina Piedmont. These were the "Occaneechi" Town (31Or11) on the Eno River near Hillsboro, North Carolina, and the "Saponi" Town on the Yadkin River near Salisbury, North Carolina (Griffin 1945:323-325). These Indians had moved south after 1675 because of conflict and pressure from the English in Virginia. Ceramics at

both of these sites supposedly possessed Lamar-like characteristics--complicated stamping, cazuella bowl forms, and/or bold incised designs--and another characteristic thought to be "southern" in origin, check stamping. These were similar to the southern traits noted for the ceramics at the "Keyauwee" village on Caraway Creek, which were thought to have been indicative of the cultural complex of the Catawba/Carolina Siouan division.

In summarizing the state of knowledge about ceramic assemblages identified with the various "Siouan groups", Griffin (1945:327, 329) noted that for the early period (1650-1675) ceramic characteristics were more closely aligned with the Chesapeake-Potomac area, presumably due to the preponderance of net impressed surfaces. Later (1675-1700), as the Virginia Siouans, specifically the Occaneechi and Saponi, moved south into North Carolina, southern traits were rapidly incorporated into their ceramic assemblages. These traits included complicated stamping, check stamping, and bold incising. For the 1675-1700 period, these traits were similar to the only collection of ceramics from a Southern/Catawba/Carolina Siouan site, that of "Keyauwee" (Griffin 1945:327, 329). Other than these generalizations, nothing could be stated about a Northern-Southern dichotomy in the archaeological material, due primarily to the lack of information on other Southern/Catawba/Carolina Siouan groups or sites, particularly the Catawba, Cheraw (Sara) and Waxhaw (Griffin 1945:328).

We now know, as documented in this study, that the Hillsboro and Caraway ceramics do not date to 1700, the ceramics from Lower Sara Town (31RK1) are earlier than 1650-1670, and a majority of the material from the Roanoke River at Clarkesville, Virginia may be as early as the Lower Sara Town material. Also, the Hillsboro assemblage may not even represent a Siouan group, given the many characteristics it shares with cultures of the

Inner Coastal Plain. Simple and check stamping, so prevalent in Hillsboro pottery, has a decided Coastal Plain/middle and lower Roanoke River appearance. Despite Griffin's call for additional work with the archaeological complexes associated with the Southern/Catawba/Carolina Siouan Division, only data for the "Sara" or "Cheraw" occupations on the Dan River has been added over the years.

Because of the numerous shortcomings in the ceramic record for the Carolina and Virginia Piedmont, and the lack of precise dates for most of the assemblages, a true synthesis cannot be attempted. Instead, some general statements regarding the ceramics are offered.

First to be considered, is the question of the existence of Northern and Southern Siouan divisions in the archaeological record. Ceramics formed the basis for Griffin's analysis, and will be used here. The small quantity of pottery within the Catawba Valley, discussed in Chapters 15 and 17, indicates that the development of complicated stamped and burnished surface finishes, the adoption of the cazuella bowl form, and the introduction of complicated incised designs occurs relatively early. This development probably can be dated to the time of Pee Dee Focus of the upper Pee Dee/lower Yadkin drainage in North Carolina, and allied cultures on the lower Wateree River in South Carolina. Temple mound sites specifically associated with the Pee Dee Focus consist of the Town Creek Indian Mound on the Little River in Montgomery County, North Carolina, and the Mulberry Mounds on the Wateree River at Camden, South Carolina. The precise dating of Pee Dee in North and South Carolina has yet to be determined. Dickens (1976:198) reported radiocarbon dates that range from A.D. 1205 to 1355 for the mound and pre-mound levels at Town Creek Indian Mound. The association of a few Pee Dee sherds at 31Id41, the site on the

Catawba River from which the Late Prehistoric ceramics discussed above were derived, provide a connection between the Pee Dee phase and the Piedmont "Siouan" groups.

Sites with Pee Dee assemblages have an interesting distribution (see Figure 14). In South Carolina along the Wateree River they are found as far north as Camden. Instead of continuing north up the Wateree into the Catawba drainage, one must move east to the next major river system, the Yadkin/Pee Dee, to find a continuation of Pee Dee sites. In the Yadkin/Pee Dee drainage, Pee Dee sites are found from the vicinity of Cheraw, South Carolina north to the Little River, a tributary of the upper Pee Dee River.

Thus, during the Late Prehistoric period, Pee Dee and Siouan cultural systems were interacting along the upper Wateree/lower Catawba, and the upper Pee Dee/lower Yadkin drainages. The presence of a few Pee Dee attributes on Uwharrie and Caraway ceramics at the Protohistoric Poole Site (31Rd1), originally thought to have been the location of the 1701 Keyauwee village, was discussed earlier. These traits include burnished and complicated stamped surfaces, cazuella bowl forms, and rim applique strips. Likewise, Pee Dee characteristics are found in the collections from 31Id41. Here, strong Pee Dee influences are expressed by the presence of burnished and complicated stamped surfaces, cazuella bowl forms, rim applique strips, and rim nodes. Given these characteristics, it now seems probable that there was a development during the early part of the Late Prehistoric period of ceramics along the Catawba and Yadkin Rivers that came later to be called by the generic name "Catawba". The exact nature of this pottery and its specific evolution still remains obscure for the period prior to the nineteenth century (cf. Fewkes 1944; Baker 1972).

At approximately the same time as the above interaction, the ceramics in the Dan River area exhibit little direct influence from the Pee Dee complex. Sherds with Pee Dee paste, and one pot with a Pee Dee rectilinear complicated stamped surface and nodes at the top of the rim, mark its presence. Cazuella bowls, and complicated stamped and burnished surface finishes are not present in the Dan River Ware until later in time. Other attributes generally associated with Pee Dee ceramics, including nodes and applique strips, were also absent from Dan River ceramics during the Late Prehistoric period. Instead, net impressed surfaces, and conoidal bowls and jars predominate. Traditional notched, fingertip punctated, and linear incised decorations do not give way to new elements until later. Thus, during the Late Prehistoric period, there does appear to have been a difference in the course of ceramic change between the southern and northern sections of the Carolina Piedmont. The "southern tradition", found along the lower Catawba and lower Yadkin Rivers, is marked by evidence for profound influences directly from the Pee Dee cultural system, and possibly other systems to the south (Griffin 1945:324-326; Coe 1952a:308-311), usually lumped together as "Lamar". The "northern division", meanwhile, maintains the tradition of net impressed surface finishes identified by Griffin (1945:327, 329) with the Potomac and Chesapeake Bay sections to the north.

For the Protohistoric period, little is known about what occurred anywhere in North Carolina or Virginia. As already noted, the Hillsboro ceramics from 310r11 show a strong affiliation to the ceramics along the Roanoke River at the Fall Line to the northeast. In this respect, Hillsboro simple and check stamped surfaces do not represent, as implied by Griffin (1945), an evolutionary stage in the change from net impressed to

complicated stamped surface finishes during the Protohistoric and Historic periods. "Southern" traits are present in Hillsboro ceramics in the form of burnished surfaces, cazuella bowls, and complicated incised/punctated decorations. However, these traits probably are derived from the Indians of the lower Catawba and/or lower Yadkin rivers, and not directly from the Pee Dee group. No nodes or applique strips are present in the Hillsboro assemblage, and there is only one complicated stamped sherd. One possible interpretation is that, as the ceramic traditions within the lower Catawba and Yadkin River areas evolved, the more overt Pee Dee traits and decorations dropped out, and those more in keeping with traditional modes retained and passed to other groups of the Piedmont.

The other ceramic assemblage of the Protohistoric period is Caraway, whose type site is 31Rdl, the Poole Site. Here, the presence of complicated stamping as a significant percentage (7-10%) of the collection underscores a connection with the lower Yadkin River. The presence of smoothing as the predominate surface finish may indicate that the ceramics of the lower Yadkin evolved in a manner different from those of the Catawba area. It may be that net impressing, which is assumed to have been the dominate surface finish in the pre-Pee Dee era, was replaced by smoothing as the predominant treatment at an earlier date in the Catawba area. As the Pee Dee cultural system spread north up the Wateree River, the first culture area encountered, and thus the earliest to interact, was the lower Catawba. Caraway ceramics possibly represent a later version of the process that had occurred to the southwest. In this respect, the influences illustrated in the Caraway ceramics may have been derived from other areas of the lower Yadkin or the lower Catawba River, and not directly from the Little River Pee Dee culture.

The problem is that nothing is known about the ceramics of the Late Prehistoric, Protohistoric and Historic periods in either the Yadkin or Catawba drainages. One exception is the enigmatic Linwood Series. These ceramics are supposedly associated with the 1701 Saponi occupation at Trading Ford on the Yadkin River that John Lawson visited (Coe 1952b:1). Lewis (1951:291, 293) implied that burnished and complicated stamped surfaces were the outstanding feature of this pottery. In reference to the Cornett site on the New River in southwestern Virginia, Clifford Evans (1955:132-133) related details of correspondence between himself, James Griffin, and Joffre Coe on Linwood ceramics. From Evans' statements it is evident that he was attempting to identify the Virginia site as the home of the Saponi before they moved south to the Yadkin River. According to the facts delivered to Evans (1955:132), Linwood Series ceramics possessed "thickened" rims which had "annular punctates at the base of the thickened-rim strip", with "a continuation of the corncob-impressed and scraped impressions" as surface finishes, and "a considerable increase in the proportions of complicated stamping" as a surface treatment. The question of the relation between the Cornett site ceramics, the Linwood Series, and the Saponi Indians has never been resolved. In summary, all that can be said of the ceramics from the lower Yadkin during the Protohistoric/Historic period is that they probably contained some notable amount of complicated stamping as a surface finish. Identification of the Linwood Series with the Saponi of 1701 should not be taken as a given, especially with the revisions that have been necessary for the other ceramic-ethnic group relationships proposed by earlier researchers.

The only information available for the lower Catawba during the Historic period is the name of a series, Elkin, identified with the Catawba

Indians of 1700 (Coe 1952b:1), and the small ceramic collection from the Bell Farm Site (31Mk85) of the Catawba River near Charlotte, analyzed for the present study. For now, the former has to be dismissed as being of no help, for no information has ever been published on it. The Bell Farm ceramics indicate that smoothing, burnishing, complicated stamping, and corncob impressing are major surface finishes along the lower Catawba River. The two complicated stamped designs--the concentric circle and the filfot scroll--noted for the earlier Catawba River site, 31Id41, are still present. Nodes, prevalent as a decoration at 31Id41, are absent, however. It is probable that the tradition of complicated stamped-smoothed-burnished surface finishes, with cazuella bowls, and complicated incised/punctated decorations, that appear along the lower Catawba River during the Late Prehistoric period, continue at least into the late seventeenth century.

Data for the other regions of the Piedmont during the Historic period are available only from the upper Dan River drainage. In the intervening area between there and the Catawba River, no other ceramic assemblage has been documented for this era. The ceramics from the two sites on the Dan in Stokes County, North Carolina (31Skl and 31Skla), represent the late seventeenth century version of the Dan River Ware.

I have named these ceramics, described in Chapter 17, the Oldtown Series. The earlier ceramics in this series came from 31Skl, the later from 31Skla. The rim folds in the earlier Oldtown assemblage are similar to those found in Clarkesville ceramics, which usually have been associated with the Occaneechi Indian of the Historic period on the Roanoke River. Later Oldtown ceramics do not have the rim fold, which may indicate that the two assemblages straddle a 1676 date. This is the year that the power of the Occaneechi Indians was shattered by the Virginia colonists under

Nathaniel Bacon, which presumably ended their control over the trade routes to the other Indian groups of the Virginia and northern Carolina Piedmont.

Another explanation for the disappearance of the folded rim from the Oldtown ceramics can be offered. As the folded rim is present in the ceramic assemblages from the Catawba River area, it may be that the folded rim developed in this area in the Late Prehistoric or Early Protohistoric period. The trait subsequently spread north and maintained a strong presence through the Protohistoric period. With the establishment in 1670 of the English colony in South Carolina, Catawba interest and influence in the Piedmont to the northwest subsided. This may have resulted in the disappearance of the folded rim from the Oldtown ceramics.

The continuation of net impressing as a plurality of the surface finishes present in the Oldtown ceramics from 31Skl documents the lineal relationship of this pottery with that of the Dan River and Clarkesville series. At the same time, "southern" traits include minor, but significant, amounts of burnished and complicated stamped surface finishes, cazuella bowls, and complicated incised decorations. Elements of the earlier Dan River Series, including notched, fingertip treated, and linear incised decorations, and the net impressed surface finish, continues to flourish.

Major changes in the later Oldtown ceramics from 31Skla are in surface finish and vessel form. Smoothing supersedes net impressing as the most popular form of surface treatment, whereas burnished surface finishes and cazuella bowl forms decrease from the percentages noted for 31Skl. Also, concentric circle complicated stamped designs replace the filfot scroll of the earlier Oldtown assemblage. No explanation can, as yet, be offered for the source of this inspiration or the reasons for the replacement.

Other non-local connections are implied by the presence in the ceramic assemblage from 31Skl of a smoothed rim sherd and several body sherds that possess crushed "soapstone" as temper. These sherds are similar to those present along the upper Catawba River in McDowell and Burke Counties, North Carolina. A small collection of sherds, obtained through excavations conducted by H. Trawick Ward and the Research Laboratories of Anthropology at a site (31Mc41) on the Catawba River near Marion, North Carolina, also contains specimens with soapstone temper. This pottery shows connections, primarily in the surface finish, with the Pisgah and Qualla ceramic assemblages of western North Carolina (Ward 1977). As with the complicated stamped surfaces, the full implications of this cannot be addressed because of a lack of other temporally comparable ceramic data.

In summary, the Oldtown Series constitutes the end-product of the changes within the ceramics of the Dan River Ware from the Protohistoric period through the late 1600s. The general course of this development sees a decrease in the size of the sand and in the overall amount of sand used as temper; a gradual rise in the occurrence of smoothing as a surface finish until it finally replaces net impressing in the late 1600s (about 1670-1680); a rise in frequency of flat lips as opposed to rounded lips; and a change from scraped interiors to those that are smoothed or burnished. Also noted for the Late Protohistoric/Early Historic period version of these ceramics is an incorporation of complicated incised designs, an increase in non-fingertip punctations as decorations, and the appearance of cazuella and hemispherical bowl forms.

A similar pattern cannot, as yet, be documented for any of the other regions of the Piedmont because of a lack of comparative data across any two or three of the time periods under study. The general evolutionary

scheme of Uwharrie-Dan River-Caraway ceramics postulated during the 1950s and early 1960s captures the essence of the changes that occurred in the Piedmont ceramics from the Late Prehistoric to the Historic period. That continuum manifests a decrease in scraped interior surfaces, a decline and virtual disappearance of cordmarked surface treatments associated with an increase in net impressed surfaces, and a subsequent rise in smoothed treatments at the expense of net impressing, through time and between the three assemblages. These changes are interpreted here as representing a general pattern of change within the ceramic traditions of every region of the Piedmont. The Uwharrie-Dan River-Caraway sequence is best understood in this light, as the three ceramic types are not connected in such a specific linear pattern.

The lineal relationships between some of the ceramics, such as the Uwharrie and Caraway at the Poole Site (31Rd1), and the pottery from 31Id41 and 31Mk85 on the lower Catawba River, are clear. The details of the connections of these and the other ceramic assemblages present within particular river drainages, and across the Piedmont have not been adequately researched, partially because of the simplistic ceramic evolutionary model followed in the past.

A model of the general course of evolution within the Piedmont ceramic traditions can be presented. Prior to the Late Prehistoric period, the ceramics of a region probably manifests characteristics derived from the cultures located within discrete river drainages. Interactions would be linear, and the general pattern of change and exchange of ceramic attributes, traits, and modes would follow a general Coastal Plain-Piedmont-Mountain direction. This linear orientation would be tied to communication and information flow up and down river systems, and not between drainages.

With the expansion of the Pee Dee culture up the Wateree and Pee Dee Rivers, the same general pattern of interaction is followed during the Late Prehistoric period for the lower Catawba and lower Yadkin drainages. Information and interaction is most intense up and down the rivers. But, as illustrated by the presence of Pee Dee sherds in Pisgah assemblages of western North Carolina (Dickens 1976:198) and on the Dan River, these influences are also felt across drainages. In the Piedmont this is manifest by the beginnings of a north-south, and a decline of the east-west, orientation in the ceramics. Contact with the Spaniards in the 1540s and 1560s probably provided an impetus to the changing interaction pattern. Certainly, with the establishment of English colonies in Virginia and South Carolina, the focus for Piedmont Indian interaction shifted decidedly north-south, an orientation which was tied to the Great Trading Path, the Occaneechi Trail, that cut across river drainages as it ran from the Falls of the Appomattox River in Virginia, to the Fall Line at Augusta, Georgia. This change is clearly evident in the increase of "southern" traits in the ceramics along the Dan River.

The full implication of this re-orientation model for the Piedmont cultures during the Late Prehistoric and subsequent periods has yet to be researched. The many gaps in the archaeology of various regions for the entire Woodland and Historic periods have to be filled. This includes the Dan River drainage, where the early affiliations of the Dan River Ware, and the patterns of change for the Protohistoric period remain unclear. The need for data is especially acute for the entire Catawba River drainage. Almost nothing has been documented for this area, whose aboriginal inhabitants exert so much influence on the other cultures of the Carolina and Virginia Piedmont. I must underscore the necessity for more

excavation, more and better analyses, and an increased dissemination of information.

### Ceramic Diversity

To further study the general trends noted in my previous discussions, I investigated the diversity of surface finishes and decoration within and across the ceramic assemblages. A starting point was provided by James Deetz's (1965; 1967:109-113) studies of the ceramics of the Arikara Indians of the Missouri River Valley in South Dakota. Deetz conducted an attribute analysis of the ceramics from three components of an Arikara site. Each component represented a discrete segment of time between 1700 and 1780 for the Arikara Indian inhabitants at the site. Typological classification provided neat clusters for the earliest ceramics. The latest pottery, however, was unsortable using the same attributes. The middle collection represented a state intermediate to the other two. A detailed attribute analysis of over 100 traits revealed that there was a progressive decline in the homogeneity within the local ceramic assemblages through time (Deetz 1967:110). In the latest ceramic collection, the relationship of attributes was almost completely random. Deetz (1967:111) summarized the situation by stating that, in the earlier period, there were a number of discrete "idea sets" which governed the manufacture of pottery, and which became less distinct and tended to blend together as time passed.

The explanation for this pattern was sought in the break-down of the traditional social system. Pressures and stress, from interaction with the other Indians of the area==the Dakotas--and with the Europeans, were identified as causes of this break-down. Disease, increased settlement mobility, and sporadic warfare with the other Indians, provided the

stresses which led to the breakup between 1700 and 1800 of the traditional, large matrilocal households that had formed the basic sociocultural unit of Arikara society (Deetz 1967:112). This structural change resulted in greater mobility for women within the society. As women in Arikara society are assumed to have made the pottery, this increased mobility led to the increased exchange of ideas and to a "blurring" of previously localized ceramic traditions. Davis (1981), in his work in the lower Mississippi River area, noted the same trend toward ceramic heterogeneity from the Late Prehistoric through the Historic period.

One might expect a similar pattern of change through time in the various ceramic collections of the Piedmont Siouans. In order to test this hypothesis, a method for computing the diversity present had to be found. Dickens (1980) used a formula (originally used by sociologists, linguists, and others) to study ceramic diversity within Woodland period ceramic assemblages of the South Appalachian area. The definition of diversity followed by Dickens (1980:40) was taken from Stanly Lieberson (1969). This measure of diversity describes the position of a population along a continuum from homogeneous to heterogeneous with respect to the variable under study. The formula to calculate diversity is expressed as  $D_w = 1 - S = 1 - (X_1^2 + X_2^2 + X_3^2 + \dots + X_n^2)$ , where D stands for the diversity within a population, and  $X_i$  is the percentage occurrence of a particular trait within that population. The number derived by subtracting S (the sum of all the squared percentages) from 1, represents the probability that two randomly paired members (variables) of the population will be different. Thus, a  $D_w = .87$  indicates a high diversity within the population (87 chances out of 100 that any two observations will be different), whereas, a  $D_w$  of .30 represents a very low diversity (only a 30

percent chance that any paired variables will be different). The same procedure can also be used to calculate diversity between two populations. To calculate  $D_b$ , the original formula is modified to  $D_b = 1 - S = 1 - (X_1Y_1) + (X_2Y_2) + (X_3Y_3) + \dots + (X_nY_n)$ , where  $X_i$  is the percentage of a variable in one of the populations, and  $Y_i$  the percentage of that same variable in the other population. The number derived for  $D_b$  is interpreted in the same manner as  $D_w$ . For  $D_b$ , a value greater than .50 indicates that there is greater diversity between the two populations than exists within them. A value less than .50 indicates that there is less diversity between two populations than within them.

The two attribute categories chosen for study are surface finish and decoration. Both have aesthetic aspects that are less directly tied to the technomic/functional use of a vessel than certain other attributes, and thus, are more likely to change than those other attributes. Both surface finish and decoration are variable attributes that occur on most all vessels, and therefore, are excellent candidates for quantitative analysis (Dickens 1980:36). It is further assumed that the ceramics in an archaeological assemblage reflect the "idea pool" of the population that produced those ceramics. It follows that changes in the frequencies of occurrence of the discrete elements of surface finish and decoration may represent the introduction of new traits, and thus, a shift in the "idea pool" of that group.

From my preceding observations on ceramics from the nine sites in the four river drainages, a number of hypotheses can be constructed concerning ceramic diversity. These can be directly tested using the formula for calculating diversity within population. For the Late Prehistoric period, two situations should be found. Within the ceramics

along the lower Catawba and lower Yadkin, diversity indexes should be higher compared to those from the drainages to the east and north--the upper Cape Fear, upper Neuse, and Dan River. The presence of the Pee Dee culture in close proximity to the Indian groups on the former two rivers during this period would account for the greater diversity. This assumes that information exchange and diffusion adheres to the premise of general gravity models, which state that the intensity of interaction between two cultures is directly proportional to the population of each, and inversely proportional to the distance separating them (Hodder and Orton 1976:187-195; Hodder 1978; Butzer 1982:215-216). The ceramic assemblages of this period from the drainages in the Piedmont not in direct contact with the Pee Dee culture should evidence less diversity. Also, diversity between different assemblages in the same drainage should be less than between them and assemblages from other drainages. And finally, where significant distinctions in the ceramic assemblage are found within drainages, temporal and/or possibly cultural differences in the populations who made the pottery can be proposed.

The pattern of change initiated in the lower Catawba and lower Yadkin ceramic tradition, over time, would have eventually spread to the other river drainages. If the agents of this distribution spoke a language common to the other Indian groups, i.e., Siouan, this diffusion would have been aided. The arrival of the Europeans in the Carolinas and Virginia, possibly represented as early as the late 1500s by the presence of the Spaniards in the southern Piedmont, also would have assisted the spread of information across river drainages. These factors would have tended to keep diversity in the ceramics at a relatively high level in the southern Piedmont, and induced greater diversity in the ceramics of the drainages to

the north and east. Diversity indexes for these peripheral regions should, therefore, be larger for the Protohistoric assemblages of the same ware than those for the Late Prehistoric period. The diversity indexes computed for contemporary assemblages within river drainages may also have increased due to the influx of new information and differential rates of acceptance by individual cultural systems.

During the Historic period, however, ceramic diversity indexes for assemblages across river drainages, and within them, are expected to rise dramatically over those figures present for both the Late Prehistoric and Protohistoric periods. Deetz's work with the Arikara, Davis's work on the lower Mississippi, and the re-orientation of Siouan interaction patterns postulated earlier in this chapter, suggest that such would have been the case. For the Piedmont Indians, direct contact with the English in Virginia and on the South Carolina Coast resulted in increased interaction across river-drainages with other Indian groups. Add to this the rising stress factors introduced by European contact--disease, increased competition with other Indian groups for deer and fur bearing animals, and conflict with Northern Indians armed by the Europeans--and the disruption of the existing socio-cultural native framework noted by Deetz for the Arikara should be duplicated for the Piedmont Indians. Therefore, as one moves through the Historic period, diversity indexes for ceramics should increase dramatically both within and between assemblages.

Diversity indexes were calculated for the collections of rims and vessel sections that possess rims in each of the nine ceramic assemblages discussed in the preceding chapters. In two instances (44Ha23 and 31Rdl), the sample is so small that a high degree of bias may be represented in the computed figure. For these two cases, therefore, ceramics from the entire

collection are used to calculate diversity, as a check for distortion. Overall, the surface finish indexes for the Prehistoric assemblages are lower than those of the other two periods (Table 78). The only possible exceptions are the assemblages from the Leggett Site (44Ha23) and the Catawba Valley site (31Id41). For the former, the study collection contains only 22 rim and associated vessel sections. A diversity index computed for all the body sherds from the 25 features at the Leggett Site produces a figure (.4766) more in line with the other Dan River site (31Rk1). The high diversity index (.7417) for the Late Prehistoric material from 31Id41 is expected. This site is from the Catawba River, and shows the effects of interaction with the Pee Dee culture to the south.

The decorations for the Late Prehistoric period also reflect lower average diversity indexes than the later materials (Table 79). The exception again is the Catawba Valley site 31Id41. Also, the "Sauro Town" decorations manifest higher diversity than either of the other two Dan River assemblages. Temporal factors, and/or a sample bias due to collection size may account for the difference between this site and Leggett Site, as both possess Dan River Series ceramics. Although the distinction noted between the two Dan River Series collections and the Clarkesville Series ceramics from 44Ha22 (Reedy Creek) may reflect a temporal difference, cultural influences cannot be ruled out. The possibility that the ceramics may have been the product of two similar, but independent cultures, is underscored by the relatively low diversity index computed between the two assemblages (Sauro Town and Reedy Creek) for surface finish (.4330), and the high diversity index (.7442) for decoration (Table 80).

When one turns to the Protohistoric period, diversity indexes higher than in the preceding period are noted (Tables 78 and 79). Bias due to small sample size may contribute to the high figures noted for the Poole Site (31Rdl). However, the probability that the diversity is indeed greater, is supported by the relatively high index (.6451) computed for the entire ceramic collection from 31Rdl. The higher values for both sites of the Protohistoric period are expected, due to increased cross-drainage interaction by Indian groups of this time. Also, the greater diversity indicated for the Poole Site (31Rdl) relative to the earlier assemblages and the Wall Site material to the northeast, is also anticipated by the hypothesized character of ceramics from the lower Yadkin. The interaction of the "Siouan" groups of this region with the Pee Dee culture of the upper Pee Dee River at an earlier date in the Late Prehistoric/Early Protohistoric period is responsible for the additional variability implied by the diversity index. Also, the Poole Site may date later than the Wall Site (see Chapter 16), which would account, in part, for the greater diversity in the ceramics from the former.

The ceramics of the Historic period from both the Dan River and the Catawba corroborate the general trend documented by Deetz and Davis for the other Indian groups and regions of North America at a similar temporal level. Both surface finishes and decorations exhibit high diversity indexes, especially when compared to the preceding assemblages of the Prehistoric and Protohistoric periods. Within the Catawba Valley, the material from the Bell Farm site shows a large rise over the diversity present in the surface finish at the Prehistoric site of 31Id41. Although the decoration diversity shows a slight decline, the small number of sherds renders all but the most general comparisons impossible.

For the Dan River drainage, with the best documented group of sites from the Late Prehistoric to the Historic period, the general trend among the three assemblages is for increasing diversity through time (Tables 78 and 79). The rapidity of the change in the Historic period is underscored in the comparison of diversity for surface finishes and decorations between the three sites (Table 81). The diversity index is high for the Late Prehistoric (31Rkl) and Late Protohistoric/Early Historic period site (31Skl), and the Late Prehistoric/Historic period site (31Skla). This is expected given the temporal difference represented. The large diversity indexes between the two Historic period sites, however, are not. The time difference between 31Skl and 31Skla probably represents no more than about one generation, and the two are thought to represent contiguous segments of a settlement continuum. A situation of stress and socio-cultural disruption, similar to that noted by Deetz for the Arikara, may be indicated.

A lack of data for assemblages of all three periods prevents a more detailed discussion at this time. As an example, the differences in the site diversity indexes for 310rll, the Wall Site, and three of the Dan River sites are very large (Table 80). Whether this represents differences at the temporal, spatial, or content level of analysis cannot be determined. Time and space probably are represented in the relationship; but the question of whether larger cultural factors, such as the ceramics from 310rll having been made by Indians whose affiliation lay outside the Piedmont Siouan network, cannot be ignored. Lack of earlier and later comparative information from the upper Neuse River and for the Protohistoric period on the Dan River is responsible for the failure to investigate this problem.

In closing this section, the study of diversity in the assemblages available for analysis supports the general model of re-orientation proposed in the first half of this chapter. To adequately deal with the consequences of this model, and other general hypotheses about change among the Indians of the Piedmont, data for more Aboriginal cultures from all the major river drainages in the Piedmont will have to be obtained.

TABLE 78  
DIVERSITY INDEXES FOR SURFACE FINISH WITHIN SITES

**Prehistoric**

<u>Site</u>	<u>Index</u>
"Sauro Town" 31Rkl	<u>1</u> .3563
Leggett, 44Ha23	<u>2</u> .5568
Reedy Creek, 44Ha22	.4927
31Id41	<u>.7417</u>
AVERAGE INDEX	<u>.5369</u>

**Protohistoric**

<u>Site</u>	<u>Index</u>
Poole Site, 31Rdl	<u>3</u> .8255
Wall Site, 31Or11	<u>4</u> .5526
AVERAGE INDEX	<u>.6891</u>

**Historic**

<u>Site</u>	<u>Index</u>
"Upper Sara Town", Locality 1, 31Skl	.7547
"Upper Sara Town", Locality 2, 31Skla	.7714
Bell Farm, 31Mk85	<u>.8126</u>
AVERAGE INDEX	<u>.7796</u>

1-Diversity index computed for all the ceramics recovered from the site is .4627.

2-Diversity index calculated for the entire Dan River assemblage at the site from 25 features is .4766.

3-Diversity index calculated for the entire assemblage including sherds from plowzone and body sherds is .6451.

4-Diversity index calculated for the entire assemblage including sherds from plowzone and body sherds is .5491.

TABLE 79  
DIVERSITY INDEXES FOR DECORATIONS WITHIN SITES

**Prehistoric**

<u>Site</u>	<u>Index</u>
"Sauro Town", 31Rkl	.7286
Leggett, 44Ha23	.6150
Reedy Creek, 44Ha22	.6767
31Id41	<u>.7756</u>
AVERAGE INDEX	.6990

**Protoclassic**

<u>Site</u>	<u>Index</u>
Poole Site, 31Rdl	.8400
Wall Site, 31Or11	<u>.6381</u>
AVERAGE INDEX	.7391

**Historic**

<u>Site</u>	<u>Index</u>
"Upper Sara Town", Locality 1, 31Skl	.8801
"Upper Sara Town", Locality 2, 31Skla	.8287
Bell Farm, 31Mk85	<u>.7162</u>
AVERAGE INDEX	.8083

TABLE 80

DIVERSITY INDEXES FOR THE SURFACE FINISH AND DECORATIONS BETWEEN SITES  
FOR THE PREHISTORIC PERIOD

## Surface Finish

44Ha22 & 31Rkl	Db= .4330
44Ha22 & 31Orll	Db= .9472
44Ha22 & 31Skl	Db= .7042
44Ha22 & 31Skla	Db= .7866
31Orll & 31Rkl	Db= .9663
31Orll & 31Skl	Db= .9025
31Orll & 31Skla	Db= .9214

## Decoration

44Ha22 & 31Rkl	Db= .7442
44Ha22 & 31Orll	Db= .7032
44Ha22 & 31Skl	Db= .8471
44Ha22 & 31Skla	Db= .8178
31Orll & 31Rkl	Db= .9663
31Orll & 31Skl	Db= .8592
31Orll & 31Skla	Db= .7852

TABLE 81

DIVERSITY INDEXES FOR DECORATION AND SURFACE FINISHES BETWEEN  
THE THREE DAN RIVER ASSEMBLAGES, 31Rkl, 31Sk1, and 31Skla

## Surface Finish

<u>Site</u>	<u>Index</u>
31Rkl & 31Sk1	Db= .6844
31Rkl & 31Skla	Db= .7935
31Sk1 & 31Skla	Db= .7888

## Decoration

<u>Site</u>	<u>Index</u>
31Rkl & 31Sk1	Db= .7721
31Rkl & 31Skla	Db= .8124
31Sk1 & 31Skla	Db= .8767

## Chapter 19

### INTRODUCTION TO THE ANALYSIS OF THE FAUNAL AND FLORAL REMAINS

The two classes of archaeological data providing the focus of this section are the faunal and floral remains. These remains are examined using Charles Cleland's (1976) focal-diffuse model, concepts from evolutionary ecology (Pianka 1978), and the modified Shannon-Weaver diversity formula (see Chapter 18). Animal bones from the Dan River sites are used for the analysis of the exploitation of faunal resources across the three temporal periods covered by this study. Charred plant remains from only one site of the Dan River sites are available for study, and this sample serves as the basis for the study of plant use for the Historic period.

Cleland (1976:59-60) developed the focal-diffuse model as a way of characterizing plant food procurement strategies utilized by a subsistence group. The subsistence group is defined as those people who regularly cooperate to acquire, distribute, and consume energy resources to meet, at the very least, the energy requirements necessary to maintain the group. The complete subsistence round of a group is the minimum unit of consideration. The round includes the various strategies employed by the group to exploit the array of available resources. This is part of the adaptive pattern for subsistence.

The possible adaptations available by which the group's subsistence needs (energy) can be met are viewed as lying along a continuum from focal to diffuse (Cleland 1976:60). Focal adaptations are highly specialized, and the subsistence round is centered on one or a few similar resources. Diffuse adaptations are based on the scheduled exploitation of a variety

of resources (Cleland 1976:60). These two strategies represent poles at either end of the continuum, and exist only as ideal types. Subsistence activities are not totally one or the other, but can be placed somewhere along the continuum between the two (Cleland 1976:61).

The adaptation of interest here is labeled "Late Woodland" by Cleland (1976:72-73). He suggests that the cultures of the Late Woodland period are the least focal of the three late adaptive patterns of the Eastern United States. Agricultural production varies considerably from secure to marginal. Secondary subsistence resources increase in importance, as the dependability of agricultural production decreases.

Cleland's concept of focal and diffuse can be interpreted in terms of the concept of grain response given by Wiens (1976:83-86). Grain response is related to how organisms use patchy environments. For present purposes, "use" is the same as exploitation of animal or plant resources for subsistence. Patchy means that environments are heterogeneous because of discontinuous occurrences of resources in time and/or space (Wiens 1976:83-86; Pianka 1978:263). Patches are defined as areas "distinguished by discontinuities in environmental character states from its surroundings" (Wiens 1976:83), or in somewhat similar terms, as habitats with different, "integrating elements, each with its own complements of organisms and other resources" (Pianka 1978:144). Grain is the behavioral response to the environmental mosaic faced by an organism as it attempts to fulfill life-history functions (Wiens 1976:85). A coarse grained response is one in which there is an unequal use of the habitat/resource mosaics in the environment (Wiens 1976:84; Winterhalder 1980:152). This means that only a few of the different patches available are utilized. A fine grained response means that patches are utilized in approximately the same

proportion as they occur (Wiens 1976:84; Winterhalder 1980:152). Obvious parallels with Cleland's model are that coarse-grained responses are similar to his focal adaptation, while fine-grained responses are similar to his diffuse. It should be noted that the two concepts are not the same. An important point has been made by Wiens (1978:83), who notes that patchy environments are defined as coarse or fine grained by the perception of that environment by the individuals who are using it.

Levins (1966:427) states that environmental uncertainty can lead to increased niche breadth, while certain but diverse environments can lead to specialization. Niche is defined as "the intracommunity variables to which species respond" (Whittaker, Levins, and Root 1973:331). Donald Hardesty (1977:109), following Charles Elton's (1927) definition, holds that niche is the role of an organism in a food web, "a distinctive feeding strategy that sets one organism apart from another." Hardesty (1978:109) equates this with the variable forms, the available energy, and nutrients in the environment which provide "human" organisms with "food". For the Southeastern Indians, this would have been the plant and animal resources exploited by the Indians for food.

In general, the niche concept can be reduced to the study of the way in which "resource variety" is utilized (Hardesty 1975:72). Thus, the niche breadth of an "organism", or a human society, can be quantitatively measured by calculating the amount of variety exhibited by the resources used for subsistence. This has given rise to the concept of niche breadth which, for a human population, can be measured quantitatively by the amount of variety among subsistence resources (Hardesty 1977:115). If the amount of variety measured is small, i.e. low variety, the niche is labeled "low", whereas if it is broad, i.e. high variety, it is generalized (Hardesty

1977:115). In the terms introduced earlier, the former is a coarse-grained response, and the latter fine-grained.

To measure niche breadth, a formula introduced by Richard Levins (1966:428; 1968:43) is advocated by Hardesty (1975:77; 1978:115). The equation is

$$\text{niche width} = \frac{1}{\sum_i^2 (p_i)}$$

where  $p_i$  is the proportion of the total subsistence contributed by a particular resource "i", and  $n$  the total number of resources involved in subsistence. This formula can be utilized to measure two kinds of variety (Hardesty 1978:185-117). The first is the total variety of resources that makes up the subsistence pattern, and the second is the spatial variety which considers the number of habitats or microenvironments exploited for subsistence. Working from Cleland's model of a focal-diffuse continuum, the values obtained from different populations using this formula can be positioned relative to others. For archaeological data, instead of populations, sites can be inserted as the unit of study. As yet no adequate method has been devised to accurately compile the total contribution to subsistence made by the exploitation of animal and plant remains. Each data set, however, can be compared with similar data sets from other sites to investigate the patterns of either animal or plant exploitation. Sources of error are expected to cancel each other in this manner of application.

In the following chapters, the niche width concept is applied to the two available archaeological data sources--animal bone and charred plant material. A major problem with applying the Levins/Hardesty formula is the determination of a proportion index for a particular resource. Hardesty

(1975:77-78 and 1977:116) recommends the use of biomass for the study of faunal material. Paul Gardner (1981) applied the model in an analysis of charred plant remains from a Savannah II Phase (A.D. 1150-1250) Mississippian mound site in Elbert County, Georgia. For "pi", the proportion of the diet contributed by resource "i", Gardner uses the number of samples that contain a specific item. Use of this "ubiquity index" assumes that each plant has a dietary value equal to every other plant. Also, it is assumed that the ubiquity of a plant in the analyzed sample is determined by its prevalence in the plant food subsistence.

In practice, the use of the Levin-Hardesty model is based on the assumption that the animal and plant resources that comprise the data base are, in fact, exploited for food. In reality, it must be recognized that both plants and animals are "gathered" for many economic and/or medicinal uses, for which food is only one. Since the basic assumptions are true for all sites to which the model is applied, the effects upon interpretation should not be greatly skewed. Many factors that effect the make up of the floral and faunal assemblages recovered archaeologically can be documented (cf. Munson, Parmale, and Yarnell 1971; Dunnel 1980; Yarnell 1982). For the present study, I assume that the factors effecting the recovery and interpretation of the faunal and floral remains, and the nature of their use prior to disposal, is similar for all the sites.

A final point which needs to be emphasized is that the analysis of niche width is limited to inter-site comparisons. Feinsinger, Spears, and Poole (1981:27) state that niche breadth is "defined as the degree of similarity between the frequency distribution of resources used by members of a population and the frequency distribution of resources available to them." This requires that the proportion of the environment that each

available food resource comprises, labelled "qi", be determined exactly or estimated (Feinsinger, Spears, and Poole 1981:27). This requirement cannot be met for archaeological studies, given our present state of knowledge. No method independent of the frequency counts of the utilized resources is available to measure or estimate  $q_i$ . Therefore, niche breadth measures are used in this study to investigate changes and shifts in faunal and floral exploitation patterns within particular cultural traditions.

Another problem concerns the scale on which the values derived from the Levin-Hardesty model are evaluated. In general, Cleland's focal-diffuse model provides a yardstick. In theory, numbers produced by the Levin-Hardesty model that approach "n" (the total number of food resources represented in the assemblage) should be placed on the diffuse end of the continuum, with "n" being the diffuse pole. Numbers which approach "1" (which indicates that only one resource is utilized) belong on the focal end of the scale, with "1" being the focal pole. In reality however, the values derived from the Levin-Hardesty formula cannot be interpreted in such absolute terms, for the sections of the scale that are focal or diffuse are not known. Only a relative measure of change is possible, with values being more toward one end of Cleland's continuum than the other. Another problem with the Levin-Hardesty formula is that the calculated values for different groups usually have different numbers for "n", the total number of resources present and the diffuse pole on the continuum. Thus, the figures produced by the Levin-Hardesty formula are difficult to compare with each other.

In an effort to lessen at least one of these problems, the modified Shannon-Weaver formula for studying diversity, discussed in Chapter 18, is employed. This provides a scale which ranges from zero to one. In terms

of Cleland's continuum, zero is the focal pole and one is the diffuse pole. The value of one would indicate a very diverse sample and represent the broadest possible niche, or a totally diffuse adaptation, and zero would be the narrowest possible niche, a focal strategy based on utilization of one resource. Again, because a figure for "qi" cannot be derived, the Proportional Similarity Index advocated by Feinsinger, Spears, and Poole (1981:82) cannot be used to determine the true niche breadth of the populations represented in the archaeological record.

## Chapter 20

### ANALYSIS OF THE FAUNAL MATERIAL

The three assemblages used in this study are from the Dan River drainage. Each of the three time periods under investigation are represented. For the Prehistoric period, faunal material is available for the Reedy Creek Site (44Ha22). Although the site does not possess ceramics of the Dan River Series, Reedy Creek is still interpreted as being representative of the general pattern of faunal exploitation practiced by the prehistoric Indians of the Dan River region. From the terminal Protohistoric/Early Historic period, a sample of animal bone from 14 features at 31Skl is utilized. The Historic period is represented by animal bone from 12 features at 31Skla, the sister site of 31Skl, in the bottoms along the Dan.

The study of the exploitation of animal resources through time from the Late Prehistoric into the Historic periods is guided by the general theorem (Levins 1966:427) which states that "environmental uncertainty leads to increased niche breadth while certain but diverse environments lead to specialization." The hypothesis derived from this is that prior to contact the environment of the Siouan Indians was certain, predictable, and diverse. Following contact, the certain environmental conditions changed as a result of increased exploitation of deer and other fur bearing animals, the presence of new diseases, and increased interaction with other Indian groups and Europeans. That portion of the environment exploited for faunal resources would have been directly affected by the skin and fur trade, with the result that these items became more scarce and unpredictable.

According to the general theorem, there should be a noticeable increase in a particular Indian group's niche width as other animals are utilized for subsistence. This change should also be reflected in the increased use of other habitats within the niche as part of the increasing uncertainty and decreasing specialization. Before considering the implications of this hypothesis and its test, a general discussion of the faunal data will be presented.

#### Methods of Analysis

The faunal material from each of the three sites was identified using the comparative collection housed in the Research Laboratories of Anthropology at the University of North Carolina at Chapel Hill. The process of analysis began with the sorting of the contents from each provenience (feature) into zoological class, genus, and species, when positive identification was possible. Each skeletal element was further identified by name (femur, astralagus, etc.), bone section (whole, proximal, distal, or shaft), and right or left side. In general, age was determined as immature or mature, based on the presence or absence of unfused epiphyses. For deer, two additional studies were completed to determine age and sex. Age was estimated via tooth eruption and tooth wear based upon work of C.W. Servinghaus (1949). Sex was determined for deer using the presence/absence of antlers or pedicals on skulls, and an examination of the arch of the ischium. This area of the pelvis is where ligaments that support the penis in males attach. Boney tuberosities are left on the area of attachment, and are not present in females (Taber 1956).

These additional aging and sexing techniques proved most useful in determining the minimum number of individuals (MNI) present in each assemblage. Two methods were followed in arriving at this figure. In the

maximum distinction method (Grayson 1973:438; Runquist 1979:5), all possible archaeological distinctions are used to divide the data from a site into individual provenience units and the MNI is calculated for each. In this study, the individual feature was used as the basis for subdividing the faunal material. The MNI under "Feature MNI" in Tables 83, 84, and 85 was derived using this method.

In the other approach, the minimum distinction method (Grayson 1973:438; Runquist 1979:5-6), the MNI is calculated for the faunal assemblage from a site as a whole. This provides the most conservative (lowest) estimate possible for the MNI at a site. This number is listed under "Site MNI" in Tables 83, 84, and 85.

Using the MNI calculated using the maximum distinction method, the estimated meat yield was computed for each species that could be called a potential food resource. The amount of the usable meat each species contributed to the total was obtained using average weights of usable meat per individual contained in White (1953), Cleland (1966), and Smith (1975). This excluded the few identified amphibians and snakes. These possessed such small amounts of usable meat, however, that the calculations made using estimated meat totals were not significantly altered.

Biases in this study were many, as with any analysis of faunal remains (cf. Limp 1974:341; Casteel 1976:195; Waselkov 1977: 78-87; Runquist 1979: 7-13). There was a lack of a complete and comprehensive comparative collection against which many of the unidentified bones, mainly of fish, could be compared; and there were inconsistencies in recovery techniques, fragmentation of remains, scavenging by animals such as dogs (Canis familiaris) and raccoons (Procyon lotor), and poor preservation due to soil conditions. The only two of these phenomena that could be controlled were

the lack of an exhaustive comparative collection and the field recovery techniques. The material recovered from the two Stokes County sites (31Skl and 31Skla) were obtained by screening all feature fill through 1/16 inch (1.5 mm) mesh window screen. This effectively insured the recovery of the smallest bones that were identifiable. The lack of an adequate fish collection, however, hindered the analysis of this class of remains. The MNI of the fish included in the analyses are estimates based on the number of vertebrae present.

One class of faunal material has been excluded from the analysis, the remains of fresh water mussels (Elliptio sp.). Unfortunately, information on the amount of shell present was readily available for only one of the sites 31Skl. Here, a total of 33 ounces (935.6 grams) of mussel shell were recovered from the features. Using a figure of .44 ounces (12.6 grams) for an average Elliptio shell (Stewart 1979:62) a total of 75 whole shells were present. This translates into 12 ounces of usable meat using a figure of 0.16 ounces (4.46 grams) for the average meat weight per individual mussel (Stewart 1979:62). Excluding this figure from the computation was judged to have had little impact upon any interpretation of niche width. The absence of data on the mussel shell from the other two sites, therefore, was not considered to be a critical matter.

#### Faunal Remains Present

The faunal remains recovered from each of the three sites are listed in Table 82. Following now is a discussion of each of the species documented in the archaeological record, starting with the mammals. Detailed discussions of the individual animal species identified for the three sites is not attempted. Instead, the work by Smith (1975) and Runquist (1979)

TABLE 82

ANIMALS IDENTIFIED IN THE THREE ARCHAEOLOGICAL ASSEMBLAGES,  
THEIR SCIENTIFIC NAMES, AND ESTIMATED POUNDS OF USEABLE MEAT PER INDIVIDUAL

<u>Mammals</u>	Estimated Pounds of Useable Meat Per Individual
Beaver, <u>Caster canadensis</u>	31.5
White-tailed Deer, <u>Odocileus virginianus</u>	85.0
Rabbit, <u>Sylvilagus floridanus</u>	2.0
Raccoon, <u>Procyon lotor</u>	15.0
Fox Squirrel, <u>Sciurus niger</u>	1.5
Gray Squirrel, <u>Sciurus carolinensis</u>	1.0
Bobcat, <u>Lynx rufus</u>	15.0
Cougar/Mountain Lion, <u>Felis concolor</u>	60.0
Black Bear, <u>Ursus americanus</u>	210.0
Gray Fox, <u>Urocyon cinereoargenteus</u>	5.0
Muskrat, <u>Ondatra zibethicus</u>	2.0
Striped Skunk, <u>Mephitis mephitis</u>	5.0
Woodchuck, <u>Marmota monax</u>	5.0
Mole, <u>Scalopus aquaticus</u>	a
Rice Rat, <u>Oryzomys palustris</u>	a
Deer Mouse, <u>Peromyscus</u> sp.	a
<u>Aves</u>	
Passenger Pigeon, <u>Ectopistes migratorius</u>	.7
Bobwhite, <u>Colinus virginianus</u>	.3
White-throated Sparrow, <u>Zonotrichia albicollis</u>	a
Turkey, <u>Meleagris gallopavo</u>	8.5
<u>Pisces</u>	
Gar, <u>Lepisosteus</u> sp.	.75
Catfish, <u>Ictalurus</u> sp.	1.00
<u>Amphibians</u>	
Toad, <u>Bufo</u> sp.	a
Spade-foot Toad, <u>Scaphiopus holbrookii</u>	a
Frog, <u>Rana pipiens</u>	a
<u>Reptiles: Turtles</u>	
Box Turtle, <u>Terrapene carolina</u>	.3
Snapping Turtle, <u>Chelydra serpentina</u>	10.0
Eastern Mud Turtle, <u>Kinosternum subrubrum</u>	.3
Slider/Painted Turtle, <u>Chrysemys</u> sp.	.3

a-less than 0.1 lb.

TABLE 82--Continued

<u>Reptiles: Snakes</u>	Estimated Pounds of Useable Meat Per Individual
King Snake, <u>Lampropeltis</u> sp.	.2
Corn Snake, <u>Elaphe</u> sp.	.2
Non-poisonous Water Snake, <u>Natrix</u> sp.	.2
Coachwhip, <u>Masticophis</u> sp.	.2
Horn Snake, <u>Farancia</u> sp.	.2
Timber Rattlesnake, <u>Crotalus</u> sp.	.2
Copperhead, <u>Agkistrodon contortrix</u>	.2

should be consulted. In general, only use and habitat preference for each of the identified species is considered here. Tables 83, 84, and 85 list the animals found at each of the three sites.

#### Mammals

The most numerous of the mammals at all three sites is the white-tailed deer (Odocoileus virginianus). A variety of uses exist for the different parts of this animal, so that almost all of a deer was utilized by the Indians in some manner (Swanton 1946:249; Runquist 1979:169). Deer metatarsals were used as beamers and split to make needles; ulnae were used as awls; and antlers were made into flakers, projectile points, and fish hooks (Swanton 1946:249). Rattles, flutes, bracelets, and beads were made from deer bone also (Swanton 1946:249). Sinew and entrails were manufactured into bow strings, rawhide, trongs, and "thread" (Swanton 1946:249). Deer brains were combined with green corn to tan leather (Lawson 1967:217). The skins, hooves, and antlers were rendered into glue. Heads, skins, and antlers were used as decoys in hunting and as status/clan indicators. Hides were sewn into clothing, used as coverings for houses/doors, and utilized in the skin trade with the Europeans (Swanton 1946:249). In general, the deer's preferred habitat is the edge of deciduous forests, and open forests.

Remains of the common eastern cottontail (Sylvilagus floridianus) are found at all three sites. Besides being used for food, the skins of rabbits were made into robes (Swanton 1946:250). Rabbit innominate and scapulae were used as beads. Examples of these were found in Burials 3 and 6 at 31Skl. The eastern cottontail occupies a number of different habitats, but is usually found in upland thickets, in overgrown fields, and along the edge of forest clearings and forest edges. Important to rabbits

TABLE 83  
FAUNAL REMAINS FROM 44Ma22

SPECIES	FEATURES																		SITE MNR	PEA MNR			
	7	9	17	19	20	21	22	24	25	33	34	35	38	41	42	43	44	45	46	TOTAL			
<u>Mammals</u>																							
Unidentified	-	-	-	4	-	4	-	10	-	-	2	12	-	9	-	-	-	-	-	31	62	?	?
Odocoileus virginianus	1	2	7	23	1	12	9	4	4	7	11	1	19	166	5	28	-	2	2	304	9	26	
Sylvilagus floridanus	-	-	-	-	-	-	-	1	-	-	-	-	1	3	-	2	-	-	-	7	3	5	
Procyon lotor	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1	1	1	
Sciurus carolinensis	9	-	-	1	-	-	-	2	-	-	2	5	-	18	-	-	-	2	1	40	4	12	
Sciurus niger	-	-	-	-	-	1	-	-	-	1	-	1	1	-	-	-	-	-	-	7	11	1	5
Sciurus sp.	-	-	-	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	3	?	?
Lynx rufus	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	
Urocyon americanus	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	
Ondatra zibethicus	-	-	-	-	-	1	-	-	-	-	-	3	-	-	-	1	-	5	2	4			
Mephitis mephitis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	1	1	
Marmota monax	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	
Unid. Rodent/Insectivore	-	-	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	2	?	?		
Oryzomys palustris	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	3	1	1			
<u>Reptiles: Snake</u>																							
Unidentified	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Crotalid sp.	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1	1	1	
Nasticophis sp.	-	-	-	-	-	-	2	-	-	-	2	1	-	-	-	-	-	5	1	3			
Lampropeltis sp.	-	-	-	-	-	-	1	-	-	-	1	-	-	-	-	13	-	15	1	3			
<u>Reptiles: Turtle</u>																							
Unidentified	-	1	-	4	-	8	1	19	-	-	1	-	43	7	-	-	-	-	-	84	?	?	
Terrapene carolina	-	2	-	-	-	41	5	12	-	-	-	12	31	-	-	-	-	1	104	3	7		
Kinosternon sp.	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	1	1			
Chelydra serpentina	-	-	-	-	-	-	-	-	-	-	10	-	-	-	-	20	30	1	2				
<u>Amphibians</u>																							
Unidentified	-	-	-	-	-	1	2	-	-	-	17	4	-	-	3	-	9	36	?	?			
Scaphiopus holbrookii	-	-	-	-	-	-	2	-	-	-	2	2	-	-	-	-	1	7	3	4			
<u>Fishes</u>																							
Unidentified	34	9	-	6	-	1	13	10	1	-	-	82	37	-	-	-	1	9	199	6	?		
Lepisosteus sp.	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	4	1	1			
Ictalurus sp.	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	3	1	1				
<u>Aves</u>																							
Unidentified	22	-	-	1	-	-	-	1	-	-	2	-	6	-	-	-	-	-	32	?	?		
Zenopsis macroura	-	-	-	-	-	-	-	-	-	-	11	-	1	3	-	-	-	1	16	3	5		
Meleagris gallopavo	-	2	-	-	-	-	-	-	-	-	-	7	-	-	-	-	-	9	1	2			

TABLE 84  
FAUNAL REMAINS FROM SISRI

SPECIES	Fea.1	Fea.2	Fea.5	Fea.6	Fea.8	Fea.10	Fea.12	Fea.14	Fea.17	TOTAL	SITE NHI	FEA. NHI
<u>Mammals</u>												
Unidentified	4	43	19	2	-	-	-	-	-	56	7	7
Odocoileus virginianus	25	485	354	76	24	141	201	95	104	1505	23	39
Sylvilagus floridanus	-	3	3	1	1	-	10	6	-	26	6	6
Peromyscus later	-	-	8	1	1	2	10	-	11	32	3	7
Sciurus carolinensis	-	7	-	-	-	1	-	-	-	8	2	3
Sciurus niger	-	-	3	-	-	1	-	-	1	5	1	3
Sciurus sp.	-	-	-	-	-	2	-	1	-	3	?	?
Lynx rufus	-	-	-	-	-	2	-	-	-	2	1	1
Felis concolor	-	1	-	-	-	-	-	-	-	1	1	1
Ursus americanus	-	-	5	2	-	-	-	1	1	9	2	4
Caster canadensis	-	-	-	15	-	6	1	-	-	22	2	3
Urocyon cinereoargentatus	-	-	-	1	-	-	4	-	-	5	1	2
Unid. Rodent/Insectivore	4	20	2	-	-	-	-	-	1	27	?	?
Scalopus aquaticus	-	3	7	-	-	-	-	-	-	10	2	3
Oryzopsis palustris	-	2	-	-	-	-	-	1	-	3	1	2
Peromyscus sp.	-	1	-	1	-	-	-	-	-	2	1	2
<u>Reptiles: Snake</u>												
Unidentified	-	6	-	-	-	1	2	3	3	15	?	?
Crotalid sp.	1	3	-	1	-	-	-	-	-	5	1	3
Hastiocephalus sp.	1	-	-	-	-	-	-	-	-	1	1	1
Agiastroides sp.	-	2	-	-	-	-	-	-	-	5	7	1
Farancia sp.	-	4	1	-	-	-	-	-	-	5	1	2
Matrix sp.	-	1	2	-	-	-	-	-	-	3	6	1
Elaeophis sp.	-	2	3	2	-	-	-	-	-	7	1	3
Lampropholis sp.	-	-	1	-	-	-	-	1	2	11	1	3
<u>Reptiles: Turtles</u>												
Unidentified	-	175	112	139	41	5	173	18	40	703	8	7
Terrapene carolina	23	105	166	165	1	46	396	137	231	1268	28	?
Kinosternon sp.	-	5	-	-	-	-	-	14	28	47	2	4
Chrysemys sp.	-	-	34	-	-	-	19	6	1	60	1	4
Chelydra serpentina	-	-	44	11	-	1	3	1	129	188	1	6
<u>Amphibians</u>												
Unidentified Toad/Frog	9	-	6	-	3	-	-	1	-	19	?	?
Bufo sp.	-	-	-	-	-	-	-	-	2	2	1	1
Scaphiopus holbrookii	-	-	-	-	-	10	1	-	-	11	3	3
Rana pipiens	-	-	-	-	-	-	-	-	1	1	1	1
<u>Pisces</u>												
Unidentified	40	317	29	2	-	1	16	4	36	447	?	?
Lepisosteus sp.	9	9	-	-	-	-	-	-	1	19	?	?
Castanoidid sp.	3	-	-	-	-	-	-	-	-	3	?	?
Ictalurus sp.	-	-	-	-	-	-	-	-	-	-	-	-
<u>AVES</u>												
Unidentified	-	8	6	-	-	-	-	-	-	14	?	?
Ectopistes migratorius	2	17	46	3	2	10	6	21	2	109	6	15
Colinus virginianus	-	1	1	-	-	4	-	-	-	6	2	3
Zenaidrichia albicollis	-	-	-	-	-	-	-	-	1	1	1	1
Melanerpes galapago	-	1	7	3	1	3	11	8	18	52	3	9

TABLE 85  
FAUNAL REMAINS FROM 31Sk1a

SPECIES	Faa.11	Faa.22	Faa.23	Faa.47	Faa.50	Faa.52	Faa.60	Faa.63	Faa.108	Faa.111	TOTAL SITE FEA	MNI	MAI
<u>Mammals</u>													
Unidentified	-	4	29	-	-	3	-	8	-	6	48	?	?
Odocoileus virginianus	9	-	67	29	15	5	2	159	1	20	305	12	26
Sylvilagus floridanus	-	-	-	-	-	-	1	1	-	1	3	1	3
Procyon lotor	-	-	1	-	-	-	-	-	-	-	1	1	1
Sciurus carolinensis	-	-	3	-	-	-	2	-	-	-	5	1	2
Sciurus niger	-	-	27	-	-	-	-	1	-	-	28	3	4
Sciurus sp.	-	-	-	-	-	-	-	1	-	-	1	1	1
Ursus americanus	-	-	3	-	-	-	-	2	-	-	5	1	2
Castor canadensis	-	-	-	-	-	-	-	2	-	-	2	1	1
Unid. Rodent/Insectivore	-	-	2	-	-	-	-	-	-	-	2	1	1
<u>Reptiles: Snake</u>													
Unidentified	-	-	8	-	-	-	1	-	-	-	9	2	3
Farancia sp.	-	-	-	-	-	-	2	-	-	-	2	1	1
Matrix sp.	-	-	-	-	-	-	1	-	-	-	1	1	1
Elaphe sp.	-	-	-	-	-	-	1	-	-	-	1	1	1
Lampropeltis sp.	-	-	-	-	-	-	1	-	-	-	1	1	1
<u>Reptiles: Turtle</u>													
Unidentified	-	1	-	-	-	-	1	-	-	-	2	1	1
Terrapene carolina	12	18	-	1	-	-	2	217	-	-	250	10	7
Kinosternum sp.	-	1	-	-	-	-	-	-	-	-	1	1	1
Chelydra serpentina	-	1	-	-	-	-	-	13	-	-	16	1	2
<u>Amphibians</u>													
Unidentified	-	-	1	-	-	-	-	-	-	-	1	1	1
<u>Birds</u>													
Unidentified	-	31	-	1	-	-	2	1	-	-	35	5	4
<u>Aves</u>													
Unidentified	-	-	5	-	-	-	-	1	-	-	6	?	?
Ectopistes migratorius	-	-	3	-	-	-	-	1	-	2	6	2	4
Colinus virginianus	-	-	1	-	-	-	-	-	-	-	1	1	1
Meleagris gallopavo	-	-	8	-	-	-	1	14	-	1	24	3	5

in their choice of habitats is access to escape cover offered by thickets, weed patches, and dense high grass.

Raccoon (Procyon lotor) bones are present in small numbers within all of the assemblages. Raccoons served as a food resource for the Indians, and the furry skin was used for clothing (Swanton 1946:250). Claws were utilized as ornaments. This mammal is able to adapt to a variety of habitats, although they prefer wooded areas along streams and rivers.

Both the gray squirrel (Sciurus carolinensis) and fox squirrel (Sciurus niger) are present at all three sites. The gray squirrel prefers heavily forested habitats with large stands of mature hardwoods and an understory of smaller trees and shrubs. The fox squirrel can be found in similar areas, although they often prefer more open forest and large trees at forest edges. Squirrels were used as food, the skins were used as clothing, the entrails for bowstrings, and claws for ornaments (Swanton 1946:250).

Remains of the bobcat (Lynx rufus) are found at only two of the sites, 44Ha22 and 31Skl. Although bobcats prefer rocky outcroppings, swamps, and wooded districts, they are very adaptable. Bobcats may have been used as a food--John Lawson (1967:124) reported that it was eaten, and the skin used as clothing. Also, modern-day Algonquian Indians of Canada eat lynx (Richard A. Yarnell, personal communication, 1983). Cranial elements were used as ceremonial decorations by the Indians in the Ohio Valley (Parmalee 1959).

The cougar or mountain lion (Felis concolor) is represented by only one bone element from the three sites, a vertebrae from Feature 2 at 31Skl. Use of this animal appears, in general, to have been restricted amongst the Indians of the Southeast. Lawson (1967:123) stated that it was seldom used as food, and although the skin was used for winter clothing, it was not

valued for that purpose. Also, certain elements, primarily the skull, may have been used as ceremonial decorations (Parmalee 1959; Guilday 1971). Phalanges of the cougar were recovered as beads in Burial 7 at the Warren Wilson site in western North Carolina (Dickens 1976:107). Cougars/mountain lions prefer wooded areas and wooded water courses. These animals are nocturnal.

The black bear (Ursus americanus) is present in all three of the archaeological assemblages, but the remains are sparse. Usually, the presence of this mammal is represented only by phalanges. Bears were used for food, and the fat and oil they provided were highly prized. Hides were manufactured into clothing, and the entrails and sinews were converted into bowstrings, thongs, and "thread". Tools similar to those noted for the deer were also made from their bones (Swanton 1946:249). And, ceremonial decorations/ornaments, such as bear claw necklaces or bear head pieces, were made from phalanges and cranial elements (Hallowell 1926:135-148). The preferred habitat of the bear is the deep forest. These animals are solitary, nocturnal, and omnivorous.

Another mammal present in small numbers at only one site, 31Skl, is the gray fox (Urocyon cinereoargenteus). No record exists of the use of these animals as food. Lawson (1967:130) noted that he had not observed their use in this manner by the Indians. Swanton (1946:250) stated that fox skins were used to make wrist guards and pouches. The gray fox prefers wooded valleys and hillsides, and is sometimes found in open forests. They usually avoid cleared areas, particularly farm land.

Beaver (Castor canadensis) bones were recovered from 31Skl and 31Skla. The meat of the beaver was eaten, and the tail was highly prized as a delicacy (Blair 1911:105). The furry skin was used to make clothing and

pouches. The teeth, specifically the large incisors, were made into tools and ornaments (Swanton 1946:250). Beavers are aquatic animals that prefer wooded water courses upon which to build their dams and lodges. This mammal is nocturnal and a herbivore.

Another aquatic mammal present is the muskrat (Ondatra zibethicus), which is noted only in the collection from 44Ha22. This animal is seldom found far from water, preferring slow-moving water courses in wooded areas. The skin was used for clothing (Swanton 1946:250), and Lawson (1967:33, 124) stated that the fur was highly prized and "Cod of Musk" treasured by the Indians. This animal may have been used as a food resource. The Cree Indians (Bruce Winterhalder, personal communication, 1983) and the Algonquian Indians (Richard A. Yarnell, personal communication, 1983) of northern Canada use portions of the muskrat as food.

Another mammal that occurs in low numbers and has a limited distribution among the three sites is the striped skunk (Mephites mephites). The remains of this mammal are found only at 44Ha22. Lawson (1967:109) noted the fondness of the Indians for this animal as a food. The fur can be used for clothing (Swanton 1946:250). Skunks are found along forest edges, and in other open, disturbed, cleared, or overgrown areas. This animal, like the bear and beaver, is nocturnal.

The last important species of mammal in the faunal assemblages is the woodchuck (Marmota monax). Like the skunk, it is present only at 44Ha22. The use of the woodchuck as an occasional food source, i.e. taken when encountered, has been inferred by Runquist (1979:109). The habitat preferred by this animal includes forest edges, and open areas, such as fields or disturbed ground. They are especially attracted to agricultural lands.

In addition to these major mammals, three species of rodents/insectivores are present--the eastern mole (Scalopus aquaticus), the rice rat (Oryzomys palustris), and the deer or white footed mouse (Peromyscus sp.). Identifiable skeletal elements of all three small mammals were recovered from 31Skl, and of the rice rat from 44Ha22. Only unidentifiable rodent/insectivore remains were noticed in the faunal collection from 31Skl. The insectivores and rodents may have been used as an auxillary food resource. Moles prefer well-drained, loose soil, which includes most agricultural lands. This animal also frequents open or thin woods, and cleared areas of all kinds. The rice rat prefers wet or marshy areas, but is found wherever food resources, particularly agricultural material, are abundant. The white footed mouse is usually found in forested areas, but is also present at forest edges, in open clearings, in overgrown clearings, and in cultivated areas.

#### Aves

Several kinds of birds are present in the three archaeological assemblages. One major species is the turkey (Meleagris gallapavo). The turkey was almost as useful to the Indians as the deer. The animal was used as a food resource, and its bones were fashioned into tools, such as awls, beamers, and spoons. Beads and other ornaments were made from various skeletal elements, primarily the phalanx of the wing and the long bones. Burials 3 and 6 from 31Skl possessed both tarsometatarsus awls, and beads made from the phalanx and long bones of the turkey. Feathers were prized for making headdresses and cloaks, and in the manufacture of arrows (Swanton 1946:250). Turkeys are able to survive in a number of different habitats, but they generally prefer forested areas.

The second most important bird present in all three archaeological assemblages is the passenger pigeon (Ectopistes migratorius), now extinct. These birds were seasonal occupants of North Carolina and Virginia areas, as they spent the spring and summer months in the northeastern United States. Their flocks were unpredictable in roosting habits from year to year. Passenger pigeons were usually located in forested areas. These birds were used for food, their feathers, and the oil they produced (Lawson 1967:50, 217).

The third major species of Aves is the bobwhite (Colinus virginianus), which is present only at the two late sites from Stokes County (31Skl and 31Skla). Runquist (1979:86) states that these birds were used as food and for their feathers. The bobwhite inhabits open areas, especially old fields.

The only other identified bird in any of the assemblages is the white-throated sparrow (Zonotrichia albicollis) from 31Skl. If any portion of this bird was used by the Indians, it was probably the feathers (Runquist 1979:87).

#### Reptiles:Turtles

The most common reptile identified in the faunal collection from the three sites is the box turtle (Terrapene carolina). Swanton (1946:250) noted that these turtles were eaten, and the carapaces were used as cups, or dippers. Lawson (1967:138) stated that the box turtle was eaten. The preferred habitat of this reptile is open woodland, although it ranges across many different areas, from deep forests to cleared sections of land. This is the only one of the turtles which is primarily terrestrial. It spends the months from October to April in hibernation.

The largest of the turtles, and the second most abundant, is the snapping turtle (Chelydra serpentina). Remains of this reptile are found

at all three sites. The only use of the snapping turtle was probably for a food. Snapping turtles are aquatic, and are rarely seen far from the water.

Another turtle present in small quantities at all three sites is the Eastern mud turtle (Kinosternon sp.). This turtle also dwells in the water. Mud turtles were possibly used for food, and their carapaces as rattles (Runquist 1979:68).

The last of the turtles present is the slider or painted turtle (Chrysemys sp.). A small quantity of remains from 31Sk1 are identified as belonging to this species. It was possibly used as a food. This turtle is also aquatic.

#### Reptiles:Snakes

A number of snakes are present in the faunal material from the three sites. Most of the identified bone elements are vertebrae. Species present include the king snake (Lampropeltis sp.), corn snake (Elephus sp.), non-poisonous water snake (Natrix sp.), coachwhip (Masticophis sp.), horn snake (Farancia sp.), timber rattlesnake (Crotalus horridus), and copperhead (Agkistrodon contortrix). With the exception of Natrix and Farancia, which are primarily aquatic, these snakes are all terrestrial.

#### Amphibians

This is the smallest class of animals noted in the archaeological materials from the three sites. The only remains present at 31Sk1a consist of unidentified bone elements. Species positively identified are the spadefoot toad (Scaphiopus holbrookii), toad (Bufo sp.), and frog (Rana pipiens). The small number of the amphibians in the archaeological assemblages indicates that they were not deliberately exploited for food.

### Pisces

Remains of fish are present at all three sites, but the interpretation of this category is difficult. Elizabeth Reitz has stated that the identification of fish to the species level is difficult if skeletal elements other than the skull and idiosyncratic features, such as the dorsal spine of the catfish (Ictalurus sp.), are present (Michael Trinkley, personal communication, 1983). The identification of the fish remains is hampered by this factor, and by the low number of specimens in the comparative collection. For these reasons, the various counts in Tables 83, 84, and 85 represent estimates of the MNI present. A meat weight yield of 0.75 lbs. was derived from an average of weights for fish contained in Cleland (1966), Smith (1975), and Waselkov (1977), and is only an approximation.

With these many problems, only two species of fish were identified, both from distinctive skeletal elements. Gar (Lepisosteus sp.), a predaceous fish, are usually found in quiet, weedy waters. The other fish identified is the catfish, an omnivorous fish that prefers muddy water courses, but are found in a wide range of water types.

#### The Analysis of Niche Width

The study of the niche width of the populations represented by the archaeological assemblages from the three sites utilized the data just presented. A major assumption is that the various species (Table 86) found at these three sites represented food items. According to the hypothesis set forth at the beginning of this chapter, the pattern of faunal exploitation for the Prehistoric site (44Ha22) should reflect a more specialized use of the predictable and diverse environment than the later

TABLE 86  
HABITAT PREFERENCES OF MAJOR ANIMAL SPECIES

SPECIES	DECIDUOUS FOREST	DECIDUOUS FOREST / OPEN DISTURBED	AQUATIC
Beaver			X
White-tailed deer		X	
Rabbit		X	
Raccoon		X	
Fox squirrel	X		
Gray squirrel	X		
Bobcat		X	
Cougar	X		
Black bear	X		
Gray fox	X		
Muskrat			X
Striped skunk		X	
Woodchuck		X	
Passenger pigeon	X		
Turkey	X		
Bobwhite		X	
Pisces			X
Box turtle		X	
Snapping turtle			X
Eastern mud turtle			X
Slider/Painted turtle			X

assemblages. According to Wiens (1967:83-86), this would have been more of a coarse grained use of a fine grained environment than was later exhibited. And in Cleland's model, such adaptations would be located toward the focal end of his continuum in relation to more generalized, fine-grained types of use.

#### Prehistoric Period

Table 87 contains the results of the examination of the niche width exhibited by the faunal data from the Prehistoric site at Reedy Creek (44Ha22). The method of analysis followed here, and with the other two assemblages, possessed two steps. First, the number of pounds of meat contributed by each species to the total was calculated, based on the minimum number of individuals (MNI) identified in the faunal collection. Then a proportion index was calculated for each species by dividing the total meat weight of the entire assemblage into the meat weight contributed by each individual animal. This gave the "pi" used in the Levins-Hardesty niche width formula, and the "xi" used in the modified Shannon-Weaver equation.

The number derived for niche width using the Levins-Hardesty formula is 1.318, and the modified Shannon-Weaver equation gives .2422 (Table 87). Visual examination of Table 87 shows that white-tailed deer is the dominant contributor to the total meat weight. Following in order of importance are black bear, snapping turtle, turkey, raccoon, and bobcat. This situation is not unexpected, for deer usually is considered to have been the most important food animal in aboriginal North America.

In addition to studying the changes in niche width through the study of the individual animal species exploited, the changing use of habitat through time can be investigated. To study this, three arbitrary categories

TABLE 87

MEASURE OF NICHE WIDTH BY POUNDS OF MEAT  
CONTRIBUTED BY EACH ANIMAL SPECIES, 44Ha22

<u>Mammals</u>	MNI	Estimated Pounds of Useable Meat	P1	<sup>2</sup> (P1)
White-tailed Deer	26	2210.0	.8670	.7517
Rabbit	5	10.0	.0039	.00002
Raccoon	1	15.0	.0059	.00003
Fox Squirrel	5	7.5	.0029	.000008
Gray Squirrel	12	12.0	.0047	.00002
Bobcat	1	15.0	.0059	.00003
Black Bear	1	210.0	.0824	.0068
Muskrat	4	8.0	.0031	.00001
Striped Skunk	1	5.0	.0020	.000004
Woodchuck	1	5.0	.0020	.000004
TOTAL	58	2497.5		
<u>Aves</u>				
Passenger Pigeon	5	3.5	.0014	.000002
Turkey	2	17.0	.0067	.000045
TOTAL	7	20.5		
<u>Pisces</u>				
Unidentified	8	6.0	.0024	.000006
Gar	1	1.0	.0004	-
Catfish	1	1.5	.0006	-
TOTAL	10	8.5		
<u>Reptiles: Turtles</u>				
Box Turtle	7	2.1	.0008	-
Snapping Turtle	2	20.0	.0077	.00006
Eastern Mud Turtle	1	.3	.0001	-
TOTAL	10	22.4		
Total Pounds of Meat = 2548.9				
Niche Width = $\frac{1}{\sum_{i=1}^n p_i^2}$				
Niche Width = $\frac{1}{.7578} = 1.318$				
Shannon-Weaver computation = .2422				

were created based on the preferred habitats of the animals present in the archaeological record (Table 88)--deciduous forest, diverse habitat, and aquatic. Data on the preferred habitats of each animal were taken from Cleland (1966), Smith (1975), Waselkov (1977), Runquist (1979), and Hamilton and Whitaker (1979). The diverse category is the widest, as it includes open and/or disturbed areas, overgrown areas, and the deciduous forest edge. To determine how each of these habitats was utilized, the amount of meat each animal from a habitat category contributed to the total meat weight represented in the assemblage was calculated. The individual totals were summed for each habitat category, which produced three figures. These, in turn, became the three observations whose proportions ("pi" and "xi") could be used in the two formulas used to evaluate niche breadth. The results of the application of these equations to the habitat data for 44Ha22, the Prehistoric Period site, is illustrated by Table 88.

The niche width values for habitat use are 1.254 using the Levins-Hardesty formula, and .2025 using the modified Shannon-Weaver equation. Given the preponderance of meat contributed by deer, the diverse habitat appears to have been heavily exploited. The deciduous forest, with bear, squirrel, and turkey, was used only to a minor degree. Aquatic resources contributed but little to the total.

#### Late Protohistoric/Early Historic Period

No faunal assemblage from a purely Protohistoric site was available for study. The faunal assemblages from 31Skl, dated to the transition from the Protohistoric to the Historic period (ca. 1670) was utilized instead. According to my hypothesis, the basic Prehistoric adaptation remained unchanged through the Protohistoric period as stresses upon the various

TABLE 88  
MEASURE OF USE OF HABITAT, 44Ha22

Deciduous Forest	MNI	Pounds of Useable Meat	Pi	<sup>2</sup> (Pi)
Fox Squirrel	5	7.5		
Gray Squirrel	12	12.0		
Black Bear	1	210.0		
Passenger Pigeon	5	3.5		
Turkey	2	17.0		
TOTAL	25	250.0	.0981	.0096
<b>Diverse Habitat</b>				
White-tailed Deer	26	2210.0		
Rabbit	5	10.0		
Raccoon	1	15.0		
Bobcat	1	15.0		
Striped Skunk	1	5.0		
Woodchuck	1	5.0		
Box Turtle	7	2.1		
TOTAL	42	2262.1	.8875	.7877
<b>Aquatic</b>				
Unidentified Pisces	8	6.0		
Gar	1	1.0		
Catfish	1	1.5		
Muskrat	4	8.0		
Snapping Turtle	2	20.0		
Eastern Mud Turtle	1	0.3		
TOTAL	17	36.8	.0144	.0002

Total Pounds of Meat = 2548.9

$$\text{Niche Width} = \frac{1}{\sum_{i=1}^n p_i^2}$$

$$\text{Niche Width} = \frac{1}{.7975} = 1.2539$$

Shannon-Weaver computation= .2025

species important in the trade with Europeans, deer and other fur bearing animals, had as yet not effected their availability. At the transition from the Protohistoric into the Historic period, an increased specialization should be exhibited by the faunal assemblages as demand for skins and furs increased. The food derived from these same animal sources is assumed to have also risen due to the increased availability of the meat of these species. In general, this process may have begun in the middle Protohistoric period because of the increased demand by Indian middlemen for skins and furs to trade to Europeans. Possibly, an increased specialization may be noticed for some time into the Historic period before extensive overuse resulted in diminishing easy access to deer and other fur-bearing animals. By implication, the habitats exploited would have illustrated an increased coarse-grained specialized use during this time over that present in the Prehistoric period, or the later spans of the Protohistoric/Historic periods.

The animals thought to have been exploited for meat by the Indians at 31Skl are presented in Table 89. The niche width calculated for 19 species is 1.832 according to the Levins-Hardesty formula, and .4518 by the modified Shannon-Weaver equation. Although these are somewhat difficult to interpret in absolute terms, they do appear to represent a significant increase over the figures documented for 44Ha22. This change can be tied to the increase in the number of large mammals in the assemblage at 31Skl, primarily the black bear, cougar, and beaver. The last two named animals replace the skunk, muskrat, and woodchuck that were present in the Prehistoric assemblage.

The "relatively" higher niche width value obtained from 31Skl for the meat contribution of individual animal species certainly does not reflect

TABLE 89

MEASURE OF NICHE WIDTH BY POUNDS OF MEAT CONTRIBUTED  
BY EACH ANIMAL SPECIES, 31SK1

<u>Mammals</u>	MNI	Estimated Pounds of Useable Meat	Pi	(Pi) <sup>2</sup>
Beaver	3	94.5	.0204	.00042
White-tailed Deer	39	3315.0	.7157	.51223
Rabbit	8	16.0	.0035	.000012
Raccoon	7	105.0	.0227	.000515
Fox Squirrel	3	4.5	.00097	.0000009
Gray Squirrel	3	3.0	.00065	.0000004
Bobcat	1	15.0	.00324	.00001
Cougar/Mountain Lion	1	60.0	.01296	.000168
Black Bear	4	840.0	.18140	.032910
Gray Fox	2	10.0	.00216	.000005
TOTAL	71	4463.0		
<u>Aves</u>				
Passenger Pigeon	15	10.5	.00227	.000008
Bobwhite	3	0.9	.00019	.00000007
Turkey	9	76.5	.01652	.00027
TOTAL	27	87.9		
<u>Pisces</u>				
Unidentified	7	5.25	.0011	.0000012
Gar	3	3.00	.00065	.0000009
TOTAL	10	8.25		
<u>Reptiles: Turtles</u>				
Box Turtle	34	10.2	.0022	.000005
Snapping Turtle	6	60.0	.0130	.00017
Eastern Mud Turtle	4	1.2	.0003	.00000007
Slider/Painted Turtle	4	1.2	.0003	.00000007
TOTAL	48	72.6		
Total Pounds of Meat = 4631.75				
Niche Width = $\frac{1}{\sum_{i=1}^n p_i^2}$				
Niche Width = $\frac{1}{.5482} = 1.8214$				

Shannon-Weaver computation = .4518

an intensification of a coarse-grained, specialized use of them. What may be indicated is the presence of the larger fur bearing animals. The intensification predicted by my original hypothesis does not occur.

Turning to the three habitat categories, my hypothesis states that the habitats should exhibit an increasingly coarse-grained, specialized use. This would be expressed by lower niche width values than are present for the Prehistoric material, and a corresponding movement towards the focal end of Cleland's focal-diffuse continuum. The niche width values for habitat use, as indicated by the faunal remains from 31Skl, are 1.647 (Levins-Hardesty) and .3929 (Shannon-Weaver) (Table 90). These numbers represent a marked increase over the values (1.254 and .2025) determined for the faunal remains from the Prehistoric site, 44Ha22. This effect is probably due to the presence of an increased number of large mammals (black bears and cougars) and birds (passenger pigeons an turkeys) from the deciduous forest, and the appearance of a large fur bearing mammal, the beaver, in the species noted for the aquatic habitat. Possibly, the pursuit of deer into other portions of the ecotope, or the need to travel further across a number of different habitats, specifically the deciduous forest, in order to take deer was occurring. This may reflect the increased encounter and taking of large animals--cougar, black bear, and turkey--which prefer this habitat. Likewise, the presence of beaver as an aquatic meat resource boosted the contribution of that habitat category to the total for the site. It can be suggested that this reflects an increased use of fur bearing mammals for the fur trade, but additional study of this question will have to be conducted before more definite statements can be attempted.

TABLE 90  
MEASURE OF USE OF HABITAT, 31Sk1

Deciduous Forest	MNI	Pounds of Useable Meat	$\pi_i$	$(\pi_i)^2$
Fox Squirrel	3	4.5		
Gray Squirrel	3	3.0		
Cougar/Mountain Lion	1	60.0		
Black Bear	4	840.0		
Gray Fox	2	10.0		
Passenger Pigeon	15	10.5		
Turkey	9	76.5		
<b>TOTAL</b>	<b>37</b>	<b>1004.5</b>	<b>.2169</b>	<b>.0470</b>
<b>Diverse Habitat</b>				
White-tailed Deer	39	3315.0		
Rabbit	8	16.0		
Raccoon	7	105.0		
Bobcat	1	0.9		
Box Turtle	34	10.2		
<b>TOTAL</b>			<b>.7475</b>	<b>.5588</b>
<b>Aquatic</b>				
Beaver	3	94.5		
Unidentified Pisces	7	5.25		
Gar	3	3.0		
Snapping Turtle	6	60.0		
Eastern Mud Turtle	4	1.2		
Slider/Painted Turtle	4	1.2		
<b>TOTAL</b>	<b>27</b>	<b>165.15</b>	<b>.0357</b>	<b>.0013</b>

Total Pounds of Meat = 4631.5

$$\text{Niche Width} = \frac{1}{\frac{n^2}{\sum \pi_i^2}}$$

$$\text{Niche Width} = \frac{1}{\frac{6071}{6431.5}} = 1.6472$$

Shannon-Weaver computation= .3929

### Historic Period

The faunal material from 31S11a comprises the Historic assemblage used in this study. According to my original hypothesis, the occurrence of deer and the other fur bearing animals important in the trade with Europeans was reduced by continued and extensive exploitation over time. With a rise in the uncertainty of the occurrence of these animals relative to the two periods prior to the Historic period, a decrease in the specialized, coarse-grained use of the available fauna for subsistence should be evidenced. This turn to a more general, fine-grained use of animals and habitat would be indicated by the determination of higher niche width values for both categories.

For 31S11a, niche breadth values of 2.097 (Levins-Hardesty) and .5231 (Shannon-Weaver) are computed for the 14 potential meat contributing species identified (Table 91). This number represents a definite increase over the figures computed for the Prehistoric site (44Ha22) (1.318 for 18 species and .2422), and the Protohistoric/Early Historic (31Sk1) (1.832 for 19 species and .3929). The move towards a less focal and specialized use of the available faunal resources was fueled by the decreased meat contribution (percentage wise) of deer to the total biomass.

With this significant movement toward a less focal and more general, fine-grained use of the animal resources, a similar change should be exhibited by the three habitat categories. The niche width values determined for the use of animals from the three habitat categories are 1.860 (Levins-Hardesty) and .4631 (Shannon-Weaver) (Table 92). These represent a higher figure than those noted for both 44Ha22 (1.254 and .2025) and 31Sk1 (1.647 and .3929). The change at 31S11a is tied to the increased meat yield provided by species identified with deciduous forest

TABLE 91

MEASURE OF NICHE WIDTH BY POUNDS OF MEAT CONTRIBUTED  
BY EACH ANIMAL SPECIES, 31Sk1a

<u>Mammals</u>	MNI	Estimated Pounds of Useable Meat	Pi	$(Pi)^2$
Beaver	1	31.5	.01969	.0004
White-tailed Deer	26	1020.0	.6374	.4063
Rabbit	3	6.0	.00375	.00001
Raccoon	1	15.0	.00937	.00008
Fox Squirrel	4	6.0	.00375	.00001
Gray Squirrel	2	2.0	.00125	.000002
Black Bear	2	420.0	.2625	.0689
TOTAL	39	1500.5		

Aves

Passenger Pigeon	4	2.8	.00175	.000003
Bobwhite	1	0.3	.0001	-
Turkey	5	42.5	.0266	.00071
TOTAL	10	45.6		

Pisces

Unidentified	5	3.75	.00234	.000006
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Reptiles: Turtles

Box Turtle	10	30.0	.0187	.00035
Snapping Turtle	2	20.0	.0125	.00016
Eastern Mud Turtle	1	0.3	.0019	.0000014
TOTAL	13	50.3		

Total Pounds of Meat = 1600.15

$$\text{Niche Width} = \frac{1}{\sum_{i=1}^n (pi)^2}$$

$$\text{Niche Width} = \frac{1}{.476925} = 2.0968$$

Shannon-Weaver computation= .5231

TABLE 92  
MEASURE OF USE OF HABITAT, 31Sk1a

Deciduous Forest	MNI	Pounds of Useable Meat	Pi	<sup>2</sup> (Pi)
Fox Squirrel	4	6.0		
Gray Squirrel	2	2.0		
Black Bear	2	420.0		
Passenger Pigeon	4	2.8		
Turkey	5	42.5		
<b>TOTAL</b>	<b>17</b>	<b>473.3</b>	<b>.2958</b>	<b>.0875</b>

Diverse Habitat

White-tailed Deer	26	1020.0		
Rabbit	3	6.0		
Raccoon	1	15.0		
Bobwhite	1	0.3		
Box Turtle	10	30.0		
<b>TOTAL</b>	<b>42</b>	<b>1071.3</b>	<b>.6695</b>	<b>.4482</b>

Aquatic

Beaver	1	31.50		
Unidentified Pisces	5	3.75		
Snapping Turtle	2	20.00		
Eastern Mud Turtle	1	0.30		
<b>TOTAL</b>	<b>9</b>	<b>55.55</b>	<b>.0347</b>	<b>.0012</b>

Total Pounds of Meat = 1600.15

$$\text{Niche Width} = \frac{1}{\sum_{i=1}^n p_i^2}$$

$$\text{Niche Width} = \frac{1}{\sum_{i=1}^n p_i^2} = 1.86$$

Shannon-Weaver computation= .4631

habitats. The proportion derived from animals of the aquatic habitat remains relatively stable compared to the figure for 31Skl.

#### Summary

The basic implications of the hypothesis originally proposed for the change in the exploitation of animals for subsistence from the Prehistoric to the Historic Period were tested using Cleland's focal-diffuse continuum, the niche width model of Levins and Hardesty, and the modified Shannon-Weaver equation for determining the diversity possessed by a study population. Relative to the other two archaeological assemblages, the faunal remains from 44Ha22 seem to exhibit a more focal, specialized pattern of animal resource exploitation. This finding is interpreted to support my original hypothesis.

The condition of the Late Protohistoric period material from 31Skl differs from what had been predicted. A process of diversification, not intensification, was apparently operating at this time. An increase in the use of the deciduous forest habitat was documented. This may have been tied to a need to increase the hunting range for collecting deer. Also, an increased value placed on non-food uses derived from animals found in the deciduous forest may be indicated. As an example, a high demand for turkey bone beads, prevalent in the burials recovered from 31Skl (see Chapter 16), may have encouraged the taking of this animal, which prefers to live in a deciduous forest habitat. Comparison on a superficial level with the burials reported by Coleman (1976) for the Prehistoric Reedy Creek site (44Ha22), where no grave goods are present, indicates that such behavior may be occurring at 31Skl.

One must also consider the late date for the "Protohistoric period" assemblage from 31Skl. The era when intensified use of the local faunal resources could have satisfied the demand for furs and skins may have already passed. Certainly, increased activity in habitats other than those frequented by deer is indicated. This fits closely with the pattern noted for the Historic period assemblage at 31Skla. A more generalized, diffuse orientation is implied by the rise in the use of the deciduous forest, and animals of that habitat relative to the white-tailed deer and the diverse habitat.

The relative decrease in the proportion of deer in the assemblage from the Prehistoric period may reflect two other phenomena. As the deer hunted were found at increasing distances from a village through time, only selected portions useful as tools and food were probably taken back to the village with the hides. This would be reflected in the differential occurrences of certain skeletal elements at sites of the three time periods. Also, with the replacement of many aboriginal items by European goods in the material culture of the Indians during the Historic period, there may have been a lessened demand for certain artifacts fashioned from animal bone. With the addition of scissors, steel knives, metal needles, and glass beads, items such as bone needles and awls made from deer bone, awls made of turkey bone, and bone beads manufactured of turkey and rabbit bone were no longer as highly valued. This would have resulted in a decrease in the presence of these bones, and hence the evidence of the animals, in the archaeological record.

In assessing the above findings, the possibility that sample biases, rather than niche width, were measured cannot be dismissed. Further research should be conducted on faunal assemblages from sites of all three

periods, and a more complete analysis done of the material from 31Sk1 and 31Skla. The general pattern noted in this study could then be checked, and my hypothesis modified, or rejected. Also, the effect of decreased demand for the tools from a certain animal upon the value associated with that animal should be investigated.

## Chapter 21

### ANALYSIS OF THE CHARRED PLANT REMAINS

Charred plant remains for this study came exclusively from the Historic period site of 31Skl on the Dan River. The analysis of these materials has already been reported in the author's master's thesis (Wilson 1977), in several papers presented to professional meetings (Wilson 1979; 1980), and in a paper prepared for publication (Wilson in press). Originally, a study of the changing patterns of plant food exploitation across the three time periods encompassed in this study--the Prehistoric, Protohistoric, and Historic--similar in scope to that of the faunal studies in Chapter 20, was intended. However, the laboratory processing of the excavated material from 31Skl was hindered, and adequate samples of charred plant remains were obtained from a sufficient number of features at a date too late to be considered. Material from the Prehistoric sites along the Dan River were not available for study, either because soil samples for flotation were not present or because the screening techniques used were not sufficient to recover small-scale charcoal. This last named factor was a problem for all the sites that were excavated in the 1930s and 1940s, as well as all the other sites from North Carolina included in this work with the exception of the two Dan River sites in Stokes County. Given these many difficulties, only the charred plant assemblage from 31Skl could be included in this study.

The general theorem (Levins 1966:427) which states that "environmental uncertainty leads to increased niche breadth while certain but diverse environments leads to specialization", provides the basis for the

examination of the nature of the plant exploitation at 31Skla. Before moving into this study, the methods of analysis of the floral collection and the plant remains identified in the charcoal assemblage at 31Skla will be discussed.

#### Methods of Analysis

The charred plant matter that provides the basis of this study is from the waterscreening and two flotation samples obtained from 12 features. These are among the 117 features excavated during the first four years of work at 31Skla. Five broad feature categories are represented. These are, with the number of each included in the study, shallow basins (5), deep straight-sided or bell-shaped pits (3), hearths (2), a midden filled washout along the riverbank (1), and a filled in slump caused by the collapse of a burial chamber (1). A total of 26 zones of fill are present for these 12 features. Each zone was removed from a feature and processed as a unit in the field. All soil from a zone was worked through 1/16 inch (1.5mm) mesh windowscreen. Soil samples amounting to at least a quart were retained for each zone. It was from these that the floatation samples were obtained.

In the laboratory, analysis of the charred botanical remains contained in the waterscreenings and two floatation samples followed guidelines developed by Richard A. Yarnell of the Research Laboratories of Anthropology and the Department of Anthropology at the University of North Carolina at Chapel Hill. Each sample was divided into 11 portions that contained particles of approximately the same size by passing the material through successively smaller screens. All material which did not pass through a screen with 2.38 mm mesh was completely sorted into its various

components. The quantities of plant remains that passed through the 2.38mm screen were checked only for seeds and plant materials not present in the larger-sized sample.

#### The Plant Remains From 31Sk1a

Five broad categories of identified botanical specimens were recognized in the 737 grams of charred plant material examined during analysis. These were cultigens, nuts, fruits (here used to include the large fleshy fruits, berry fruits, aggregate fruits, and accessory fruits), weeds/forbs, and miscellaneous plant material such as wood charcoal and cane (Arundinaria sp.). Table 93 contains the various plant species identified and their scientific names.

Among the cultigens, corn (Zea mays L.) is by far the most abundant plant food grown by the inhabitants of the site (Table 94). Eight-rowed "flint" type corn cobs were recovered from the features. Associated with corn as part of the so called Mexican triad were beans (Phaseolus vulgaris L.) and squash or pumpkin (Cucurbita pepo L.). Beans are represented by three specimens from one feature (Table 95), and squash by one seed (Table 95) and 0.20 grams of rind (Table 94). The other native American domesticates include the sunflower (Helianthus annus L.), represented by one seed, and bottlegourd (Lagenaria siceraria Standl.). The latter has little food value, having been grown mainly for use as containers. A solitary bottlegourd seed (which could have been used as a food resource) is present.

Two species of European-introduced plants are present. The peach (Prunus persica L.) is represented by a large number (and weight) of pits

TABLE 93

## PLANT REMAINS FROM 31SK1a AND THEIR SCIENTIFIC NAMES

## CULTIGENS

Corn- Zea mays L.  
 Beans- Phaseolus vulgaris L.  
 Squash- Cucurbita pepo L.  
 Bottlegourd- Lagenaria siceraria Standl.  
 Sunflower- Helianthus annus L.  
 Watermelon- Citrullus (vulgaris) lanatus Schrad.  
 Peach- Prunus persica (L.) Batsch

## FRUITS

Grapes- Vitis sp.  
 Groundcherry- Physalis pubescens L.  
 Passion flower- Passiflora incarnata L.  
 Plum- Prunus americana Marsh.  
 Bramble- Rubus sp.  
 Blueberry (etc.)- Vaccinium sp.

## NUTS

Acorn- Quercus sp.  
 Hazelnut- Corylus americana Walt.  
 Hickory- cf. Carya ovata (Mill.) L.  
 Walnut- Juglans nigra L.

## FORBS

Bedstraw- Galium sp.  
 Copperleaf- Acalypha virginica L.  
 Knotweed- Polygonum sp.  
 Pokeweed- Phytolacca americana L.  
 Tickclover- Desmodium sp.

## GRASSES

Cane- Arundinaria gigantea Walt. or  
A. tecta Walt.

## WOOD CHARCOAL

Chestnut- Castanea dentata (Marsh.) Borkh.  
 Hickory- Carya sp.  
 Oak- Quercus sp.  
 Pine- Pinus sp.

TABLE 94  
PLANT MATERIALS BY FEATURE CLASS

Component	Storage Pits	Shallow Basins	Hearths	Washout	Slump	Total
Corn Kernel	2.64	4.55	0.06	0.07	1.39	8.71
Corn Cob	4.50	75.95	-	0.26	3.79	84.50
Cucurbit Rind	-	0.20	-	-	-	0.20
Peach Pit	1.42	15.33	-	2.57	1.83	21.15
Plum Pit	-	0.04	-	-	-	0.04
Acorn	0.44	0.67	0.01	0.01	0.80	1.93
Acorn Meat	0.47	-	-	-	-	0.47
Hazelnut	0.02	0.15	-	-	0.02	0.19
Hickory Shell	13.21	112.66	0.58	0.21	1.57	128.23
Walnut	0.10	2.83	-	-	-	2.93
Wood Charcoal	162.73	130.90	1.81	10.16	20.25	325.85
Bark	1.63	0.87	-	-	0.11	2.62
Cane	0.45	11.27	-	-	0.31	12.03
"Leaf"	2.16	4.41	0.34	0.10	0.24	7.25
Unidentified	0.52	4.37	0.15	0.09	0.15	5.28
<b>TOTAL</b>	<b>190.29</b>	<b>364.20</b>	<b>2.95</b>	<b>13.47</b>	<b>30.46</b>	<b>601.37</b>

TABLE 95  
SEEDS BY FEATURE CLASS

Component	Storage Pits	Shallow Basins	Hearths	Washout	Slump	Total
Copperleaf	-	1	-	-	-	1
<u>Gaium</u> sp.	2	-	-	-	-	2
Knotweed	-	1	-	-	-	1
Ragweed	1	-	-	-	-	1
Tickclover	-	2	-	-	-	2
Unidentified						
Legume	-	2	-	-	-	2
Pokeweed	-	5	-	-	-	5
Grape	6	174	-	-	6	186
Grape Stem	-	45	-	-	-	45
Groundcherry	-	3	-	-	-	3
Hawthorn	-	3	-	-	-	3
Passion Flower	5	9	-	-	-	14
Persimmon	5	29	-	-	1	35
Rubus sp.	1	-	-	-	1	2
<u>Vaccinium</u> sp.	-	6	-	-	-	6
Beans	-	3	-	-	-	3
Bottlegourd	-	1	-	-	-	1
Squash	-	1	-	-	-	1
Sunflower	1	-	-	-	-	1
Watermelon	-	1	-	-	-	1
Unidentified	28	131	-	-	2	161
TOTAL	49	417	-	-	10	476
WEIGHT	0.22+	4.36+	-	-	0.10	4.70

(Table 94). Also present is a solitary seed of watermelon (Citrullus vulgaris) lanatus Schrad.).

Complementing the cultivated plants are those plants gathered for use as food. The archaeological specimens consist of nut shell, and seeds from fruits and berries. The most abundant of all the nuts is the hickory (Carya ovata (Mill.) L.). Following hickory in abundance are acorn (Quercus sp.), walnut (Juglans niger L.), and hazelnut (Corylus americana Walt.). Hickory nuts, acorns, and walnuts all are found in deciduous forests. Of these three, only walnuts are usually not found in stands (Asch, Ford, and Asch 1972:27). Also, walnuts are enclosed in a tough, thick refractory hull. Being nutritionally similar to hickory nuts (Halls 1977: Table 1), and with assumed greater time and energy requirements for gathering and processing them, it is not surprising that little walnut shell is present. Like the walnut, the hazelnut is enclosed in a husk. This nut is produced by large deciduous shrubs or, rarely, small trees. These thrive in open areas of the forest and along forest edges.

In contrast to the nuts, which are highly visible in the samples because of the relative massiveness of their shells, fruits are represented only by seeds (Table 95), as well as stems in the case of grapes (Vitis sp.). The grape is also the most abundant of the fruits. Grapes are found growing in low woods and thickets, along stream banks, and at the borders of woods.

Persimmons (Diospyros virginiana L.) are the next most numerous fruit. These grow on small to medium sized deciduous trees. The presence of this tree is an excellent indicator of heavy disturbance, it is an invader of old fields, and it also grows in open woods.

A total of six seeds of species of Vaccinium are present. This genus includes plants such as huckleberries, whortleberries, cranberries, and blueberries. Deciduous or evergreen shrubs produce these fruits. These plants inhabit thickets, clearings, open woods, marshy areas, and swamps.

Only a few seeds are present of the bramble (Rubus sp.), hawthorn (Crataegus rotundifolia Moench) and groundcherry (Physalis pubescens L.). Over 400 species of bramble are known for North America, including blackberry, raspberry, and dewberry. These plants inhabit disturbed ground, old fields, thickets, and forest edges. Hawthorn is a shrub or small tree that is found in thickets and along streams. The groundcherry is a herb that belongs to the Solanaceae or nightshade family. This plant favors damp to dry open woods, clearings and disturbed soil.

A small quantity of the pit from a wild plum (Prunus americana Marsh.) was tentively identified in the charred sample. The fruit is available from June to October. This species is a shrub found in thickets and along the borders of woods, cleared fields, and stream banks.

The last plant in this category that produces edible fruit in the form of berries is maypops or passion flower (Passiflora incarnata L.). These plants are woody or herbaceous, and climb by use of tendrils. They are found in cultivated and old fields. Stuartevant (1960:17) was the first to suggest that maypops were cultivated by the Indians of the Southeast, specifically the Powhaten of Tidewater Virginia. William Strachey (1953:79) reported in 1612 that the Indians of Tidewater Virginia grew maypops, and it was abundant in their fields. A century later, Robert Beverly (1947:142-143) stated that maypops were not planted by the Virginia Indians although there was an overabundance of the plant. Whether maypops

was planted or not, it was at least tolerated and probably encouraged to grow in gardens.

The next category of plants is the herbs. Carbonized seeds of this category include pokeweed (Phytolacca americana L.), copperleaf (Acalpha virginica L.), knotweed or smartweed (Polygonum sp.), tickclover (Desmodium sp.), cleavers or bedstraw (Galium sp.), and ragweed (Ambrosia artemisiifolia L.). All of these grow in waste places and open or disturbed ground. Of these "weeds", only three were used by Indians in the past for food. These are pokeweed (leaves), knotweed (seeds) and ragweed (seeds) (Yarnell 1976:265). These plants are represented by only a few seeds each (Table 95), and the use of knotweed and ragweed as food resources is questionable.

The rest of the charred plant remains consists of wood charcoal, cane (Arundinaria sp.), bark, "leaf", and unidentified material. A small subsample of wood charcoal was examined in detail. Wood from four genera of trees was identified as chestnut, hickory, oak, and pine (Pinus sp.).

#### Discussion of the Plant Remains

The plant food subsistence of the Indians of the Carolina Piedmont was based on a mixture of plant food gathering and agriculture, which was typical of most Indian groups of the Southeast in the Late Prehistoric and Historic Periods (Hudson 1976:284-299; cf. Swanton 1946). During the Historic period, Indian groups are reported to have actively modified portions of their floral environment by setting fire to large areas of forest. This was apparently only partially associated with the fire-drives used for hunting deer, as evidence exists which suggests that areas were intentionally cleared in this manner for other purposes also (Hudson 1976:

276-277). Indirect benefits derived from this activity include releasing nutrients (ashes) in the soil and keeping the forest open. These, in turn, provided fertile areas for plant life on which deer, turkey, and human groups could feed, and made it easier for deer, turkey, and human groups to "harvest" nuts, especially acorn (Hudson 1976:277). How far into the past this pattern of modification existed cannot presently be assessed. Hudson (1977:277) interprets information provided the Spaniards in the sixteenth century to indicate the existence of this pattern at the time of the earliest arrival of the Europeans. It is possible that the fire-drives documented for the Historic period (Lawson 1967:215-216) represent a perversion of this system of land management.

Hudson (1976:276) states that after firearms became common among Indian groups of the Southeast, communal hunting declined. This implies that a corresponding decrease may have occurred in the use of fire drives to collect deer (and perhaps the use of fire to clear forests). If this did occur, it was well into the eighteenth century, long after the Piedmont Indians had fled to the east. In 1709, Lawson (1967:215-216) reported the use of the fire-drive among the Tuscarora Indians of the North Carolina Coastal Plain. Also, the grassy old-fields on the Dan River encountered by William Byrd II (1929:208-209) in 1727 could have been examples of open areas created by the Indians for use by deer and not directly by humans. The wars of the "Seneca" and other northern Indian groups, such as the Iroquois, upon the Piedmont Indians of the Carolinas and Virginia may have had their primary cause in the question of who was to harvest the deer skins and furs from the area just east of the Appalachian Mountains. The Mahican of New York are reported to have journeyed to the hinterland of Virginia and the Carolina Piedmont as early as the 1680s in search of furs,

and possibly deer skins (Brasser 1978:204). The northern Indians, and the local Piedmont Indian groups, may have maintained open areas in the forests far removed from the sites of their primary residences, just to insure the continued prosperity of their deer supplies.

The direct or indirect effect Europeans had on the Indian modification and use of the floral environment cannot be adequately judged at this time. Only a few new plant foods--including the peach, watermelon, and cucumber--were introduced by the Europeans and incorporated into the native plant food assemblage. Based on the general theorem (Levin's 1966:427) that "environmental uncertainty leads to increased niche breadth while certain but diverse environments leads to specialization", a hypothesis concerning the nature of plant food exploitation and habitat use by the Indians of the Dan River region and the Piedmont in general, can be put forth. For the Late Prehistoric Indian groups, the pattern of plant food utilization is thought to be characterized by an agricultural base supplemented by the gathering of various non-cultivated plants. These groups made use of a certain (in time and space) and diverse environment, which was tied to the manipulation of the environment by agriculture and fire-clearing. According to the theorem quoted above, this would have led to a specialized use of the plant foods available and of the habitats where they were found. In reference to Cleland's model, this would imply a more focal pattern of plant exploitation than would be evidenced by earlier Indian groups, who probably did not have an agricultural base developed to the same degree. By the Late Prehistoric period, agriculture was securely established, and secondary plant resources obtained by gathering were important to the subsistence base.

During the Protohistoric and Historic periods, a series of changes were initiated in the entire environment of the Indians of the Piedmont, including the floral subsystem. A small number of new cultigens were introduced directly into the floral subsystem. Increased emphasis may have been placed on fire-clearing to provide a more favorable habitat for deer, and fire-drives may have been initiated or emphasized to collect deer skins for trade. This would have led to an increased diversity in the floral environment. Predictability in the occurrence of collected plant foods would not have been adversely affected. Predictability in the agricultural portion of the subsistence system may have changed due to changes in the other cultural subsystems. Disease, and the increased emphasis on hunting deer for skins and processing deer skins for trade, may have altered behavior patterns to a point where less time was spent on cultivation of plants, and clearing plots for new garden space. The overall effect would have been a lessened agricultural productivity, which would have increased the uncertainty of the environment in general, and especially of the floral subsystem. An excellent example of the end result of this hypothesized process are the dire straits to which the combined Catawba and Cheraw (Sara) Indians were reduced by disease and crop failures in 1760, just prior to their becoming reservation Indians (see Chapter 12; Baker 1975:140-148).

Combined with the increased unpredictability in the entire environment due to disease, warfare, and increased mobility required to acquire deer for the skin trade, an increase in the unpredictability of the floral subsystem and plant food subsistence strategy was probable. It is hypothesized that the niche breadth indicated by the plants and habitats exploited for food, should increase during the Protohistoric and Historic

periods over that documented for the Late Prehistoric period. A move of niche breadth values calculated using the Levins-Hardesty model and the modified Shannon-Weaver equation toward the diffuse end of Cleland's continuum would support this hypothesis.

#### Plant and Habitat Use

As already noted, there are no other botanical samples available for comparison with the 31Skla remains. Therefore, the hypothesis just put forth will be investigated utilizing the data only for the Historic period (ca. 1685-1700). Before beginning, a few of the assumptions involved in the use of Levins/Hardesty's niche width model to study floral data will be considered.

In order to make use of the model, a proportion index, "pi", has to be determined for each plant species. Gardner (1981:13) used an ubiquity index based on the number of samples that contained an item to determine "pi", as the percentage occurrences of the various plant foods could not be employed. Using an ubiquity index alleviates the problem of comparing seed counts with nutshell, corn kernel, etc. weights. The sample used to compute the ubiquity index is the total number of fill zones (26) identified in the 12 features from which the charred plant materials were recovered. This method assumes that the occurrence of a plant species in the charred plant remains reflects its importance as a food resource. Also, the difference in the nutritional composition of different plant foods is not incorporated into the model (Gardner 1981:13).

The niche width values computed for the 25 possible plant food species are .897 (Levins-Hardesty) and .8876 (Shannon-Weaver) (Table 96). Although the .897 is toward the lower third of a continuum scale from 1 to 25 ( $n$ ,

TABLE 96  
NICHE WIDTH FOR PLANT FOOD USE, 31Skla

HABITAT	# OF SAMPLES CONTAINING ITEM	P1	<sup>2</sup> (P1)
<b>MATURE FOREST</b>			
Hickory	26	.1857	.0345
Acorn	20	.1429	.0204
Hazelnut	6	.0429	.0018
Walnut	4	.0286	.0008
Total	56	(.4000)	(.1600)
<b>BUSHY OLD FIELDS</b>			
Grape	9	.0643	.0041
Persimmon	10	.0714	.0051
<u>Vaccinium</u>	1	.0071	.00005
<u>Rubes</u>	1	.0071	.00005
Plum	1	.0071	.00005
Hawthorn	2	.0143	.0002
Total	24	(.1714)	(.0294)
<b>DISTURBED GROUND</b>			
Ground Cherry	1	.0071	.00005
Legume	1	.0071	.00005
Pokeweed	1	.0071	.00005
Knotweed	1	.0071	.00005
Ragweed	1	.0071	.00005
Bedstraw	1	.0071	.00005
Tickclover	1	.0071	.00005
Total	7	(.0500)	(.00250)
<b>CULTIVATED AREAS/GARDENS</b>			
Maize	25	.1786	.03190
Sunflower	1	.0071	.00005
Beans	1	.0071	.00005
Watermelon	1	.0071	.00005
Gourd	1	.0071	.00005
Squash	2	.0143	.00020
Peach	13	.0929	.00860
Passion Flower	9	.0643	.00410
Total	53	(.3786)	(.14330)

Total by Plant: 140 Total by Habitat: 140

	n	<sup>2</sup> $\leq (pi)$	Levin-Hardesty niche width	Shannon- Weaver niche width
For plant remains:	25	.1124	8.8968	.8876
For habitat:	4	.3352	2.9833	.6648
For habitat:	3	.3523	2.838	.6477

the total number of plant food resources present), the figure may not represent a focal adaptation because the possible range on such a scale for focal versus diffuse values is not known. Also, no values for other populations are available with which the 31Skla data can be compared. On the other hand, the Shannon-Weaver value of .8876 indicates that a relatively high degree of diversity is present. This suggests that a diffuse adaptation is evidenced for the plant food exploitation at 31Skla. An absolute measure of "how diffuse" is not possible, because, among other things, the composition of the potential plant food resources in the environment is not known. For now, this value can only be used for comparison with those from other sites.

Taking up the question of the use of habitats, niche width values of 2.983 (Levins-Hardesty) and .6468 (Shannon-Weaver) were calculated for four arbitrary habitats--mature forest, bushy old fields, disturbed ground, and cultivated areas/gardens (Table 96). A relatively generalized use of the four habitats is indicated by both numbers. When the two categories of "bushy old fields" and "disturbed ground" are combined, the Levins-Hardesty value is 2.838. On a revised scale with an upper diffuse pole at three instead of four, this implies a markedly generalized use of the habitats. However, the Shannon-Weaver diversity figure for three habitats (.6477) is similar to that computed for four habitats (.6648). This is interpreted to indicate a moderately generalized use. The deletion of four plants which may not have been used as food by the Indians--ragweed, knotweed, bedstraw, and tickclover--did not appreciably alter the niche width values calculated for either the use of plants or habitats (Table 97).

TABLE 97

## 31SK1a WITHOUT KNOTWEED, BEDSTRAW, RAGWEED, and TICKCLOVER

HABITAT	# OF SAMPLES CONTAINING ITEM	P1	<sup>2</sup> (P1)
<b>MATURE FOREST</b>			
Hickory	26	.1912	.0366
Acorn	20	.1471	.0216
Hazelnut	6	.0441	.0019
Walnut	4	.0294	.00086
Total	56	(.4118)	(.1696)
<b>BUSHY OLD FIELDS</b>			
Grape	9	.0662	.0044
Persimmon	10	.0735	.0054
Vaccinium	1	.0074	.00005
Rubes	1	.0074	.00005
Plum	1	.0074	.00005
Hawthorn	2	.0147	.0002
Total	24	(.1765)	(.0312)
<b>DISTURBED GROUND</b>			
Ground Cherry	1	.0074	.00005
Legume	1	.0074	.00005
Pokeweed	1	.0074	.00005
Total	4	(.0222)	(.0005)
<b>CULTIVATED AREAS/GARDENS</b>			
Maize	25	.1838	.0338
Sunflower	1	.0074	.00005
Beans	1	.0074	.00005
Watermelon	1	.0074	.00005
Gourd	1	.0074	.00005
Squash	2	.0147	.0002
Peach	13	.0956	.0092
Passion Flower	9	.0662	.0044
Total	53	(.3897)	(.1519)
Total by plant:	136		
Total by habitat:	136		

	n	$\Sigma$ n (pi) 1	$\Sigma$ 2	Levin-Hardesty niche width	Shannon- Weaver niche width
For plant remains:	21	.1191	8.3963	.8809	
For habitat:	4	.3532	2.831	.6468	
For habitat:	3	.3609	2.771	.6391	

### Summary

The niche width values calculated for the diversity of possible plant foods incorporated in the subsistence base of the aboriginal inhabitants at 31Sk1a are taken to indicate a fairly diffuse generalized adaptation. This agrees with the general outline of my original hypothesis. The use of habitats from which the plant foods were derived also follows the hypothesis, as a "diffuse" orientation was indicated. This is true in that all three or four, the number varying depending on how "Bushy Old Fields" and "Disturbed Ground" were treated, of the habitats appear to have been used to some extent, and one or two more so than the others. Examination of Tables 96 and 97 shows that there are two or three plant species that account for the great proportion of each habitat use. This represents a specialized pattern of exploitation of each habitat, but a general use of all habitats available. This may account for the diversity figures derived from the Shannon-Weaver equation being near the middle of values possible.

It must be remembered that, by themselves, the figures and conclusions reached in this analysis of the charred plant materials from one Historic period site means very little. Studies that incorporated data from sites within and without the Dan River drainage of the same and other time periods would have enabled a more thorough investigation of the changing plant food subsistence patterns and adaptations. This short investigation represents only a beginning, which hopefully will be followed in the near future by more detailed analyses of the Dan River floral material in particular, and the Piedmont Indian groups in general.

## Chapter 22

### SUMMARY OF THE ANALYSIS OF THE FLORAL AND FAUNAL MATERIAL

The study of the floral and faunal remains was built around an investigation of the patterned use of the resources available to the Piedmont Indians. The diversity in the occurrence of the various plant and animal species that comprise these two data sets provides the standards for the test of hypotheses about changes in the utilization of resources and habitats. A major assumption is that the composition of the archaeological faunal and floral remains reflects the patterned subsistence behavior and adaptation of the aboriginal inhabitants at a site.

The models used to investigate the adaptive strategies of both the plant and animal exploitation were the niche width measure provided by Hardesty's (1975, 1977) refined version of Levins' niche breadth model; Cleland's (1976) focal-diffuse continuum; the modified Shannon-Weaver diversity formula (see Chapter 18); and a theorem (Levins 1966:427) on the predicted use pattern of a diverse certain environment.

The spatial and temporal parameters of the occurrence of resources determines in part the certainty and diversity of the environment. The concept of seasonality encompasses the temporal factors (Flannery 1968:74-75). Scheduling, the ability of human groups to organize themselves to exploit the resources in the environment (Flannery 1968:75-76), also plays an important role in the certainty of the environment. For the Indians of the Piedmont, the physical portion--geology, topography, hydrology, and climate--of the environment did not change over the periods under study.

Contact and interaction with the Europeans did result in changes in the cultural, floral, and faunal subsystems of the environment in the Protohistoric and Historic periods.

During the Late Prehistoric period, the Indians of the Piedmont inhabited an environment that is thought to have been diverse and predictable for both plant and animal species that represented food resources. For the use of faunal resources for food it is hypothesized, based on the theorem that environmental uncertainty leads to increased niche breadth while certain and diverse environments lead to specialization, that the use of a fine-grained, patchy, diverse, and predictable "animal environment" by the Piedmont Indians during the Late Prehistoric period led to a specialized pattern of exploitation. This implied a coarse-grained use of a patchy environment in which selected animal resources were gathered. This would be evidenced by narrow niche breadth measures and a corresponding location toward the focal end of a focal-diffuse continuum. The use of fire to clear areas of forest and the undergrowth from the forest during this period would have contributed to the diversity and predictability of the environment by providing feeding areas for a variety of game.

At some point in the Protohistoric period, it is hypothesized that the increased demand for fur and deer skins by Indian middlemen would have prompted a shift in the focus of exploitation to these animals. It is assumed that the immediate region around a village was capable of producing a sufficient number of these animals to fulfill this demand. As it is also assumed that these animals, especially deer, would have been used as meat resources, the availability of meat from these same species would have increased. Until this point in the Protohistoric period, the

archaeological assemblages should exhibit a pattern of specialized, coarse-grained use of a predictable, diverse, and patchy environment similar to that which existed during the Prehistoric period. At the time of the predicted intensification, there would have been an increase in specialization as evidenced in narrower niche breadth measures and a definite move toward the focal pole of Cleland's focal-diffuse continuum. The use of habitat at this time also probably became more focal and specialized, as non-fur bearing and non-hide bearing animals were bypassed in favor of the "higher valued" species. This would be true only if fur-bearers produced food or could be traded for food (Bruce Winterhalder, personal communication, 1983).

Some time later in the Protohistoric/Historic continuum, the exploitation of deer and fur-bearing animals would have reached a point where the certainty of procuring these species locally in time and space decreased. The use of fire-drives on an annual basis to "harvest" large quantities of deer at one time would have rapidly depleted the local deer population. Furs would still have been sought on an individual basis as the probability of trapping a large number of fur-bearing animals, which were not very abundant especially in relation to the northern sections of the continent (Phillips 1961:162), with fire-drives was unlikely. At this time, longer travel distances would have been required to obtain furs and skins, and combined with the fire-drives, would have led to a decrease in the quantities of meat available from deer and the fur-bearing animals over the long run. As greater travel distances came to be required to find furs and skins through fire-drives and by stalking, only furs, skins, essential skeletal parts which could be utilized as tools and/or ornamentation, and select portions of the meat would have been retained and returned to the settlement.

Along with a change in the contribution of individual animal species to subsistence for the Historic period, there should also have been a shift in the use of habitat. With increased travel across different habitats, animals from each would have been encountered, and thus become potential targets for procurement. The change here would not be dramatic, for deer still would remain the number one resource, because of the likelihood of encountering more than one of these animals in an area (Smith 1975:18-24, 39-42), the large amount of meat it possessed, and because of the large number of skeletal and body elements that had economic importance. At the same time, practicality would have dictated that animals closer to a settlement, which would have included substantially fewer deer and fur-bearing mammals than had previously been present, would have been utilized as meat resources.

These changes in the exploitation of the animal resources were probably accompanied by alterations in the cultural environment which may have affected the ability of the Indian groups to properly schedule the use of the resources. Competition with other Indian groups for the skins and furs was expressed most graphically by the war between the Carolina and Virginia Piedmont Indians and the Seneca and other northern Iroquois, and other groups. The overall effect of the many changes wrought in the Protohistoric and Historic periods was to decrease the predictability of the environment, especially the floral and faunal subsystems. It is predicted therefore that a generalized pattern of faunal exploitation representative of a diffuse adaptation would exist during the Historic period. The changes in the animal resources used and habitats exploited should produce higher niche width measures than were present for the Prehistoric or Protohistoric assemblages. This is the general pattern documented by the

faunal assemblages from 44Ha22, 31Skl, and 31Skla (Figure 36). The intensification, which would have been marked by a decrease in the niche breadth values associated with a increased focal adaptation, predicted for the Protohistoric period example (31Skl), when compared with the Prehistoric example (44Ha22), did not occur. It may be that this portion of the original hypothesis may have to be modified. A temporary decrease in niche breadth may not have occurred. Instead, a process of diversification may have started with the onset of the Protohistoric period as a result of disruption caused by the Spanish invasion. This would have resulted in a steady increase in niche width values through time, just as the data from the three sites suggests (Figure 36). However, the fact that 31Skl is a Late Protohistoric/Early Historic site implies that the move to a more focal use pattern may have occurred earlier in the Protohistoric period. This can be determined only by examination of a number of faunal assemblages from this era, which are presently not available.

Data do exist against which the raw figures obtained for the niche width values from the three assemblages, as inexact and misleading as they may be, can be compared. Hardesty (1975:76) lists a number of groups for which niche width values were computed using the Levins-Hardesty formula. Table 98 reproduces these figures and those from the three sites in this study. Also, diversity values derived from the Shannon-Weaver equation, calculated for all the groups, are included in the table.

It is interesting to note that the material from the Prehistoric site (44Ha22) would anchor the focal end of a focal-diffuse continuum constructed using the data of Table 98. In reference to the figures computed for the food-producing groups, the niche width values of the Late Protohistoric/Early Historic site (31Skl) and the Historic site (31Skla)

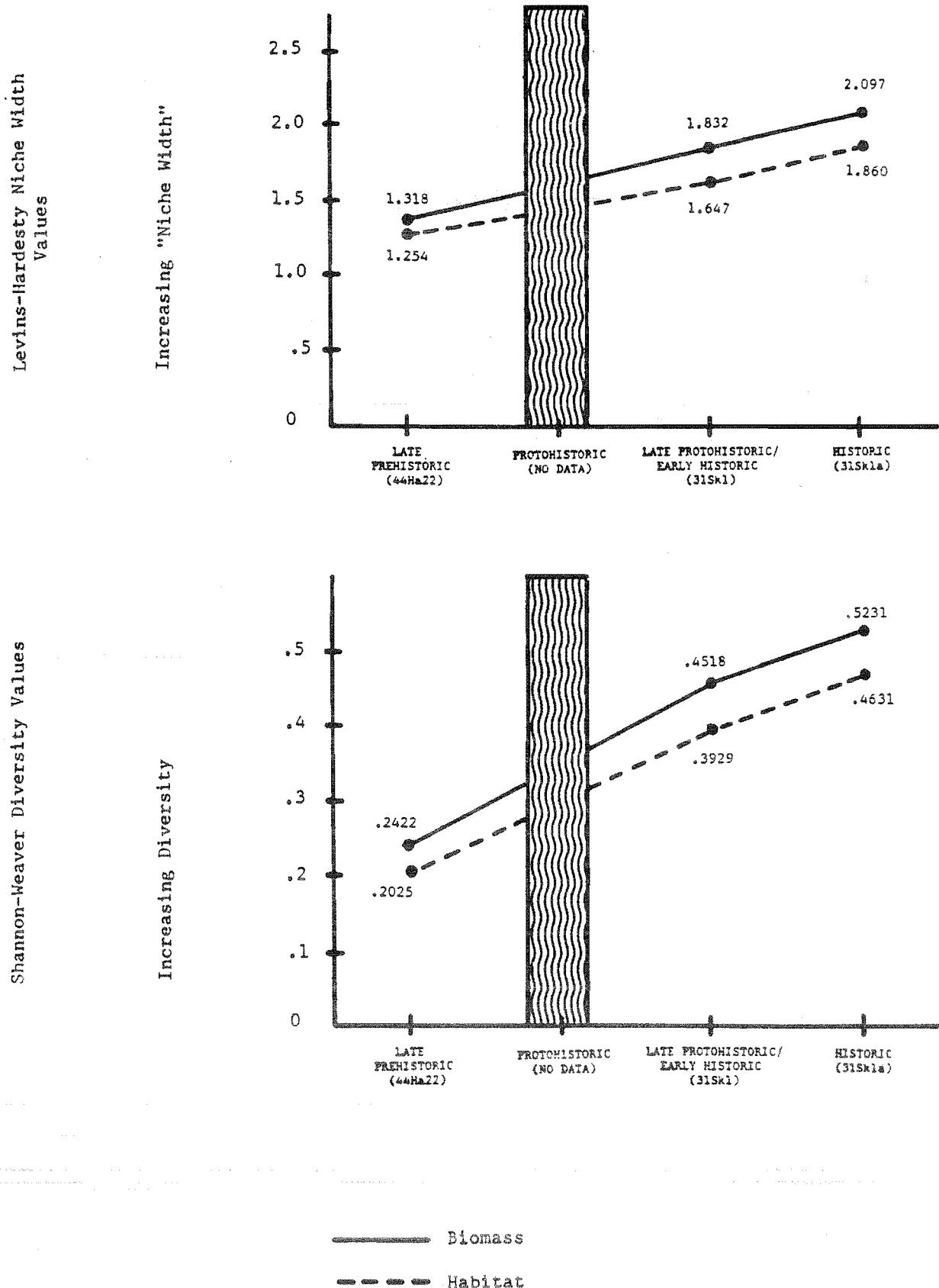


Figure 36.--Visual representation of the changing pattern of animal resource and habitat use.

TABLE 98

COMPARISON OF NICHE WIDTH VALUES CALCULATED  
FOR THE FAUNAL ASSEMBLAGES FROM THE THREE ARCHAEOLOGICAL SITES  
AND SELECTED HUMAN SOCIETIES

1 FOOD-COLLECTING SOCIETIES	2	
	Levins-Hardesty niche width	Shannon-Weaver niche width
Kostenki IV-2, Pleistocene Hunters	1.569	.3627
Mistassini Cree	3.436	.7090
Central Desert Indians, Baja California	7.874	.8730

1 FOOD-PRODUCING SOCIETIES		
"44Ha22"	1.318	.2422
Chimbu, New Guinea	1.685	.4065
Kapaukau Papuans, New Guinea	1.698	.4111
"31Skl"	1.821	.4518
"31Skla"	2.097	.5231
Bussama, New Guinea	2.206	.5467
Kavataria, New Guinea	2.892	.6542
North Kavirando Bantu, Maragoli, Africa	4.651	.7850
Tasbapauni Miskito, Nicaragua	5.283	.8107

1-Data for the societies in this table, except for 44Ha22, 31Skl, and 31Skla, are from Hardesty (1975:77).

2-The Shannon-Weaver values for all the societies represented in this table were calculated by the author.

does appear to represent a significant increase over those documented for 44Ha22. The values for 31Skl and 31Skla are near the middle of such a continuum. Given this distribution, the Shannon-Weaver equation does appear to produce numbers which are more easily compared with each other than the Levins-Hardesty formula. Ultimately, if the ability to compare archaeological assemblages with the occurrence of resources in the environment is realized, a variant of the Shannon-Weaver equation may be of more value in analyzing the exploitation pattern than the Levins-Hardesty model.

A hypothesis about the changing pattern of plant food use over the three study periods using both equations can also be constructed. The examination of the floral remains is marked by two characteristics which differentiates it from the analysis of the faunal material. First, information on plant food subsistence is available for only the Historic period. Therefore, the testing of the overall hypothesis was not possible. The second difference is that the floral environment did not undergo the same set of changes which the faunal did.

During the Late Prehistoric period, the Piedmont of the Carolinas and Virginia is thought to have been characterized by a patchy, diverse, and predictable "floral environment". According to the general theorem (Levins 1966) and my hypothesis, this gave rise to a specialized adaptation marked by a coarse-grained utilization pattern of the available plant food resources. Beginning in the Protohistoric period and continuing into the Historic period, a series of alterations, tied to contact with the Europeans, probably occurred in the cultural and physical environment of the Carolina and Virginia Piedmont. The seasonality, diversity, and predictability of the non-cultivated plant foods may have been affected.

The diversity of the cultivated plant foods probably increased during these two periods, as such plants as the peach, watermelon, cucumber, and muskmelon were introduced into the native plant food assemblage by the Europeans. The greatest changes were probably wrought, however, in the cultural subsystems which directly effected the plant food subsistence adaptive strategy. Among these changes alluded to earlier are decreased population tied to warfare and the devastating effects of new diseases, and the increased time required for harvesting and processing deer-skins and furs. It may be that the gathering of plant foods was also adversely affected by these new tensions. These changes may have wrought a modification of the scheduling of activities associated with plant food subsistence, which may have reduced agricultural productivity. The predictability of a large segment of the floral environment previously exploited for food was lessened considerably. According to my hypothesis, as the floral environment became less predictable, the exploitation of plant foods (and habitats) became more generalized through time than had been the case in the Late Prehistoric period. This would result in increased niche breadth values for the floral assemblages of the Protohistoric and Historic periods. The data from 31Skla, the Historic assemblage analyzed in this study, represent a fairly high niche width as expected. But as there are no other values currently available with which to compare this information, my general hypothesis remains untested.

These hypothesized patterns of exploitation for both the plant food and faunal resources are applicable to Piedmont Indians for the Late Prehistoric period and through the Historic period, while they lived in the deciduous forests of the Piedmont. After these Indians moved to the east during the first decade of the eighteenth century, the adaptations and

subsistence strategies probably changed. Certainly the Fall Line and Inner Coastal Plain were different environments than that to which these Indians had been adapted in the Piedmont. The predictability of animal and plant resources in time and space was probably altered. A dispersed strategy for subsistence, similar to that practiced by the Tuscarora of the Inner Coastal Plain in North Carolina, may have been dictated.

The implications the Piedmont Indian/Siouan move to the east had for the subsistence adaptation of these Indians have yet to be investigated. But, this is also true for most of the Protohistoric and Historic period Indian groups of the Southeast. Studies involving the Piedmont Indians that examine faunal and floral data sets from sites of all three temporal periods and both geographical areas--the Piedmont and the Coastal Plain--will be necessary to further test the hypotheses and examine the suppositions advanced here, and others derived during the course of the continuing study of culture change among the Southeastern Indians.

## Chapter 23

### CONCLUSIONS

This study of structure and change among Indians of the Carolina and Virginia Piedmont has focused on four datasets--historic records, ceramics, faunal remains, and charred floral remains. Three general questions were investigated through the analysis and interpretation of these data sets: 1) the identity and location of the various Piedmont Indian groups through time; 2) the temporal, spatial, and cultural relationships exhibited by the archaeological assemblages, especially the ceramics, associated with these groups; and 3) the change in the subsistence strategies of the these groups from the Late Prehistoric to the Historic period. A fourth question which could not be considered, but for which some research directions were proposed, concerned what the changes in the material culture and subsistence strategies revealed about alterations in the sociocultural structure of the Piedmont Indians, and how the social structure changed through time.

The framework devised by Leacock (1971:9-12) to characterize "Indian history" provides a reference for the study of these four questions. The history of the Piedmont Indians is marked by a series of discrete episodes that can be documented using ethnohistorical and/or archaeological data. During the Late Prehistoric period, Leacock's Phase I (late precontact), the cultures of the southern Piedmont came into contact with the expanding Pee Dee Phase of central South Carolina. The interaction was most intense along the lower Catawba/upper Wateree and the lower Yadkin/upper Pee Dee drainages. The Pee Dee culture is probably best described as a chiefdom

following Service's (1962:143-177) and Sahlin's (1968:20-27) definitions. Information flow, competition, and interaction between the Pee Dee culture and the presumed tribal-level cultures of the lower Catawba and lower Yadkin Rivers led to the rise of a chiefdom-like organization during the Late Prehistoric/Early Protohistoric period. This polity came to be known as the Issa or Yssa to the Spaniards of the sixteenth century, as the Essaw or Ushery to the English of the late seventeenth century, and as the Catawba to the English of the eighteenth century. During the time the Spaniards were in the Carolina Piedmont, the Issa and the Indians of the Wateree/Catawba drainage were constituents of the "Grand Chiefdom of Cofitachequi", which stretched from the Inner Coastal Plain of South Carolina to the foothills of the Blue Ridge on the upper Catawba River.

This process of change in the cultures of the Catawba and Yadkin Rivers during the Late Prehistoric and Early Protohistoric period prior to the arrival of the Spanish explorations seems to have initiated a re-orientation of the Indian cultures of the entire Piedmont. Pee Dee influences spread north across the Piedmont to the middle reaches of the Dan River, and westward into the mountains of North Carolina, where the Pisgah Phase exhibits Pee Dee elements (Dickens 1976:198-199). The local orientation that had been tied to interaction within river drainages during earlier times came to an end. Cross-drainage contact increased from this time forth, encouraged by contact initially with the Spaniards in the late 1500s and then with the English during the 1600s. During this period of change, new traits, such as the shaft-and-chamber burial style and incised shell gorgets with rattlesnake designs, may have diffused from the Mountains and appeared for the first time in the Piedmont cultures.

The arrival of the two Spanish explorers, Hernando de Soto and Juan Pardo, in the southern Piedmont marks the beginning of a new phase in the "history" of the Piedmont Indians. The initial stages of the brief period of direct contact with the Europeans that the Spanish presence represented was a harsh experience for the Indians. Epidemic disease heralded the movement of De Soto through the Carolinas (Elvas 1851:51-57; Garcilaso 1951:315). The corn seed reserves, and the corn that had been planted, was confiscated by De Soto's army, which journeyed through the area during the time of spring planting. This loss, combined with the debilitating effects of the epidemics, probably caused a great amount disruption in the aboriginal populations of the Wateree/Catawba drainage during this era and for a period of time after the end of the Spanish presence in the interior.

It may be that the situation Juan Pardo encountered in the Carolina hinterland in 1566/1567, some two-and-a-half decades after De Soto, is indicative of the beginning of the decline of "Pee Dee" core of the chiefdom of Cofitachequi, and the growing importance of the Piedmont Siouan constituents, primarily the Issa, of the chiefdom. Certainly, the two expeditions led by Pardo through the Carolina hinterland provided impetus to the pattern of cross-drainage interaction initiated in the Late Prehistoric period. The forts that Pardo established in the foothills of the Blue Ridge, on the Yadkin River in the central Piedmont, and on the Wateree River in the Inner Coastal Plain, served as gathering points for the Indians of a region. To show their fealty to Spain, the Indians of the surrounding area were required to bring corn and skins to the fort for use by the Spaniards there and in Santa Elena on the coast of South Carolina (DePratter, Hudson, and Smith 1982). The ultimate effect of this system for collecting food resources and tribute was to increase the interaction

of the Indians of the Piedmont with one another and with the Indians of the Mountains and the Coastal Plain.

Following the collapse in the 1570s of the Spanish outposts in the interior and at Santa Elena, the Piedmont Indians slipped back into the shadow of the Protohistoric period. Until the middle to late seventeenth century, the interaction of the Piedmont Indians with the Europeans was through Indian middlemen. Only an occasional encounter with a Spanish expedition sent to check on the status of the Indians broke this isolation. Indirect contact between the Piedmont Indians and the English during the post-Spanish Protohistoric period came to be dominated by two Indian groups, the Occaneechi and the Tuscarora, who served as middlemen.

This phase of the Piedmont Indian's history, which encompassed the Protohistoric period before and after the Spaniards, and was called Phase II by Leacock (1971)--the time of early direct or indirect contact--did not end until about 1660-1670. With the establishment of an English colony at Charles Town on the South Carolina coast in 1670, and the removal of the Occaneechi as a blockading middleman in 1676, direct contact with the English was initiated. For a little more than three decades, the Piedmont Indians traded deer-skins and furs to the colonists from Virginia and South Carolina. Periodic epidemics swept through the various Indian groups, and additional disruption was caused by the use of rum in the fur/skin trade. Competition between the various Indian groups of the Piedmont probably escalated. Warfare with the Seneca, other Iroquois, and other Northern Indians, based primarily on the struggle for hunting territories, was initiated. The increasing population of the English colonies added to the pressure on all the Indian groups of the Eastern Seaboard, and possibly contributed to warfare between the various Indian groups and between the

English and the Indians. This era of the Historic period comprised Leacock's (1971) Phase III, the period of serious disruption in Indian society which was derived from these tensions.

These stresses finally caused most of the non-Catawba Indians to abandon the Piedmont during the first decade of the eighteenth century. The Saponi, Tutelo, Occaneechi, and Stukanox moved to Fort Christana, and entered another phase of Indian history by becoming Tributaries to the colony of Virginia. This marks the final phase of the Piedmont Indian's "history", which Leacock (1971) labelled Phase IV, the institution of Euro-American governmental control over the Indians.

The Sara and Keyauwee maintained their independence, and journeyed south to the upper Pee Dee River. The Saxapahaw relocated to the lower Neuse River. The Sitteree moved downstream on the Catawba River to be closer to the Catawba Indians. Only the Eno and Shakori stayed in the Piedmont. These two groups were located on the eastern Piedmont terminus of the trail that branched off from the Occaneechi Trail and led to the Tuscarora Indians of the Coastal Plain.

By 1740, all of the former Indian tribes of the Piedmont had incorporated with larger groups. Around 1740, the Tributaries moved to the northern colonies to join the Iroquois. In 1737, the Sara (Cheraw), who had the Pee Dea, Waxhaw, and Saxapahaw Indians incorporated with them by this date, moved from the Pee Dee River to the Catawba Indians. Among the Catawba, the Sara and Pee Dea possessed their own village until all these Indians were placed on a reservation in the 1760s under the direct control of the South Carolina government. This ends the "history" of the Piedmont Indian groups, and the consideration of the various phases of the Protohistoric and Historic periods.

Most of the Indian groups whose names are known have usually been identified as "Siouan" in language, culture, and physical stock (Mooney 1894; Griffin 1945; Swanton 1946; Lewis 1951; Coe 1952a; Wilson 1977; Navey 1982). It appears that some of the groups previously identified as Siouan may not have deserved such a classification. The three Piedmont groups who are most likely not to have been Siouan are the Eno, Shakori, and Saxapahaw. All of these were located in the late 1600s along the eastern edge of the Carolina Piedmont on the inland frontier of the Tuscarora Indians. The material remains, primarily ceramics, thought to be associated with the Shakori manifest connections with the Fall Line area of the Roanoke River. Other aspects of the culture of these Indians, such as shaft-and-chamber burials, and the elaborate use of shell, accentuate the affiliations with the other groups of the Piedmont. The ethnohistoric records show that the Saxapahaw, Eno, and Shakori did not incorporate with either the Catawba, Sara, or Fort Christiana Tributaries following the general abandonment of the Piedmont at the start of the Tuscarora War in 1711-1712. The Eno and Shakori remained in the vicinity of the upper Neuse River into the second decade of the eighteenth century. The Saxapahaw moved to the lower Neuse River, before being driven south by the Tuscarora in the opening stages of the Tuscarora War. Eventually, the Saxapahaw incorporated with the Sara (Cheraw) Indians of the upper Pee Dee River. It is suggested that the Eno, Shakori, and Saxapahaw may have been Iroquoian groups similar in nature to the Neusioks, Meherrin, and Nottoway of the Coastal Plain. As little data on the archaeological assemblages that can be positively identified with the Eno, Shakori, and Saxapahaw are currently available for study, this posited relationship has to remain conjectural for now.

Among the remaining groups of the Carolina and Virginia Piedmont who can be assumed to have been Siouan, a Northern and Southern division similar to the classification advocated by Swanton (1936:379) and Speck (1935:203) can be hypothesized. The basis for the dichotomy lies in the interaction of the Indians of the Catawba and Yadkin drainages with the expanding Pee Dee Phase during the Late Prehistoric/Early Protohistoric period. The results of this contact are best represented in the ceramics of the Piedmont Indian groups. Complicated stamped and burnished surface finishes appear early, accompanied by cazuella bowls, hemispherical bowls, and new jar forms such as the cuspidor and long-necked jar. These traits have usually been associated with the Catawba Indians, and indicate the intense and protracted interaction of the Indians of the Catawba River with the Pee Dee Phase. It is probable that the cultures of the Yadkin River exhibited many of the same ceramic characteristics as the Catawba River cultures, with smoothing instead of burnishing coming to dominate the assemblages. This trait appears to mark the changes of the ceramics of most of the Piedmont to the north, and separate them from the assemblages of the Catawba River. The pottery of the Dan River region illustrates the same progression to predominately smoothed surfaces. The process of change from net-impressed to smoothed surface finishes appears to be slower in the Dan River Ware than the Yadkin River assemblages, as smoothing does not come to dominate the tradition until the Historic period (the late seventeenth century).

A change in the ceramics, similar to that which took place in the Dan River Ware, of the Indian groups of the rest of the Carolina and Virginia Piedmont is postulated. While limited data prevents more indepth analysis at this time, it is suggested that the Indian groups of the Southern

division included the Catawba, Essaw, Sugaree, Keyauwee, and "Yattken" Indians. The Sitteree of the upper Catawba drainage can be included in the Southern division, although the change in the ceramic tradition of these Indians, and the traits associated with the ceramics will differ from that of the other Southern groups due to the presence of influences from the Pisgah and Qualla (Cherokee) Phases of the Mountains. The Sara Indians on the upper Dan River represent the northern-most group of the Southern division. The changes in Dan River ceramics associated with these Indians have already been mentioned. The fact that the Sara moved south in the early 1700s, rather than to Fort Christiana in Virginia, supports their inclusion with the other groups of the Southern division. The fact that the Siouan Hill tribes identified with the Southern division all moved south during the early 1700s suggests some common link between them. Many of the groups who later incorporated with the Sara or Catawba after this initial move, such as the Waxhaw or Saxapahaw, cannot be classified as belonging to the Southern division of the Siouan Indians because of this merging. After the Tuscarora and Yamassee Wars, stress and pressure probably drove Indian groups of different cultural heritages and languages to join more powerful groups.

The Indians of the Northern division of the Piedmont Siouans include the Tutelo, Sapona, Occaneechi, and Stukanox. The Stukanox were composed of the remnants of the Manaken, Hanathaskie, and the other small Piedmont groups of Virginia. These four groups were the Indians who moved to Fort Christiana in Virginia during the first decade of the eighteenth century. A pattern of ceramic change similar to that noted for the Dan River Ware of the Dan River drainage probably marks the archaeological assemblages of these Indians. Some lag, relative to the Dan River ceramics, in the rate

at which smoothing replaced net impressing as the dominant surface finish should also exist. Connections with the Chesapeake area and other sections of the Middle Atlantic region dominates the hypothesized Northern Siouan ceramic tradition.

The locations of the Indian tribes associated with these three groupings suggested for the Indians of the Carolina and Virginia Piedmont changed through time. Figures 37, 38, and 39 show the posited location of these Indian groups at three points in time--1675, 1700, and 1711-1712. Two observations can be made about these placements. It is suggested that the Indian groups of the Carolina Piedmont visited by the Spanish explorations of the sixteenth century were located along the Wateree/Catawba and Yadkin/Pee Dee river drainages. At that time, the particular groups noted by the Spaniards and the other Piedmont Indian tribes are assumed to have been in the same general areas where they were found by the English a century later. The other point is that the Indians identified by John Lawson in 1701 as the Sapona may have been the group known to Lederer, and Needham and Arthur in the 1670s as the "Yattken". It is possible that Lawson mis-identified the Yadkin as the Sapona River, which means that the Indians inhabiting the river may also have been mis-named, for the name of the Indian group was derived from the name of the river. It is also possible that the Indians known as the Pee Dea (Pee Dee) in the eighteenth century represented the remnants of both the "Yattken" (Yadkin River) and Keyauwee (Uwharrie River) Indians. That all three took their names from various rivers of the Yadkin/Pee Dee drainage provided the evidence to support this conclusion. Even if the Sapona were on the Yadkin in 1701, the "Yattken", Keyauwee, and Pee Dea Indians may still have been



Figure 37.--Posited locations for the various Piedmont Indian groups in 1675.

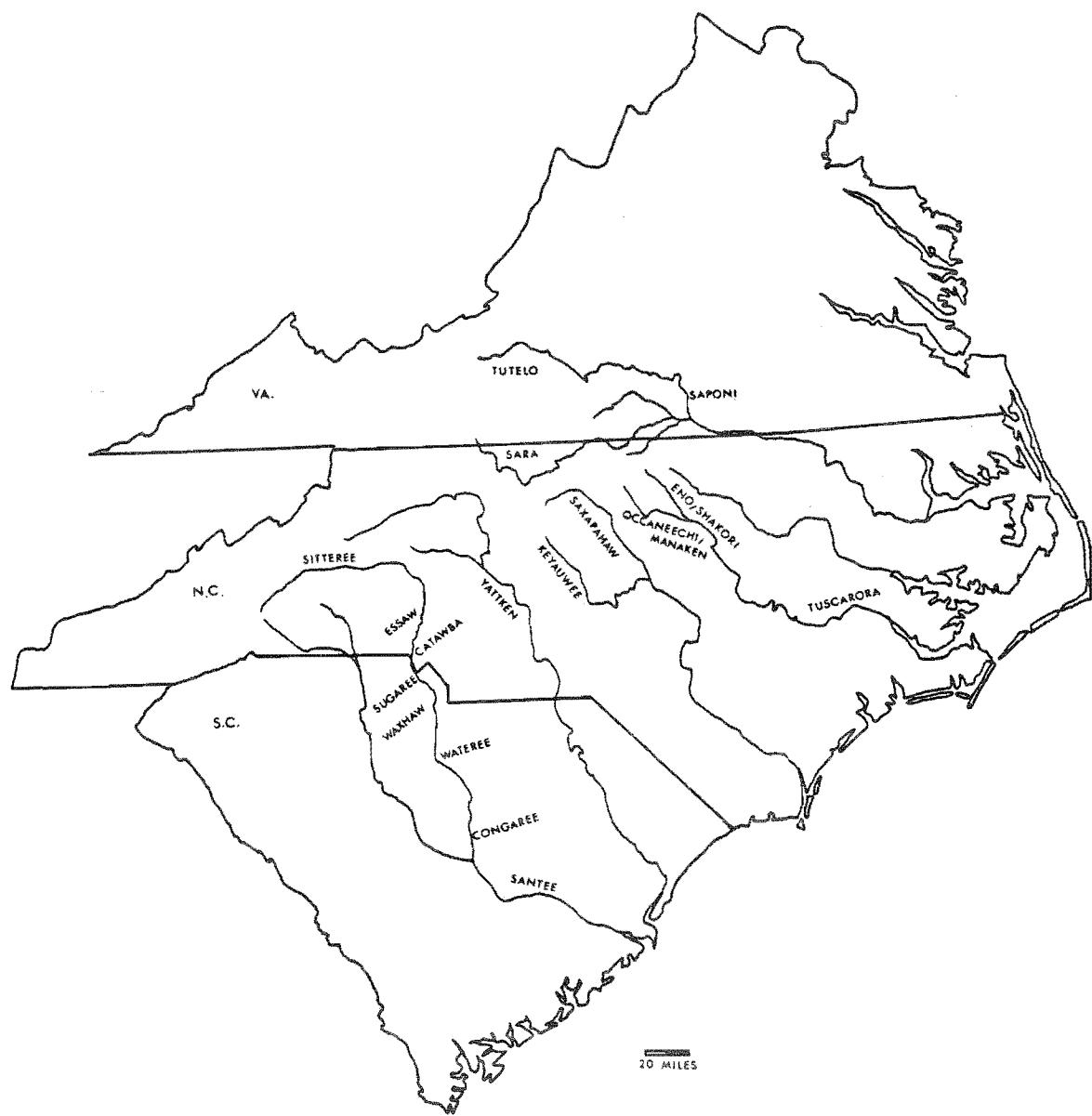


Figure 38.--Posited locations for the various Piedmont Indian groups in 1700.

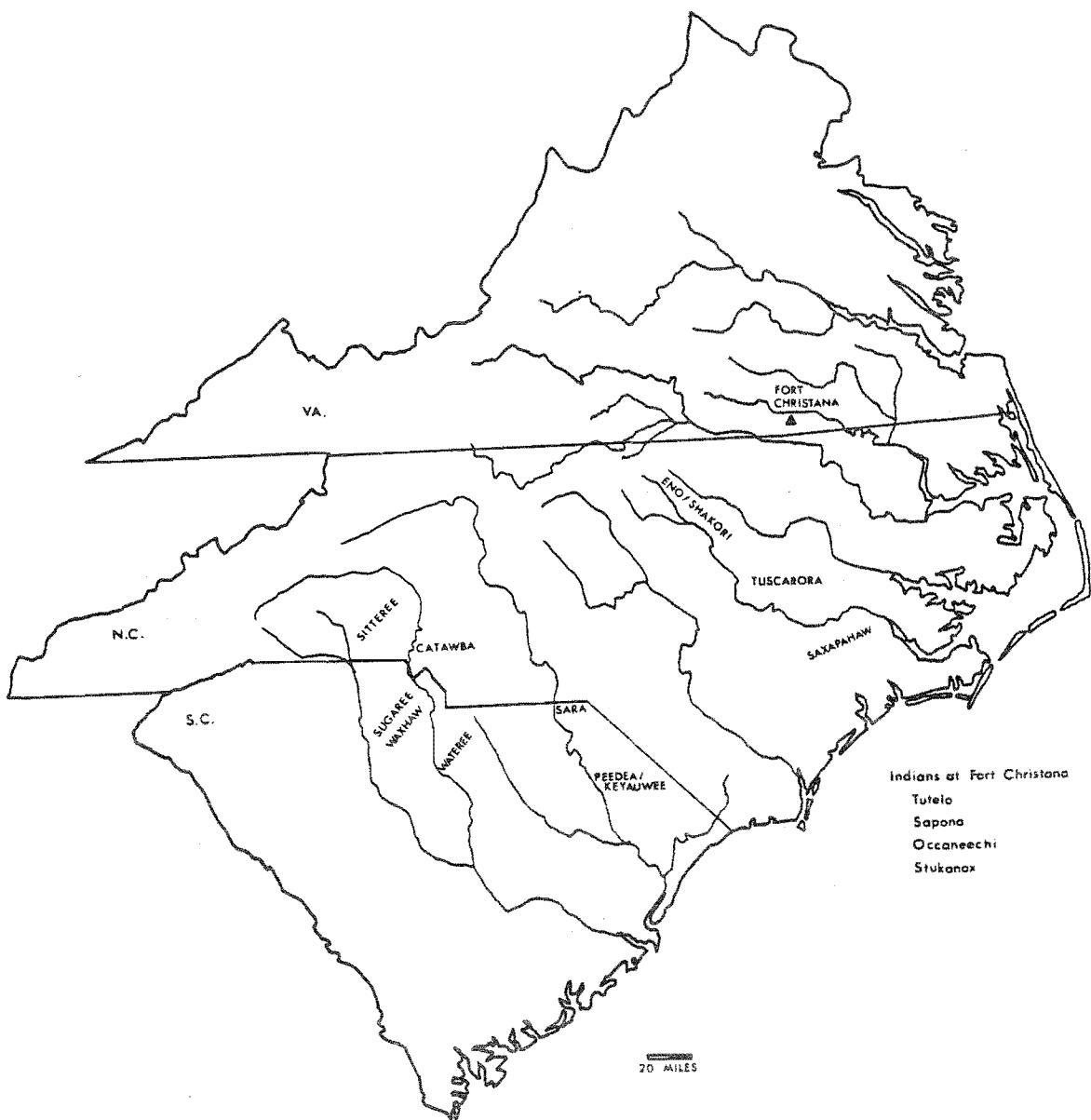


Figure 39.--Posited locations for the various Piedmont groups in 1711/1712.

related to one another. Only future archaeological research can shed light on these posited reconstructions.

The components of the material culture contained in the archaeological assemblages of the Piedmont Indian groups--the ceramics, floral remains, and faunal remains--which were analyzed for this work are marked by a steady increase in diversity through time from the Late Prehistoric to the Historic period. As noted earlier, the ceramic traditions of the Piedmont Indians continued a process of change initiated by the interaction of the Indian cultures of the Catawba River with the Pee Dee Focus. The increased and more intense interaction of all the Indian groups of the Piedmont with each other and with groups of the Mountains and Coastal Plain during the Protohistoric and Historic periods is documented by the increased diversity of the ceramic assemblages available for study. The question of whether the attributes of each ceramic tradition also became more randomly associated with one another, an indicator of disruption in the native social system (Deetz 1965, 1967), could not be addressed due to sample restrictions.

Matching the rise in diversity noted for the ceramics is the increase from the Late Prehistoric to the Historic period in the diversity of the faunal assemblages. This change suggests the move toward a more generalized, fine-grained use of the animal resources available for food and of their habitats. It is thought that the high diversity, which is assumed to be indicative of a wide niche breadth, exhibited by the floral remains from the Historic period site of 31SK1a is part of a similar, as yet uninvestigated, pattern of an increasingly generalized use of the floral environment through time.

These moves to a more generalized, fine-grained use of the environment is in agreement with the general proposition that a predictable and diverse environment leads to a coarse-grained, specialized use, while environmental unpredictability leads to a fine-grained, generalized use pattern (Levins 1966:427). In the presence of environmental fluctuations, Hardesty (1980:181) suggests that two general responses are possible for animal (and human) groups: 1) behavior or biological structure can change, as general ecological models assume; and 2) the environment can be changed through the use of biological structure, technology, social organization, and the like. The view taken here is that these responses are inseparable for human groups, because behavior, technology, social organization, etc., are all part of the environment, and changes in one subsystem will affect the other subsystems.

The changes noted in the ceramics, the faunal assemblages, and the floral remains are all part of the response of the Piedmont Indian groups to perturbations in the previously stable and predictable environment. The onset of increased warfare/competition with other Indian groups and the English colonists, the appearance of new diseases which decimated native society, and the effects the increased emphasis on the fur and skin trade had on the fundamental subsistence strategies tied to scheduling, contributed to the disruption of the environment and accounted for its increased unpredictability. The increasingly diffuse subsistence strategies represented by the faunal and floral remains is but one example of how the Piedmont Indians tried to cope with the uncertain environment by changing patterns of behavior. It may be that a looser, less organized social structure in which individual households, small bands, or some other unit smaller than the tribe became the focus of behavior.

Unfortunately, the nature and extent of the changes in the social structure of the Piedmont Indians required to adjust to the continual environmental fluctuations of the Protohistoric and Historic period cannot be addressed using the data available for study. Other datasets, including mortuary complexes, artifact categories other than ceramics, and additional ceramic, floral, and faunal assemblages, from all three periods will have to be analyzed before a better understanding of the Piedmont Indian social structure is obtained. Numerous other questions also need to be resolved by future research. The actual dynamics of the interaction of the Pee Dee Focus and the cultures of the Catawba and Yadkin Rivers, and the subsequent structural and processual changes in these cultures has not been researched archaeologically. The in depth investigation of the changed orientation and interaction patterns of the Indian groups of the Piedmont during the Late Prehistoric/Early Protohistoric period awaits study. Evidence of the Spanish presence in the Piedmont during the late 1500s has yet to be documented archaeologically. The lasting effects the brief Spanish intrusion had upon the Indian cultures of the Piedmont and the re-integration of the Indian cultures following the departure of the Spaniards have yet to be addressed. The pattern of change from the Late Prehistoric period through the Historic period is not adequately documented archaeologically for any of the known Indian groups of the Piedmont. The new adaptations and structural/processual changes required by the interaction with the fluctuating cultural-and-natural environment of the Piedmont during the seventeenth century, and the new environments encountered by each group after the Piedmont was abandoned in the early 1700s have not been investigated.

The identification of the actual locations of the Indian groups of the Piedmont through time should serve as the initial step in the investigation of these Indians, of the changing behavior patterns of these groups through time, and of the changing adaptations of the Indian cultures to the Piedmont and Coastal Plain environments. This includes careful documentation of these cultures for the various phases of the Late Prehistoric, Protohistoric, and Historic periods. Only with this kind of comprehensive data can true investigations of change be initiated.

## APPENDIX A

### THE EARLY SPANISH EXPLORATIONS AND THEIR INTERPRETATION BY PREVIOUS RESEARCHERS

#### Previous Research Concerning The Route Of Hernando De Soto

James Mooney (1894) was one of the first to consider the identity of the Indians the Spanish entrada under Hernando De Soto encountered at Xuala. This Indian town was important as it marked the point at which the march turned from north to west, and from which the Spaniards left the Piedmont and entered the Appalachian Mountains. For this study, the location of Xualla provides a datum from which the later course of the Spanish march can be tied, and thus elucidates the places and peoples encountered (see Figure 4). Likewise, Cofitachequi is important as its location fixes the path to, and possible situation of, Xuala.

Cofitachequi, the jumping off point for De Soto's journey to Xuala, was placed by Mooney (1894:57) at Silver Bluff on the Savannah River in Barnwell County, South Carolina. The Chalaque country through which the Spanish army marched after leaving Cofitachequi was equated to Cherokee land along the upper Savannah, and thus, Guaquili became a small Cherokee village. Mooney (1894:579) located Xuala in the inner section of the Piedmont "about the present line between South Carolina and North Carolina, southeast of Asheville, North Carolina."

The boundary between the territories of Xuala and Cofitachequi was identified as being either the Broad or Pacolet River (Mooney 1894:57). This separation appeared to have some meaning for the Spaniards even though

Mooney (1894:57) noted that Xuala and Cofitachequi were, according to De Soto's chroniclers, subject to the same Queen. Mooney (1894:57) suggested that this apparent close association between the Indian tribes of the area foreshadowed their consolidation into the Catawba a century and a half later. Mooney's major contribution, however, was to identify Xuala with a group of historically known Siouan Indians.

Through several linguistic convolutions, Xuala was equated with Sara, the name of a seventeenth-century Tribe in the Piedmont of North Carolina (see Chapter 6). The starting point for this process was the fact that the Spanish used "x" as the equivalent of "sh" when they wrote Indian names. Using this and other transformations, Xuala of the Spanish became the "Suala" of John Lederer, an explorer of the seventeenth century (see Chapter 6), Suali of the Cherokee, and the Saura, Sara or Cheraw of the seventeenth and eighteenth century English. Mooney (1894:57) reported that the trail leading through Swannanoa Gap east of Asheville, North Carolina was called the "Suwali trail" by the Cherokee, the path that led to the "Suwali" or "Ani-suwali", who lived east of the Mountains. Referring to Lederer (Talbot 1912:140), who stated that Sara (Suala in Spanish) was rendered as "Sualy", or "Sosa" in the "Warrennuncock" dialect,<sup>1</sup> Mooney (1894:57) noted that the interchange of "l" and "r" was most common in Indian dialects. Thus, Xuala was finally rendered into the English Sara, and a connection between a sixteenth-century and a seventeenth-century Indian group seemed to be substantiated.

Following in the footsteps of Mooney, John Swanton researched the path of De Soto as chairman of the De Soto Expedition Commission (1939), and

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These Indians were thought by Mooney (1894:67) to have been an Algonkian-speaking group.

later in his book The Indians of the Southeastern United States (1946). Swanton (1946:45) agreed with Mooney that Cofitachequi was situated at Silver Bluff on the South Carolina side of the Savannah River, about 20 miles below Augusta, Georgia. After traveling northeast from Cofitachequi toward the Saluda River, the Spanish found Guaquili after passing Chalaque. Swanton (1946:46) took Chalaque to be a form of the Muskogee word "Chilokee", which meant "people of a different language". This term later became permanently affixed to the Cherokee. However, Swanton believed that De Soto was referring to a people who spoke a Siouan language (which like Cherokee was different from Muskogean), rather than Cherokee. The implication was that the Siouan Indians had occupied the area of the Saluda and Broad Rivers in central South Carolina at the time of De Soto. In the years following the departure of the Spaniards (in the latter portion of the sixteenth century), the Siouan Indians moved to the northeast where the English later encountered them (Swanton 1939:50).

Again, depending on linguistic formulations, especially the "r" displacing/displaced by "l", Swanton undertook to identify the various territories and Indians encountered by De Soto. Cofitachequi became a Muskogee speaking people associated with the historic Coweta Creeks (Swanton 1939:49). He associated both Guaquili and Chalaque with Siouan speaking Indians (Swanton 1939:50). The town in the mountains, Guasili, Swanton (1939:50) thought was Cherokee, and it was associated with the Peachtree Mound archaeological site on the Hiawassee River (cf. Setzler and Jennings 1941). Chiaha, located six-days march beyond Guasili, was placed on the Tennessee River in the state of Tennessee, just before that river enters Alabama (Swanton 1939:202).

As for Xuala, Swanton accepted Mooney's rendering of the Spanish version of the Indian word into the English Sara. Given his own linguistic maneuvering, it would have been difficult not to do so. However, the location of Xuala was placed at the foot of the Appalachian Mountains on Towns Hill between Knox and Crane Creeks, near Walhalla in the extreme northeastern section of South Carolina (Swanton 1939:199-200; 1946:46). This location was more convenient to Peachtree than the location on the upper Broad drainage favored by Mooney.

Since the publication of the final report of the De Soto Commission, there has been disagreement with its interpretations of the route and identifications of the various Indian groups. Even before the appearance of the Commissson's report, the placement of Cofitachequi at Silver Bluff on the Savannah River favored by Mooney and Swanton, and the route from there to Guasili, and beyond, were being questioned. One advocate of a different location for Cofitachequi was Mary Ross (1930). Using Juan Pardo's account of his 1566 sojourn through the Carolinas (see Chapter 4), and Henry Woodward's relation of a journey to Cofitachequi in 1670 (see Chapter 6), Ross (1930:273-280) argued that this province was situated in the vicinity of Columbia, South Carolina along the Congaree River. Given this different point of departure, Xuala of Pardo's expedition (and of De Soto's) was placed in Polk County, North Carolina near the headwaters of the Broad River (Ross 1930:275). Association of Xuala, or any of the other towns encountered, with a specific Indian group was not attempted by Ross.

Douglas Rights (1947:6), as Ross, expressed the opinion that De Soto's Cofitachequi was located on the Congaree River, near Columbia, South Carolina. Rights (1947:7) arrived at this placement following an investigation of the territory and the documents covered by the expedition.

Xuala, accepted as being the Spanish version of the English Saura, was moved to Greenville County, South Carolina.

Chapman Milling (1940:68) noted that Swanton's placement of Xuala would have been in what was Cherokee country. Quoting from the Journals of the Commissioners of the Indian Trade for the Province of South Carolina (Volume VI:77), Milling (1940:68) found references to "a river called jouala where there is a great fall this side of the Savannah." Given the similarity in pronunciation of the Spanish Xuala and the English Jouala, Milling (1940:68-69) suggested as the location of Xuala a tributary of the Keowee River, or somewhere high up the South Fork of the Saluda River. Also, the name Saluda resembled Xuala when the latter was spelled as Xoada, as was occasionally done according to Swanton (1934:35). Milling (1940:71-72) agreed with Swanton that Cofitachequi was associated with the Kasihta or Coweeta Creek. These Indians, one of the two principle Indian groups of the historic Creek Confederacy of Alabama and central Georgia, were thought to have resided along the Savannah River prior to a hypothesized move westward.

More recently, Steven Baker (1974) has reinterpreted the route of De Soto through eastern Georgia and South Carolina. Baker (1974:86-103, V-6 to V-19) argues against a Savannah River/Silver Bluff placement of Cofitachequi. Instead, he located this fair province in South Carolina along the upper Santee River and lower Congaree and Wateree Rivers (which join to form the Santee) (Baker 1974:V-10, V-16, V-18). He places the town of Ilapi (ignored by most other researchers), which lay within 12 leagues (30 miles) of Cofitachequi, near Camden, South Carolina (Baker 1974:V-17). The enigmatic land of the "people who spoke differently", Chalaque, Baker puts within the Fall Zone (north of the Fall Line) along

the Wateree River. Guaquili is moved into North Carolina near Charlotte or Kannapolis (Baker 1974:V-19). Likewise, Xuala is placed in North Carolina, somewhere between the South Fork of the Yadkin and the Catawba River.

As can be seen, there has been much discussion and disagreement concerning the exact route De Soto followed and the Indians encountered. Because of his scholarly standing and his association with the Smithsonian Institution, Swanton's views have tended to overshadow those of the others. Unfortunately, in Swanton's day ethnohistoric accounts were all that could be consulted for information pertinent to the questions being asked. The archaeological record of the Historic period, especially the Indians of the Carolinas, was meager. As already noted, some researchers, in an attempt to better understand the identification of the route and the Indians, have incorporated into their research the relations of an expedition through the Carolinas a quarter century after De Soto.

#### Previous Interpretations Of The Explorations Of Juan Pardo

As with De Soto, a great many questions have been asked about the Pardo expedition, e.g., the routes followed on his two major journeys, the identity of the Indians encountered, and the location of these Indians in relation to the geography of the region. One item that was cleared up early was the identity of Juada--Jorada or Joara--, which was equated with De Soto's Xuala. Swanton (1946:109) noted that the Spanish "x" and "j" were equivalent to the English "sh". Thus, Joara was roughly equivalent to the English "Shoara" or Sara, Saura, Cheraw, etc. Also, Swanton (1939:196) argued that the Siouan "r" would have been changed to an "l" by De Soto's Muskogean interpreters. This would have rendered the Spanish Xuala as the Muskogean form of the Siouan Xuara or Juara. The latter was fairly close

to Vandera's version--Joara. As we have already seen, Mooney equated Sara/Saura with Xuala by transforming the "x" to "sh" and the "l" to "r" using linguistic rules from the Cherokee and Siouan languages.

Unfortunately, Mooney did not have access to an account of Pardo's journeys, at least he did not mention the Spaniard in his analysis of the Sara/Cheraw Indians (Mooney 1894:57-58). Mary Ross was the first to consider Pardo's adventures as they related to De Soto and the overall ethnohistory of the Indians of the Carolinas. Ross identified Pardo's Guiamae with De Soto's Hymayi, the first town encountered after De Soto and his army had crossed a great wilderness, and the first town before "Cofitachequi". Ross (1930:271) located Guiamae on the upper Edisto River in Orangeburg County, South Carolina (Figure 5). Canos or Cofitachequi, spelled Cofetazque by Vandera, was situated in a "land of red clay", and, according to Ross, this was along the Congaree River. Cofitachequi had been placed 50 leagues from Santa Elena by the Pardo accounts on "one of two large rivers". Ross identified these two large rivers as the Congaree and Wateree, upstream from where the two join to form the Santee River. The area in which Cofitachequi lay was thus in the vicinity of present-day Columbia, South Carolina, a fair distance from the Savannah River locale favored by Swanton and Mooney. By Ross's interpretation, Pardo's army pushed up the Congaree valley, upon which the two towns of Tagaya were found. Pardo then entered Ysa (Issa) territory, where he encountered an unnamed village. Ross equated Ysa with the Essaw and later Catawba. The upper Broad River in South and North Carolina was nominated as the country of the Ysa or Essaw at this time. Leaving the Ysa, Pardo marched up the Broad River into Polk County, North Carolina, an area near the headwaters

of both the Wateree/Catawba and French Broad Rivers, the latter a northwestward flowing stream.

In this area of Polk County, Ross placed the town of Xuala. Snow was on the peaks of the surrounding mountains, the gateway to the Blue Ridge. Ross (1930:275) speculated that the word Xuala survived as "Qualla" amongst the Cherokee, located over the Swannanoa Gap in Western North Carolina. The river on which Xuala was situated was said by the Spaniards to flow east, and Ross (1930:275) took the upper Wateree/Catawba River to be that stream. Using the distances from Xuala to Santa Elena supplied by Vandera and Martinez, 100 and 120 leagues (250 to 300 miles) respectively, Xuala could have been somewhere within this section of the Carolinas.

Quihanaqui, and another unnamed Indian village encountered by Pardo on his initial trip after departing from Xuala for the east, were placed on the upper Wateree/Catawba River, southeast of the latter town. From here, Ross had Pardo leave the Wateree/Catawba and travel southeast toward the Yadkin River. The town of Guatari, equated with the "Wateree" Indians, was located on the Yadkin. Upon being ordered back to Santa Elena to meet the French threat, Pardo moved back to the Wateree/Catawba drainage. On the Wateree, he found the great town of Otari (Guatariatique), Aracuchi, and an unnamed town, all probably within the borders of South Carolina. Crossing over to the Congaree/Broad River, Pardo encountered Little Tagaya, where he picked up his original path that had led him north. Tagaya, Cofitachequi, and Guiamae, all on the Congaree River, were each passed in turn as Pardo made his way back to the coast.

On Pardo's second journey into the backlands, he chose a more direct route to Xuala that bypassed Ysa, led up the Wateree River, and then switched over to the Yadkin. After Xuala, Ross (1930:279-282) placed the

Indian towns that Pardo encountered after ascending into the sierra as follows: Tocalques was apparently meant to be on the upper waters of the Little Tennessee River in the vicinity of Jackson County, North Carolina; Cauchi, the Coweechee of the later English, was on a lower branch of the Little Tennessee River; Tanasqui, which Ross identified as the town known later as Conostee, was on "a copious river", the Hiawassee near the North Carolina/Georgia state line; Chiaha, where Pardo found Sergeant Boyano waiting, was near Rome, Georgia in the vicinity of the Oostanaula and Etowah Rivers. From here, the trail that led to Cossa matched the one De Soto had followed 25 years earlier (Ross 1930:279).

The De Soto Commission (Swanton 1939:196-198), headed by Swanton, considered Pardo's account in light of its value in confirming their route for De Soto along the Savannah River and northwest towards Walhalla, South Carolina from Cofitachequi. Cofitachequi was placed on the Savannah River. Guatari was identified with the Wateree Indians (as most have done), who never strayed far from their home on the Wateree River where they were found by the English a century after Pardo. This was the cornerstone of the Commission's use of Pardo to corroborate their placing Cofitachequi on the Savannah, and Xuala near Walhalla. The Wateree River location for Guatari was convenient, as it was east of the Savannah River and southeast of Walhalla. Pardo's first journey inland through Ysa to Xuala and then over to Guatari, provided the large loop demanded by Swanton's interpretation of the cultural geography. This required that the other Siouan groups, such as the Essaws ("Ysa"), be positioned in the area just east of the Savannah River, far from their Wateree/Catawba River homes of some 100 years later.

To deal with this difficulty, Swanton (1946:64-70) later traced Pardo's route from Santa Elena west and north along the Coosawhatchie

River of southern South Carolina to Canos or Cofitachequi on the Savannah River. Ysa may, or may not, have been the later Siouan Issa, Iswa or Essaw, who in turn came to be associated with the historic Catawba. The name meant River, and could have been applied to some other "people of the river". The general conclusion by Swanton, however, was that the Catawba were in control of northwestern South Carolina in 1566. The Guatari were identified as the Wateree and placed on the Wateree or Broad River in South Carolina. Otari or Guatariatiqui was interpreted to be a branch of the Wateree Indians, and were equated with the Wateree Chickanee or Little Wateree Indians whom Lawson found on the Wateree River in 1701 below the main body of the Wateree. The junction where Pardo met his original trail north on his first journey was placed by Swanton on the Savannah River about 40 miles north of Augusta, Georgia.

The Pardo accounts state that the river of Guatari, after passing Otari/Guatariatiqui, eventually flowed by two Indian groups/towns called Sauapa and Usi. Here, salt was made near the sea, some sixty leagues up the coast from Santa Elena. According to Swanton (1946:66) and Mooney (1894:64), Usi could be a synonym for Ysa or Issa, known to the English as the Essaw. Sauapa was thought to be the Saxapahaw of the seventeenth and eighteenth centuries, although a location on the Lower Santee or Pee Dee River was far from where the English later found them in central North Carolina. The river of Guatari was identified with the Santee. And Guiamaiz, the last town encountered before Cofitachequi when traveling north, was not the town of De Soto's Hymahi, as Ross had suggested. Instead, it was a Muskhogean village. Swanton associated the Wimbees, who later were found on the coast of South Carolina, with Guiamaiz. Cofitachequi was likewise a Muskhogee center affiliated with the later

Lower Creek Indians. Tagaya may have been Muskhogean, but was probably a Siouan settlement (as Swanton intimated in 1939). Gueza was connected with the Waxhaw Indians, a non-Siouan group. Aracuchi and Quinahaqui were probably also Siouan. Ysa was obviously the Essaw, perhaps the main part of the Catawba Tribe. Aguaquiri, south of the Ysa, was probably Guaquili of De Soto's time, given the transformation of the Muskogean "l" into a Siouan "r". Joara, Juada, and Xuala were without a doubt the Saraw or Cheraw, located at this time in the extreme western part of South Carolina.

Further proof concerning his interpretations was found in the identity of the first town that Pardo and Boyano passed through west of Xuala on the road to Cossa in 1567 (Swanton 1946:47). This town, Tocalques (Tocar), was placed on a small tributary of the Hiawassee River in extreme southwestern North Carolina. Here, a mound on a tributary of the Hiawassee, Peachtree Creek, was excavated in the early 1930's (Setzler and Jennings 1941), and was identified as the remains of this town. Tocalques was supposedly the same as De Soto's Guasili, the first town he reached after passing into the sierra west of "Xuala". The difference in the language of the Muskogean interpreters accompanying De Soto and that of the Siouan with Pardo was given as the reason for the difference in the two names for the same town. At the time, Peachtree was the only archaeological site from the southern Appalachians that had been reported in depth. This fact heavily influenced Swanton's placement of Xuala and the routes of the Spanish explorers.

These identifications required a later shift in the location of the Indian groups of the Carolinas and Georgia. The Siouan speakers had to be moved from central and western South Carolina to central North Carolina and north central South Carolina. Likewise, the Muskhogeans had to be moved from the middle Savannah River to the west into central Georgia and

Alabama. Swanton (1946:67) was apparently convinced that he had proven the validity of these movements, primarily because the Siouans were located in the late sixteenth century where he had said they were, and in the middle seventeenth century they were found to the northeast. Swanton (1946:66) posited that the impetus behind the move was a fear of the Spaniards and pressure from the Cherokee, who were themselves moving around the Southeast.

Douglas Rights took up one of the central questions involved with the Pardo and De Soto chronicles, the location of Xuala. According to Rights (1935:24), Xuala could have been located in the Uwharrie Mountain range of the central Piedmont of North Carolina. Using the interchange of the "l" and "r" in the Indian languages of the area, and taking a Spanish pronunciation of Xuala, one was left with "Huara" or "Huarrie". As the Sara, Xuala in Spanish, Indians were encountered along the middle Yadkin River near Salisbury, North Carolina in 1670 (see the account of John Lederer in Chapter 6), the association of Xuala with Uwharrie was a strong possibility in Rights view. This interpretation was not maintained for very long, and was modified shortly.

In 1947, Rights (8-9) took up the matter of Pardo's account in detail, and offered the following reconstruction of the identity of the various Indian groups mentioned. He interpreted Pardo's route as leading from the Beaufort area on the coast of South Carolina to the headwaters of the Edisto River in central South Carolina, and from thence over to Cofitachequi on the Congaree River. Rights (1947:8-9) identified the various Indian groups Pardo's account mentioned as the Catawba, Wateree, Saxapahaw, and Saura for the Issa, Guatari, Sauxpa, and Joara (Xuala) respectively. Xuala was moved to Greenville County, South Carolina. Tocar

was placed at Toccoa Falls in northeast Georgia, as the Siouan word "Tukor" supposedly meant "to fall".

Steven Baker (1974:107-110) in his study of the kingdom of Cofitachequi joined Rights and the others who disagreed with Swanton's interpretations of Pardo's route. The general direction of Pardo from Santa Elena was thought to have been north toward the upper Santee River, which resulted in a non-Savannah River home for Cofitachequi. Baker agreed with Ross that Pardo's Guaimae was equivalent to De Soto's Hymahi. Cofitachequi/Canos was placed near the High Hills of the Santee below the confluences of the Congaree and Wateree Rivers. From Cofitachequi, Pardo traveled up the Wateree River valley to Tagaya and Little Tagaya, which Baker (1974:108) located just over the "Fall Line". The Ysa/Issa were the Essaws, who were located on the upper Wateree where they were found by the English in the 1670s. To this point, Baker argued that Pardo's route roughly coincided with the same trail that John Lawson followed in 1701 (see Chapter 8). Whereas Lawson turned to the northeast from the Essaw, Pardo continued north up the Catawba/Wateree River to Joara at the foot of the Blue Ridge. Joara and De Soto's Xuala were accepted as being the same, and was located on the Catawba/Wateree River in North Carolina.

Pardo's journey east from Xuala on his first trip was routed by Baker (1974:108) down the Catawba/Wateree River, then over to the Yadkin (and perhaps even further east to the Cape Fear drainage). Guatari was located on either of these latter two rivers within site of mountains or hills, and was accepted as being equivalent to the Wateree Indians. The town of Otari, encountered upon Pardo's return to the Wateree River Valley, was imprecisely placed somewhere within the Fall Zone in the Piedmont on the edge of the Coastal Plain (Baker 1974:108).

## APPENDIX B

### INTERPRETATIONS OF FOUR ENGLISH EXPLORATIONS BY PREVIOUS RESEARCHERS

#### A Discussion Of John Lederer's Chaos

Even before the publication of his accounts by Sir William Talbot of Maryland in 1672, John Lederer was dogged by the ill fame and fortune that came to mark his place in history. Following the last of his explorations, a march west to the Appalachian Mountains from the falls of the Rappahanock River in late summer and early fall of 1670, Lederer apparently moved abruptly to Maryland (Alvord and Bidgood 1912:63). The reason Lederer gave for his departure was popular anger aimed at him because of the large subsidies Governor Berkeley had given him. Alvord and Bidgood found records that indicated a Dr. Lederer's estate in Surry County, Virginia was attached for debt in 1673, some two years after John Lederer had retired to Maryland. It was during his stay in Maryland that Sir William Talbot collected Lederer's stories and notes. Talbot translated the manuscripts into English from the Latin, and published the account in 1672. The role Lederer played in this project has been lost to history. The original notes made by Lederer, and those made by Talbot, have also disappeared. This fact, combined with his supposedly shady character (according to Alvord and Bidgood), has played havoc with attempting to interpret Lederer's route and expositions.

The various viewpoints scholars have had concerning the work ranged from accepting Lederer's account as truth to doubting that Lederer was ever in Carolina, and to suggesting that parts were true and parts were a

product of Lederer's imagination. The general feeling was that Lederer made only part of the journey he described, either to the James River at the foot of the Blue Ridge, or perhaps as far as "Sara", with the rest of the information representing what was told him by Indian informants (Mooney 1894:70; Thomas 1903: 724-727; Alvord and Bidgood 1912:63, 67-69; Milling 1940:209; Swanton 1946:110; Rights 1947:62-66; Cumming 1962:28-34, 75-77).

William P. Cumming (1962:28-34, 75-77) and Steven Baker (1974:III-1 to III-3) viewed Lederer more sympathetically. Cummings (1962:77) noted that most of the problems modern scholars have derived from their own misinterpretation of what Lederer (or maybe Talbot) said, and the admitted difficulty with the Indian names. Baker (1974:III-4 to III-5) emphasized the potential problems that Talbot's compilation and translation of Lederer's accounts, the latter written in scholastic Latin, could have introduced. With the original documents lost, all the later works were based on Talbot's rendition. As Baker underscored, Talbot was a translator of unknown ability and "fidelity". Simply put, there was no guarantee that Talbot had been faithful to Lederer's original account. Baker (1974:III-5) noted that Talbot was criticized for misrepresenting Lederer's fact at the time of the original publication, even by his (Talbot's) close family and friends. And as Cumming (1962:77) was the first to point out, Lederer's accounts, and Talbot's rendering of them, could have been affected by his post-journey conversations with Talbot.

Steven Baker's (1974:III-5 to III-28) interpretation of Lederer's route was based on the assumption that Talbot made mistakes in the course of translating Lederer's accounts. Also, Baker (1974:III-28) equated the Indians known as the Ushery to the Virginia colonials with Cofitachequi of the South Carolina colonists of 1670 (see Woodward's relations in Chapter

6) and the sixteenth century Spanish. Baker's (1974:III-13, III-16, III-17) configuration has the Sara somewhere near Cheraw, South Carolina on the Pee Dee River where the Sara were located in the first quarter of the 18th century. By this later date the Sara had become known as the Cheraw. The "Lake of Ushery" was pushed downstream from the Rock Hill, South Carolina area along the upper Wateree River, favored by most researchers, to the confluence of the Congaree and Wateree Rivers where the Santee River was formed (Baker 1974:III-15, III-19 to III-24). "Wisacky", encountered by Lederer after departing "Sara" was positioned on the Lynches River south-southwest of Cheraw, South Carolina (Baker 1974:III-18, III-19). The Wisacky were the Waxhaw, and the "Oustacks, the deadly enemies of the Ushery, became identified with the Indians along the upper Savannah River known to the South Carolina colony in the mid-1670's as the Westo (Baker 1974:III-28).

#### Previous Considerations Of The Explorations Of Batts And Fallam

Alvord and Bidgood (1912:70-74) discussed the 1671 journey of Batts and Fallam in some detail. Most of the Indian groups were easily identified by Alvord and Bidgood with counterparts that played a continued role in the history of the Carolina and Virginia Piedmont into the eighteenth century. The Apamatock Indians were the Appomattox Indians who lived in the vicinity of Fort Henry. One of the two Saponi villages a five day trip west of Fort Henry was probably the same one reported by Lederer a year earlier. The Hanathaskie Indians were the only unknown group, but they could be placed on an island in the Roanoke River north of its confluence with the Dan River. The "Tetera" (Tutelo) Town was placed near modern-day Roanoke/Salem, Virginia over the Blue Ridge in western Virginia. According

to Alvord and Bidgood, the route followed from there by Batts and Fallam led to the southwest to the head of the Roanoke River, and then on to the New River near Radford, Virginia. The valley of the New River was followed to the northwest, and the journey ended at Peters Falls on the Virginia/West Virginia state line.

A number of years after Alvord and Bidgood's obwervations were made, John Swanton (1946: 152, 157, 178, and 200) considered the trip of Batts and Fallam as it related to each of the Indian groups encountered. Swanton's version followed Alvord and Bidgood's lead. The Sapona were placed on the Otter River in Campbell County, Virginia. The Hanathaskies were thought to be the Nahysson Indians, and were placed on the Staunton River west of the Sapony. And the Tutelo were put on the upper Roanoke River near Salem, Virginia.

James Mooney (1894:34-36) was the earliest to consider the route of Batts and Fallam. The Appomattox Town from which the explorers started their adventure was placed at Bermuda Hundred near Petersburg, Virginia. The Sapony village was situated on the Otter River some 140 miles west of the Appomattox Indians. Mooney noted that this was the same locale where Lederer had encountered the Sapony. The Hanathaskies, 25 miles north of west from the Sapony, were located on a branch of the Staunton (Roanoke) River in Bedford County, Virginia. These Indians were identified with the "Monahassanugh", who, in 1609, John Smith (1624) had noted were somewhere southwest of the confluence of the James and Rivanna River (Mooney 1894). The Hanathaskies later incorporated with the Stukanox according to Mooney (1894:29-37). After following a general southwesterly course for about 100 miles, the Tetera Town was found by the expedition near the headwaters of the Roanoke River, or possibly that of the Dan River. Mooney felt that

this was in the vicinity of Stuart, Patrick County, Virginia or just over the border in North Carolina. From here, they pushed west across the Blue Ridge and entered the valley of the headwaters of the New River in the area around Mouth of Wilson, Virginia.

#### Interpretations Of The Travels Of James Needham And Gabriel Arthur

Before beginning a discussion of the travails of Needham and Arthur, an aside about James Needham will be delivered. On September 22, 1670 there arrived in Charles Towne on the Ashley River in South Carolina a boat named the "Carolina" that had as a passenger one "Jas. Needham" (Cheeves 1897: 271). Apparently this Needham gained possession of a plot of land for "Jas. Needham" was listed as a freeholder in March of 1671 (Cheeves 1897:302). Shortly thereafter, all of the possessions of James Needham were attached by the colony pending the adjudication of a petition drawn against him by one Edward Roberts of "Barbadoes" (Cheeves 1897:345). The outcome of this suit has not been discovered, but Needham apparently did not fall far from favor with the South Carolina officials. In August of 1672, Dr. Henry Woodward, the noted explorer, and a James Needham were ordered to St. Helena (Port Royal or Beaufort) to recapture or kill a traitor, Bryan Fitzpatrick, who had deserted the colony for the Spaniards (Cheeves 1897:411). Prior to this event, Dr. Henry Woodward had been sent to Virginia in July of 1671 via the backwoods to explore the country (Cheeves 1897:188, 329, 338, 349, 354-355, and 411). In February of 1672, "Cotachico", Emperor of "Chufytachiquj" (Cofitachequi), arrived in Charles Town and reported that Woodward had arrived at "Roanoak near Virginia" (Cheeves 1897:388). Details of this journey by Dr. Woodward and the names of anyone who accompanied him, if anyone did, have been lost. It is

interesting to note that, in August of 1672, Woodward and Needham were apparently acting as a team, at least in the eyes of the South Carolina governing officials. Circumstantial evidence would lead one to suspect that Needham accompanied Woodward on his expedition to Virginia in 1671/1672. This experience would have served him well in being chosen by Abraham Wood for the purpose of contacting the Tomahitian Indians. Needham would have been familiar with the route through the Piedmont and have been valuable in guiding any party to the turnoff to the Mountains. However, definite evidence of this association between Woodward and Needham has not been found, and remains only speculation.

As for the Indians of the Piedmont that were encountered by Needham and Arthur, various authorites have given thought to their location and identification. Alvord and Bidgood (1912:79-89) considered some, but not all, of the Indian groups named. The Occehenechee were associated with the Occaneechi Indians, and their town placed at its traditional location, Occaneechi Island, in the Roanoke River at Clarkesville, Virginia, just below the confluence of the Dan and Staunton Rivers. The town of Sitteree was located somewhere on the headwaters of the Yadkin River. The Tomahitian Indians were identified as the "Mohetan" of Batts and Fallam--the Cherokee of the North Carolina Blue Ridge. The position of the Tomahatian Town was placed in the vicinity of the Tennessee River, or one of its main branches, probably the French Broad or the Little Tennessee River. Unfortunately the location of the other Indian Towns encountered, including Yattken, Sarrah, and Aeno, were not considered by Alvord and Bidgood.

Douglas Rights (1935:18-20; 1945:67-70) took up the route of Needham and Arthur along the Occaneechi Trail in two publications. Both works

varied little in detail. The Occoheneechee Town was placed on the Island near Clarkesville. From there the same path followed three years earlier by John Lederer was traveled by Needham and Arthur. Sitteree was identified as the Sugaree Indian village (later part of the Catawba Nation) at the mouth of Sugar Creek on the Catawba River near present day Rock Hill, South Carolina. From Sitteree, where Needham and Arthur set out for the mountains, Rights had them cross the Blue Ridge west of Chimney Rock near Hickory Nut Gap in Henderson County, North Carolina, or through the Swannanoa Gap east of Black Mountain, North Carolina. The home of the Tomahitians, the Cherokee Indians, was placed on the Tennessee River.

As for the Indians of the Piedmont of North Carolina, Rights noted that Sarrah was probably the Sara Town visited by Lederer. The Yattken Town, near where Needham was murdered, was thought to have been at Trading Ford on the Yadkin River, just downstream from present day Salisbury, North Carolina. The Sara Indians were thought by Rights to have resided at this location on the Yadkin River. The Sarrah River was identified as the Uwharrie River.

Swanton (1946:110, 131, 164, and 208) rendered the account of Needham and Arthur as it related to the individual Indian groups. The Occoheneechee were put where everyone else had, on Occaneechi Island near Clarkesville, Virginia. At the headwaters of the Tar and Neuse Rivers, on the Eno River in North Carolina, Swanton located Aeno Town and the Eno Indians. The Sarrah (Sara) were placed in an area somewhere between the main channels of the Cape Fear and Yadkin Rivers. The Yattken (Yadkin) Indians were thought to have been either the Sara or Keyauwee. The Tomahitians were not identified by Swanton as the Cherokee, but as the Yuchi of eastern Tennessee.

Ernst Lewis (1951:24-26) was interested in Needham and Arthur's story primarily as it concerned the Sara Indians. The Aeno Town was interpreted to be on the headwaters of the Neuse River, as Swanton had indicated. The location of the Sarrah River, the Sarrah village, and the Sarrah Indians in general was not definitely identified by Lewis. Instead, the works of Alvord and Bidgood (1912), Rights (1947), and Swanton (1946) were cited, and a general statement made that in the 1670's the Sara were well south of their known village on the Dan River where they were found in the latter portions of the seventeenth and the early eighteenth centuries (Lewis 1951:25). Lewis (1951:25) was able to narrow Swanton's location for the Sara in 1673 to either the upper Uwharrie River or the Deep River.

#### Previous Discussions Of The Travels Of John Lawson

Given the detail of John Lawson's account and that it was published as he intended, there have been many researchers who have studied all or part of Lawson's itinerary, including James Mooney (1894), John Swanton (1946), Douglas Rights (1935 and 1947), Francis Harris (1937), Chapman Milling (1940), Hugh Lefler (1967), Douglas Brown (1968), Charles Hudson (1970), and Steven Baker (1974). The discussion presented below will provide a general overview of Lawson's route and the identification of the Indians he encountered. It should be noted that no two of the interpretations of Lawson's route, and consequently the location and affiliation of the Indians encountered, agree with one another. Considerable variation is the order of the day when the viewpoints of each researcher are considered.

The beginning point of Lawson's journey on December 28, 1700 at Charles Town (Charleston), South Carolina is not disputed. All the researchers located the Santee Indians on the upper Santee River between

the French Huguenot settlements to the southeast and the confluence of the Congaree and Wateree Rivers to the northwest. Problems start with the Congaree Indians, as some favor the Congaree River near Columbia, South Carolina as the most likely spot for these Indians (Rights 1947:73; Lefler 1967:xii). The opposing view has these Indians somewhere on the lower Wateree River or the east bank of the Santee River (Mooney 1894:41; Swanton 1946:124; Baker 1974:II-14).

Most researchers agree that the next group of Indians encountered, the Wateree Chickanee, probably were situated on the Wateree River some miles upstream from its confluence with the Congaree. Rights (1947:74) and Lefler (1967:xii) suggested the vicinity of Great Falls, South Carolina as their home. Swanton (1945:204) and Baker (1974:II-16, II-17) both chose the Camden, South Carolina area.

A great difference of opinion exists as to the whereabouts of the Waxhaw Indians, who were called Waxsaw by Lawson. Lefler (1967:xii) and Rights (1935:15) chose a tributary of the Wateree/Catawba River, Waxhaw Creek, just over the state line in North Carolina, as the probable location of the Waxhaw. Later, Rights (1945:74) revised his position, and joined with Mooney (1894:74) and Baker (1974:II-17) in placing the Waxhaw along the east bank of the Catawba River in Lancaster County, South Carolina, near where Waxhaw Creek empties into the river. Swanton (1946:206) covered most of the possibilities available when he listed Lancaster County, South Carolina, and parts of Union and Mecklenburg Counties, North Carolina, as the probable location of the Waxhaw.

A very important question underscored by the account of Lawson, pertinent to the ethnohistory and identification of the Siouan Indians of the Carolina Piedmont in general, is the identity of the Catawba Indians

and the various groups associated with them, particularly the Essaw, Sugaree, and "Kadapou". The association of the Catawba Indians of the eighteenth century, and later, with the Essaw Indians who are mentioned so often in the colonial archives of the seventeenth century, and possibly with Cofitachequi of an even earlier era, has as yet not been resolved (cf. Baker 1975). The location of the Essaw, Sugaree, and Kadapou Indians of Lawson's account has also been marked by a lack of consensus. The Essaw were placed along a tributary of Rocky River near the town of Monroe, North Carolina by Lefler (1967:xii). Rights (1947:77) equated the Essaw with the Kadapou, and interpreted the Kadopou King's house, located at the Kadapou Town near the mouth of Sugar Creek on the Wateree/Catawba River in South Carolina, to be the center of the nation. Likewise, Mooney (1894:41) equated the Essaw and Kadapou with the Catawba, as did Swanton (1946:104). Like Rights, a location for these Indians along the Catawba River near the North and South Carolina state line was favored by these two. Baker (1974) attempted to study the Catawba as a late formed confederation of the Indians who lived along the Wateree/Catawba River in the vicinity of Rock Hill, South Carolina. The Essaw were a separate group who were gradually displaced as the leader of the confederation that evolved into the Catawba "Nation". Baker (1974:II-18, II-22) felt that the Essaw inhabited an area along the Catawba River near Rock Hill, South Carolina just upstream from the mouth of Sugar Creek.

The second of the three tribes usually associated with the Catawba, the Sugaree, Lefler (1967:xiii) placed somewhere in Union County, North Carolina between Monroe and Unionville. Rights (1947:77), Mooney (1894:74), and Swanton (1946:186) all chose the Catawba River in the vicinity of Sugar Creek southeast of Rock Hill, South Carolina as the home

of the Sugaree Indians. Baker (1974:II-18, II-22) also picked Sugar Creek, and narrowed his location choice to the middle reaches of the creek south of the North and South Carolina state line.

We have already seen that Rights, Mooney and Swanton concatenated the Essaw and Kadapou Indians into a Catawba "Nation". Lefler kept the two separate, and placed the Kadapou Town near Unionville, North Carolina. Baker chose the upper reaches of Sugar Creek in the around Charlotte, specifically the vicinity of Pineville, North Carolina, for the location of the Kadapou.

Whererever and whoever the Kadopou may or may not have been, their location in the general vicinity of the North and South Carolina state line between Rock Hill, South Carolina and Charlotte, North Carolina is more or less accepted by most researchers. From the Kadapou, Lawson moved to either the north or northeast towards the Yadkin River. Near modern day Salisbury, North Carolina the Sapona Town was found, on the river of the same name. Everyone agrees that the Sapona River is the Yadkin. The general location favored for this village is Trading Ford on the Yadkin River downstream from Salisbury, which currently rests under the calm waters of man-made High Rock Lake (Mooney 1894:41; Swanton 1946:178; Rights 1947:78-79; Lefler 1967:xiii). Baker (1974) did not consider Lawson's journey once he left the Kadapou King's Town.

From the Yadkin, Lawson continued to the northeast along the Occaneechi Trail. The Rocky River was crossed after he had traveled but eight miles and has usually been identified as Abbott's Creek near Lexington, North Carolina (Mooney 1894: 41; Rights 1947:81-82; Lefler 1967:xii). Lawson's destination, Keyauwee has been located in a variety of places in the midlands of the Carolina Piedmont. Mooney (1894:41, 61)

thought that "Keyauwee" was situated near High Point, North Carolina in Guilford County. Swanton (1946:145) followed Mooney's lead, and indicated that High Point was the most likely location of Keyauwee. Rights (1947:83) and Lefler (1967:xiii) disagree with this location, and one of the few available pieces of archaeological evidence which was interpreted as being representative of a group of Historic period Indians to support their argument. These data were derived from the excavation in the late 1930s of a site on Caraway Creek, a tributary of the Uwharrie River in Randolph County just west of Asheboro, North Carolina. The archaeology was conducted by the Archaeological Society of North Carolina and the University of North Carolina at Chapel Hill (Coe 1937; 1964:6). Rights, Lefler and Coe all felt that this location on Caraway Creek was the long lost site of Keyauwee (see Chapter 16 for a re-evaluation of this data).

From Keyauwee Lawson journeyed to the Haw River. Mooney (1894:41) had Lawson follow a more northerly route, and placed the crossing of the Haw near Graham, North Carolina. Rights (1947:85-86) and Lefler (1967:xiv) worked with a more southerly location for Keyauwee, and accordingly had Lawson cross the Haw in the vicinity of Swepsonville or Saxapahaw, North Carolina. The rivers and streams crossed between Keyauwee and the Haw were the Deep River, Polecat Creek, Big Alamance River, and Little Alamance River.

The immediate goal of Lawson after setting out from Keyauwee had been Achonechy. Concensus places this town, identified with the Occaneechi Indians, on the upper Eno River near Hillsborough, North Carolina (Mooney 1894:41; Swanton 1946:164; Rights 1947:86; Lefler 1967:xiv). Archaeological excavations near Hillsborough were conducted by the Archaeological Society of North Carolina and the Research Laboratories of

Anthropology of the University of North Carolina in the late 1930s and early 1940s (Coe 1952:311, 1964:6) at a site interpreted to be Achonechy according to Rights, Coe and Lefler (see Chapter 16 for a re-evaluation of this archaeological material).

At Occaneechi, the Trading Path was left behind and Lawson pursued a course more to the east. Adshusheer, the home of the Enoe, Shaccores, and Adshusheer Indians, lay some 14 miles beyond Achonechy Town. Again, most researchers agree that Adshusheer was located on the Eno River somewhere north of Durham, North Carolina (Mooney 1894:63; Swanton 1946:183; Rights 1947:87; Lefler 1967:xiv). Shortly after he departed Eno Town, Lawson left the Piedmont and entered the Coastal Plain. The path down the Neuse and Tar River Valleys from Adshusheer to the Pamlico River that Lawson took will not be discussed here. For information on this portion of his route, the above authorities should be consulted.

During Lawson's (1967:53-54) account mention was made of the "Totero" Indians, who lived in the "Westward Mountains", while Lawson was at Sapona on the Yadkin River. These Indians have been identified with the Tutelo of the 18th century, and were probably the same Indians that Batts and Fallam encountered on their trip west to the Appalachians in the fall of 1671. Most people have placed this nation of Indians at the time of their contact with Lawson along the headwaters of the Yadkin River in the northwest Piedmont of North Carolina (Mooney 1894:38; Swanton 1946:200; Rights 1947:80; Lefler 1967:53).

Later in the journey, after the encounter with the "Toteras" at Sapona, the Englishmen accompanying Lawson decided to turn off to the north from Keyauwee in order to take a more direct path to Virginia (Lawson 1967:59). Rights (1947:85) surmised that those who desired to make

directly for Virginia followed an old path which ran north from Keyauwee through Randolph and Forsyth Counties in North Carolina and crossed the Dan River into Virginia.

## APPENDIX C

### OLDTOWN SERIES TYPE DESCRIPTION

This appendix presents a type description for the Oldtown Series. The series designation is retained as only a small portion of the sherds in the two Historic period collections from 31Skl and 31Skla on the Dan River have been studied to date. The results of this analysis are contained in this work. The creation of Oldtown varieties awaits the complete analysis of the entire ceramic assemblages from these two and other sites. From the data presented in the following description, there does appear to be grounds for the definition of at least two varieties. One would date to the pre-1670s, the other would postdate that decade. The analysis of the Oldtown material from 31Skl and 31Skla that has already been conducted indicates that the ceramics belong within the Dan River Ware Group. Surface finish, vessel form, and decorative elements, discussed in Chapter 17 of this work, all show strong lineal relationships to the earlier Dan River ceramics.

## Oldtown Series Type Description

Dan River Ware

Oldtown Series

### Background:

This series is defined for the Historic period ceramics of the Dan River drainage, and represents the last portion of that pottery tradition represented by the Dan River Ware Group. Many of the attributes implicit in the Stokes Variety Group of the Dan River Ware created by Gardner (1980) are subsumed within the Oldtown Series. How far back into the Protohistoric and/or the Late Prehistoric Period Oldtown ceramics will be found is not known at present.

### PASTE:

Method of Manufacture

Coiling or annular rings.

### Temper:

None to moderate amounts of very fine sand. Particles of sand used as temper range from 0.04mm to 0.25mm in size with a mean of 0.10mm. An occasional stray quartz particle up to 0.35mm is sometimes noted in the paste, and probably represents accidental inclusion in the clay source.

### Texture:

Paste is compact, not friable, and smooth to the touch.

### Hardness:

This was not recorded as hardness is rarely of diagnostic value (Phillips, Ford and Griffin 1951:79). Individual sherds are very hard and compact.

## Color:

Color range on the exterior is wide, with some combination of gray, dark gray, orange, brown, tan, and/or buff usually present. Interiors tend to be restricted to orange, tan, and brown.

## SURFACE FINISH

Exterior: Net Impressed  
Smoothed  
Burnished  
Brushed  
Corncob Impressed  
Cordmarked  
Simple Stamped  
Complicated Curvilinear  
    Stamped  
Check Stamped

Interior: Smoothing and burnishing predominate, with some scraping also present.

## DECORATION

## Lip:

Usually plain, with notching and continuation of surface finishes (net, cord, corncob and simple stamping) also present. Punctations (circular, rectangular and oblong), incised lines, and burnishing are occasionally present.

## Lip/Rim Edge:

Both v-shaped and fingertip notches.

## Rim:

Smoothed and brushed sections in bands parallel to the lip, incised inverted v's, single and multiple lines incised parallel to the lip, and occasionally applique strips account for most of the design elements. Rims of cazuella bowls may possess complicated incised designs occasionally combined with punctations.

## Neck:

Occasional fingertip punctates or fingerpinched bands, multiple lines incised parallel to the lip, and smoothed bands are noted.

## Shoulder:

Punctations (circular, triangular and quarter-moon shaped) are present on the shoulders of cazuella bowls.

## FORM

Lip:	Flattened or rounded, sometimes thinned in combination with these two treatments.
Rim:	Everted in jars, ranging from a slight to a pronounced eversion. Bowls have incurved to almost rounded, slightly incurved, and straight rims. Folded rims represent a distinct minority on jars in the early Oldtown ceramics from 31 Sk 1. Two types are noted, one where the bottom of the rim fold is smoothed into the body, and less commonly, where a pronounced bottom edge is present. Folded rims are almost completely absent from the later Oldtown ceramics from 31 Sk 1a. Jar rims occasionally are castellated, and exhibit suspension holes.
Body:	Deep globular jars and globular bowls continue to be made after the fashion of earlier Dan River vessels. New forms include long-necked jar, cuspidor, cazuella bowl and semi-hemispherical bowl.
Base:	Conoidal to semi-conoidal, rounded and flat.
Thickness:	Vessel walls at the rim range from 2.5mm up to 10.7mm thick. Burnished vessels tend to be thinner than the others, varying from 2.5mm up to about 6mm.
Appendages:	Not very common, with only lugs and strap handles being noted.

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