

NEWSLETTER
of the
SOUTHEASTERN ARCHAEOLOGICAL CONFERENCE

Vol. 9, No. 1

Cambridge, Mass.

June, 1962

EDITOR'S NOTE: TWO EDITORS ARE BETTER THAN ONE

If we owe the first definition of the term "Historic Archaeology" to Setzler, then we are no less in debt to Stanley A. South for the first annual conferences devoted solely to that subject. From the beginning in 1959 (?) it was Stan's idea that there was enough interest and work being done in this field to justify such a specialized meeting. On Stan's initiative two such conferences have been held in conjunction with the regular Southeastern Archaeological Conferences: the First at Gainesville, Florida, on November 3, 1960, and the Second at Macon, Georgia, on November 30, 1961. The full programs of these meetings will be found on page v.

It is also through Stan's efforts that this volume is available in such a relatively brief span of time; he compiled the proceedings from tapes and manuscripts, pursued the authors to make such changes as they felt necessary, and turned the completed typescript over to me. I have merely seen to the final typing of the stencils, the making of the plates, and routine assembly.

Special thanks are due the numerous participants in the Conference, listed herein, who made a special donation toward the cost of this publication; and especial thanks to Florida State University and the good offices and generosity of Charles H. Fairbanks, a harried editor himself, for a substantial contribution toward the cost of the illustrations.

The very appropriate cover design incorporating the Conference emblem and wine bottle seals is the work of Patricia A. Jones.

Stephen Williams
Peabody Museum
Cambridge 38, Mass.

ADDITIONAL COPIES OF THIS ISSUE ARE AVAILABLE AT \$2.50 PER COPY

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ERRATA

- p. 1, line 19 for "nor administrators," read "not administrators"
- p. 2, line 2 for "stoneward" read "stoneware"
line 3 for "make" read "made"
line 24 for "Asbury" read "Astbury"
line 25 for "Wieldon" read "Whieldon"
- p. 4, line 39 for "in 1760's" read "in the 1760's"
- p. 6, line 1 for "CLASS" read "GLASS"
- p. 10, line 2 for "Clements" read "Clemens"
line 4 for "let" read "led"
- p. 11, line 9 for "clammoring" read "clamoring"
line 14 for "1892" read "1832"
- p. 13, line 13 for "relatively" read "relative"
line 35 for "studies" read "studied"
- p. 14, line 21 for "385" read "358"
- p. 16, line 5 for "possible" read "impossible"
for "is least" read "is at least"
- p. 17, line 13 for "than" read "then"
line 19 for "to" read "too"
line 40 Plate I was not included.
- p. 30, line 19 for "French office" read "French officer"
- p. 31, line 23 for "sebsequent" read "subsequent"
line 37 for "stone datings" read "stones dating"
- p. 32, line 2 for "Cadoan" read "Caddoan"
- p. 36, line 28 for "Jelk's" read "Jelks's"
- p. 52, line 20 for "assessory" read "accessory"

facing

- p. 58 Map of Historic Sites in Lower Mississippi Valley. Legend
of Colonial and Indian sites transposed.

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PROGRAMS OF THE CONFERENCES ON HISTORIC SITE ARCHAEOLOGY

FIRST CONFERENCE

Gainesville, Florida

Spanish Beads of the 16th and 17th Centuries*

John M. Goggin

The Ceramic Types at Brunswick Town, North Carolina

Stanley A. South

English Glass Wine Bottles of the 17th and 18th Centuries

J. Paul Hudson

Ceramics of New Echota, Georgia

Charles H. Fairbanks

A Method of Cleaning Iron Artifacts

Stanley A. South

Discussion of mid-18th Century Glass Beads,
led by

Charles H. Fairbanks

SECOND CONFERENCE

Macon, Georgia

A New Method of Calculating Dates from Kaolin Pipe
Stem Samples

Lewis R. Binford

Kaolin Pipe Stem Dates from the Brunswick Town Ruins

Stanley A. South

Archaeology and Ceramics in Colonial Virginia*

Ivor Noel Hume

Some Glass Bead Making Techniques*

John M. Goggin

Salvaging Seals from the Earth and the Archives

Stanley A. South

Early 19th Century Trade Material from the Colfax
Ferry Site, Natchitoches Parish, Louisiana

Clarence H. Webb

Classification of Ceramics from Historic American
Sites

B. Bruce Powell

Perils and Pleasures of Historic Sites Archaeology

John L. Cotter

A Discussion of the Contrasts in the Development
of the Settlement at Fort Michilimackinac Under
British and French Rule

Lewis R. Binford

Historic Archaeology in the Lower Mississippi
Valley

Stephen Williams

Late Creek Sites in Central Alabama

Charles H. Fairbanks

Can Brass Trade Kettles be Identified?*

John M. Goggin

* Publication withheld by request.

List of Conference Participants

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 James R. Bradham
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 Adelaide K. Bullen*
 Ripley P. Bullen*
 Louis R. Caywood
 Howard A. Chamberlen
 David W. Chase
 Joffre L. Coe
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 Clarence H. Webb*
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 Stephen Williams
 Donna L. Wilt

* Special donation toward the cost of this volume.

THE CERAMIC TYPES AT BRUNSWICK TOWN, NORTH CAROLINA

by

Stanley A. South

There are various viewpoints expressed by archaeologists working in the fields of historic site archaeology in regard to the approach and the goals of the historic site specialist. Since this paper deviates somewhat from the usual approach, it might be appropriate to look at some of these differing views as stated by historic site archaeologists recently. One such view was expressed in these words. "Ultimately they (historic site archaeologists) will go psychoceramic on the sherds and psychovitreous on glass fragments from historic sites and make fools of themselves building up congeries of artifact types after the fashion of the mid-western taxonomists when all they have to do is mention the overall significance of manufactured items which contribute to the social and economic history of the people who occupied a site. The historic sites archaeologist contributes intimate and meaningful observations to the history of the site -- his job is to illuminate history, not to expect history to illuminate impersonal and non-objective artifact counts." Contrasted with this attitude is that expressed by the following. "The one suggestion I would make is that the conference get down to brass tacks. Too many programs on historic site archaeology deal forever in generalities and never get down to the kind of details that archaeologists, nor administrators, deal with. In other words my feeling is that as archaeologists we deal with artifacts; and with few exceptions colonial artifacts have not been analyzed or classified by a method suitable for the archaeologist to handle. It is up to us to do so." This paper is written with this viewpoint in mind.

The contributing factors to a lack of classification and standardization of colonial artifacts by a method suitable for archaeologists to handle, is a subject outside the scope of this paper. Nevertheless, this problem has a direct bearing on this paper in that, when work was begun at Brunswick Town, a mid-18th century English town site on the Cape Fear River, not even a mimeograph list of the ceramic types that might be expected to be present could be located. Since the ceramic types would be one method of dating the occupation period of a ruined structure, it would seem that the ceramic material would be of considerable interest to the historic site archaeologist.

In this regard the following statement seems pertinent. "We are sometimes forced into intensive analysis of, say, ceramics, and handle them as we would unknown prehistoric items of material culture when, in fact, they are already known and named entities." To some extent this is true, so much so, in fact, that sometimes one type will be identified by several different names in the literature. The archaeologist takes his pick, thus continuing the multiplicity of terms for a single type. For instance, the

word Staffordshire has been found to be used to describe transfer printed ware, combed slipware, and white salt glazed stoneware. Naturally a pottery making district would have made several types through the years, but when the word Staffordshire is used by different specialists to signify various ceramic types, which definition is the archaeologist to choose? The same situation exists in regard to the famous potters Whieldon and Wedgwood. Their names are linked with one type in one source, and with another elsewhere. These men made a variety of ceramic types, but is this justification for referring to each type by the name of one of these men, when actually many factories turned out very similar types during the same period? This is very often the situation found in the reference works on 18th century English ceramics. Thus, the fact that the colonial ceramic types are "known and named entities" does not simplify matters as much as it might seem at first glance. Should historic site archaeologists continue to adopt the type name from the literature that appeals to him, thus continuing a muddled system of ceramic type nomenclature?

Faced with this problem I took the road that seemed to me to produce the most satisfactory results. A list of type names based on descriptive terminology as much as possible was developed. Perhaps this approach will be criticized on the basis that in some cases it merely adds another term, thus compounding the confusion. However, I have found that the use of descriptive terms for certain types has proved its value in the ease with which assistants can learn the types and thus aid in typing and analysis of the material. For instance, "Mottled Glazed Creamware" as a type name could be more quickly associated with the actual sherds than "Asbury-Whieldon Ware", Whieldon-Wedgwood Ware, or Tortoise-shell Ware, which are used by various writers to refer to the same type of mottled glazed creamware. So why not call it "Mottled Glazed Creamware" and then perhaps archaeologists as well as their assistants, and even antique dealers would be able to talk on the same type at the same time. Another advantage of this type terminology is that, while specific enough, it is still sufficiently generalized to allow for flexibility. For instance, at the time the sherds are cataloged the detailed varieties within the type would, perhaps, not be known. Only later, when more research on each type is completed, would the finer breakdown of any particular type be possible. Therefore, terms such as "Chinese Export Porcelain", "Redecorated Chinese Porcelain", or "Early Ch'ing enamelled Ware" were avoided due to the fact that sufficient research had not been done to enable a separation of the Japanese porcelain, or to distinguish the Ch'ing ware from other overglaze enamelled porcelain. So why not call it "Overglaze Enamelled Porcelain" which describes what it is, yet does not restrict it so that detailed analysis later would confuse the issue. It will always remain overglaze enamelled porcelain, regardless of the detailed breakdown that might be accomplished by a specialized analysis of the type. Thus we are not stuck with a name that does not fit the material that is cataloged under it.

Over forty ceramic types have been assigned names under this descrip-

BRUNSWICK TOWN CERAMIC CATALOG

Square No. _____
 Level, Feature, etc. _____

Unit No. _____
 Field No. _____

Specimen

Number	Type	Description	Count
--------	------	-------------	-------

1		<u>SLIPWARE</u> Combed Yellow Dotted Yellow Trailed Marbled Sgraffito Mottled Green-glazed Delft Unglazed Delft <u>SALT-GLAZED STONEWARE</u> White Scratch-blue Blue and Grey Brown and Grey Unglazed Red Lustered Black Lead-glazed Stoneware Oriental Porcelain Overglaze Enamelled Porcelain White Porcelain <u>LEAD GLAZED EARTHENWARE</u> Thin Red Clear Thick Red Clear Brown-Black Cream-paste Brown-black Spattered Thin Black Black Red-paste Green Laminated Agate Ware Unglazed <u>SALT-GLAZED EARTHENWARE</u> Brown Brown Lustered <u>CREAMWARE</u> Green-glazed Mottled-glazed <u>WHITE EARTHENWARE</u> Transfer-printed Earthenware Blue Ivy ? Transfer-printed Ware Edged Ware Green Blue	
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BRUNSWICK TOWN CATALOG (Continued)

Specimen Number	Type	Description	Count
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WHITE EARTHENWARE (Continued)

White Clear-glazed Earthenware

Banded Ware (Mocha, etc.)

Sponged Ware

Hand-painted White Earthenware

INDIAN

Cord

Fabric

Plain

Brunswick Etched

Brunswick Burnished

2	Wine Bottle	[CONDENSED VERSION - Ed.]
3	Gin Bottle	
4	Tumbler	
5	Stemmed Glass	
6	Medicine Type Bottle	
	Large Bottle, Decanters, etc.	
7	Etched Glass	
8	Window Glass	
9	Small Nails 1" - 2"	
	Large Nails 2 1/2" - 3 1/2"	
10	Spikes	
11	Kaolin Pipe Stems: 4/ 64"; 5/ 64"; 6/ 64"; Other; Pipe Bowls	
12	Red Clay Pipes	
13	Brass and Copper Nails	
14	Brass Tacks	
15	Brass Copper Pewter and Iron Buckles	
16	Brass and Silver Thimbles	
17	Brass Copper and Iron Buttons	
18	Coins	
19	Lead Rifle-balls and Shot	
20	Gun-flints	
21	Bone Fragments	
22	Bone Shell and Glass Buttons	
23		
24		
25		
26		
27		
28		
29		
30		

tive system at Brunswick Town. This includes two Indian pottery types I have called Brunswick Plain and Brunswick Burnished. These types have been found in the middens along with mid-18th century English ceramic types. The Brunswick Burnished type is of interest in that it is made in imitation of the English ceramic forms, with scalloped rims, flat bottomed bowls and plates, and occasionally etching paralleling the scalloped rim.

The following is a list of the Brunswick Town ceramic types, and a list of some the most frequently encountered artifacts. This catalog is not intended as a classification to include all ceramic types of English manufacture during the eighteenth century, but is designed as a convenient means of cataloging ceramic material found at Brunswick Town, and has proved to be a functional archaeological tool.

The advantage of this type ceramic catalog is that once the sherds are cataloged, the catalog then can be used as an analysis sheet. The second page of the Brunswick Town catalog, which includes other objects than ceramics, is shown for comparison.

The question immediately arises, perhaps, as to the validity of the sherd count method of cataloging and analysis of historic site ceramics. The prevalent attitude on the part of historic site archaeologists seems to be "why count colonial sherds? Indian sherds, fine, but it's a waste of time to work out percentage relationships between various colonial ceramic types." All that is necessary, I have been told, is to determine the various types present, and the occupation period of the ruin can be based on that, plus the other datable objects, such as wine bottles. There are too many variables to make it worth while counting sherds from colonial sites, I have been told.

Perhaps I have gone "psychoceramic on sherds", but I have used the percentage relationship method at Brunswick Town, and have achieved very satisfactory results. I was not ready to reject it until I had tried it and proved the method, one way or another. For instance, thoughts such as this kept coming up. Suppose from two foundation ruins you recovered the same series of types. Without counting the sherds recovered and working out the percentage relationships, you would have no way of assigning different dates to the two structures on the basis of ceramics. However, if the percentage relationship between certain types varied inversely, this might be sufficient reason to assign differing dates to the two structures. I cannot believe that all such differences can be attributed to differing tastes in china of the occupants of the houses, especially when ceramic types of differing time periods are involved.

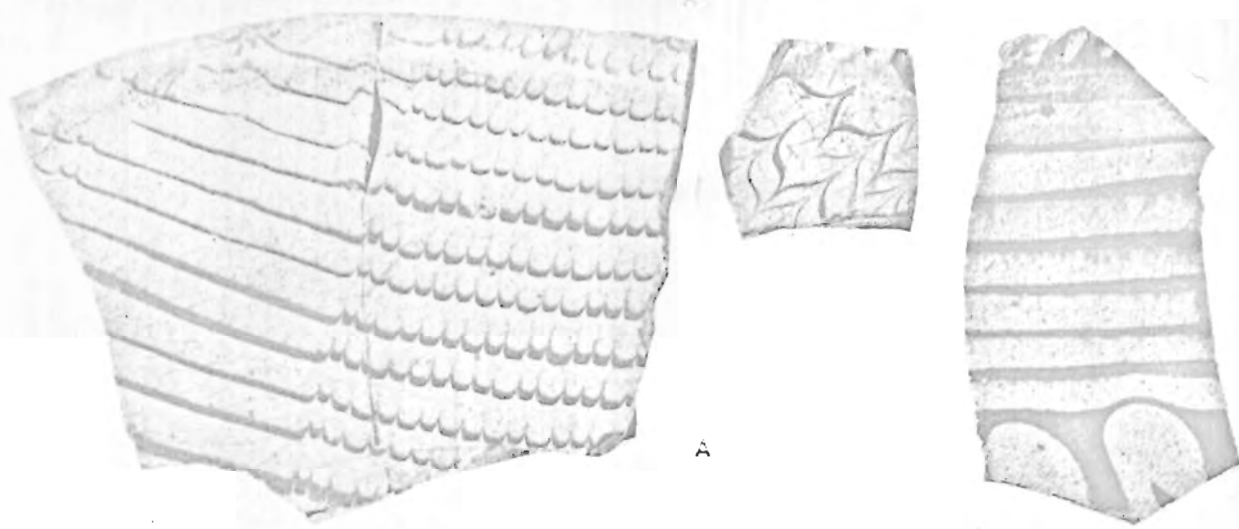
The following "psychoceramic" chart was constructed from the percentage relationship between certain ceramic types, constituting over 72 percent of the sherds recovered from several structural ruins in Brunswick Town.

In order to fully interpret the chart, some historical information of the Brunswick Town Site would be in order. The town was begun in 1726 by Maurice Moore, son of Governor James Moore of South Carolina. It was located about sixteen miles south of Wilmington, North Carolina on the west bank of the Cape Fear River. The deed records are remarkably intact, and, as can be seen on the chart, the first record of some of these excavated ruins dates in the early 1730s. A requirement that a house be built on the lot within one year after purchase gives us a fairly good indication of the erection date of the structure. The town was burned by the British in 1776, so many structures will have this as their terminal date. Some, however, will have been destroyed in the hurricane of 1769, in which many of the houses were blown down. By 1800 a few families had moved back and built new homes, but by 1830 it was totally deserted.

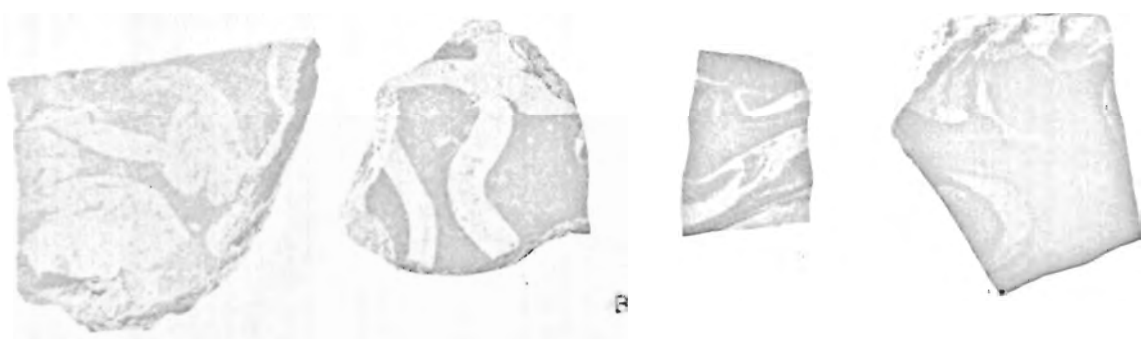
Looking at the chart, a similarity can be seen between the percentage relationship bars of several structures. Archaeological Unit S25 is interesting in that sherd relationships from inside the structure are compared with those from a three foot deep midden at the back door of the structure excavated in six levels, but separated into the top and bottom halves for analysis. These three collections show virtually the same percentage relationship between the types, with the exception of the two Indian ceramic types which increase in the percentage relationship in the bottom layer of the midden.

Look now at the ceramic profile for Units S7 and S18. They are similar in that they have a higher percentage of Creamware than the excavated units to the left. They differ in the much lower ratio of Oriental Porcelain, White Stoneware, and Delft in S18 than in S7. The deed record for Lot 71, on which both these structures stood, indicates that the lot was sold in 1734, and the lot, or a portion of it, was sold again in 1763. If a house was built on each portion shortly after each sale, which ruin was the earlier? A comparison of the ceramic percentage relationship bars enables us to make a calculated guess. The low percentage of Delft, Oriental Porcelain and White Stoneware in the S18 ruin, and the relatively high percentage of these types in the S7 structure, resulted in the 1763 date being assigned to the S18 unit, and the 1734 date to S7. Without a statistical relationship, this conclusion could not have been reached on ceramics alone.

The N4 structure has a low relationship of Delft, Oriental Porcelain and White Stoneware, and a relatively high percentage of Creamware, indicating that this structure was built sometime in 1760's and was used after the Revolution until the early 1800s. This inference, based on ceramic type relationships, is supported by the other evidence. Historically, the structure is known to have been standing in 1769 when C.J. Sauthier showed it on his map of the town. Archaeologically, the structure showed no signs of fire, which would perhaps indicate that it escaped the fire that razed the town in 1776. The date of the deed, 1775,



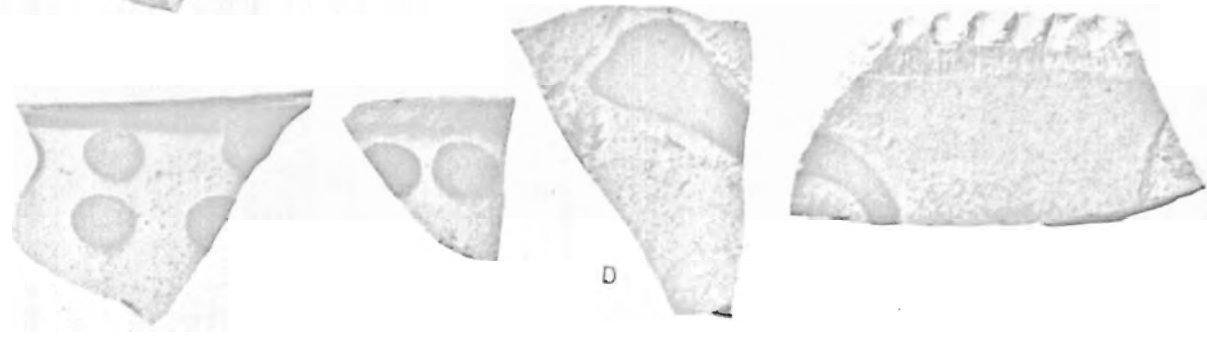
A



B



C



D

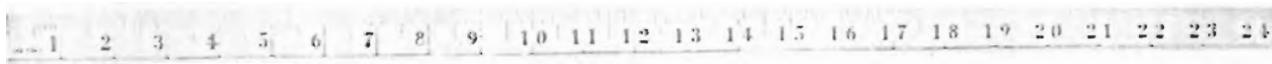


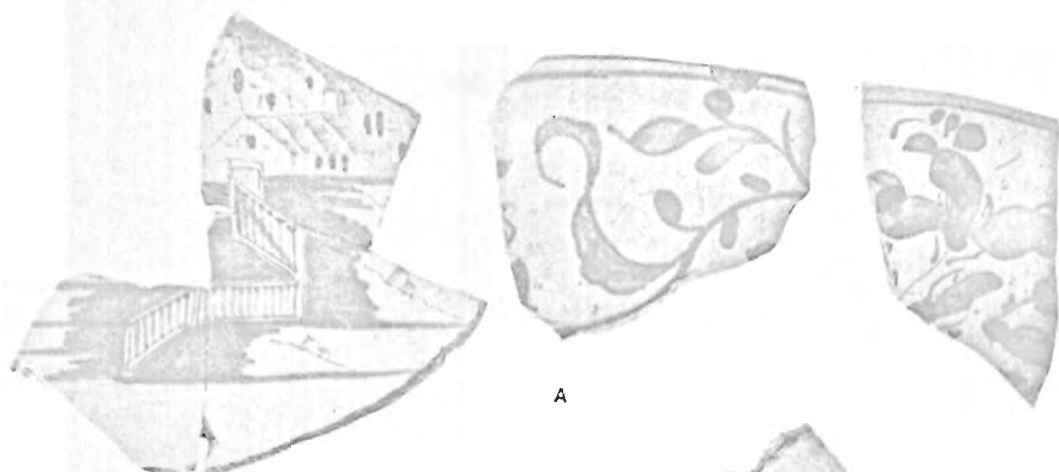
PLATE I

A-Examples of Combed Yellow Slipware

B-Examples of Marbled Slipware

C-Examples of Trailed Slipware

D-Examples of Dotted Yellow Slipware



A



B



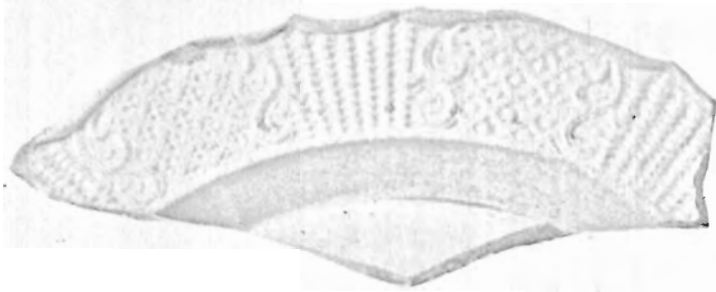
C



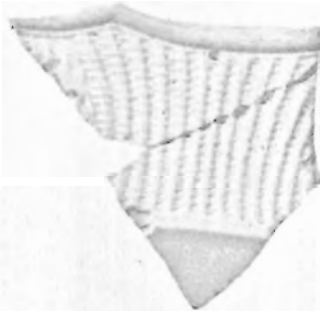
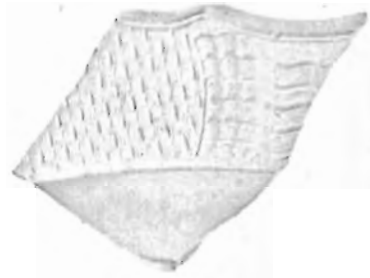
D

PLATE II

Examples of Delft



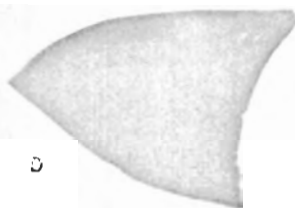
A



B



C



D



E



PLATE III

Examples of White Salt-glazed Stoneware



PLATE IV

A-Examples of Oriental Porcelain

B-C-Examples of Overglaze Enamelled Porcelain



PLATE V

A-Green Glazed Ware

B-Mottled Glazed Creamware

C-Delft Tile Fragments

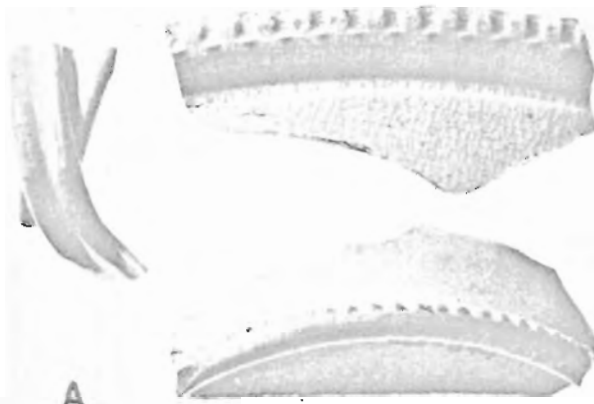


PLATE VI

Examples of Creamware

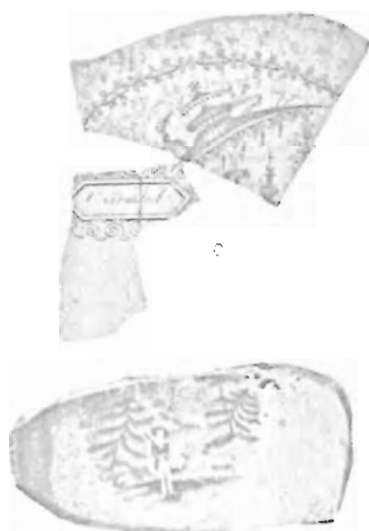
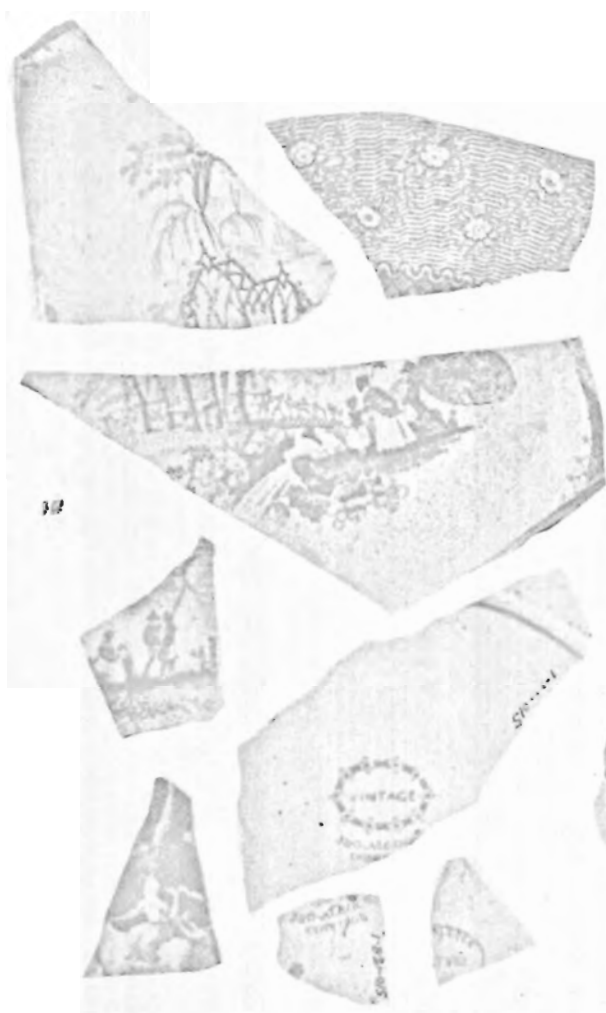


PLATE VII

Examples of Transfer-Printed Ware

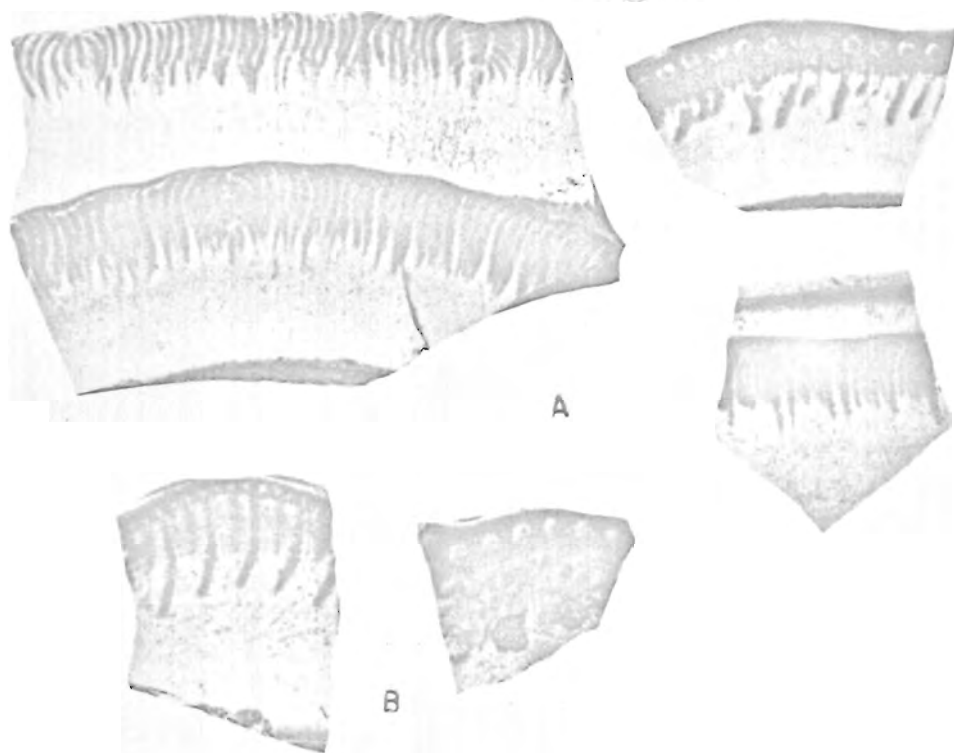
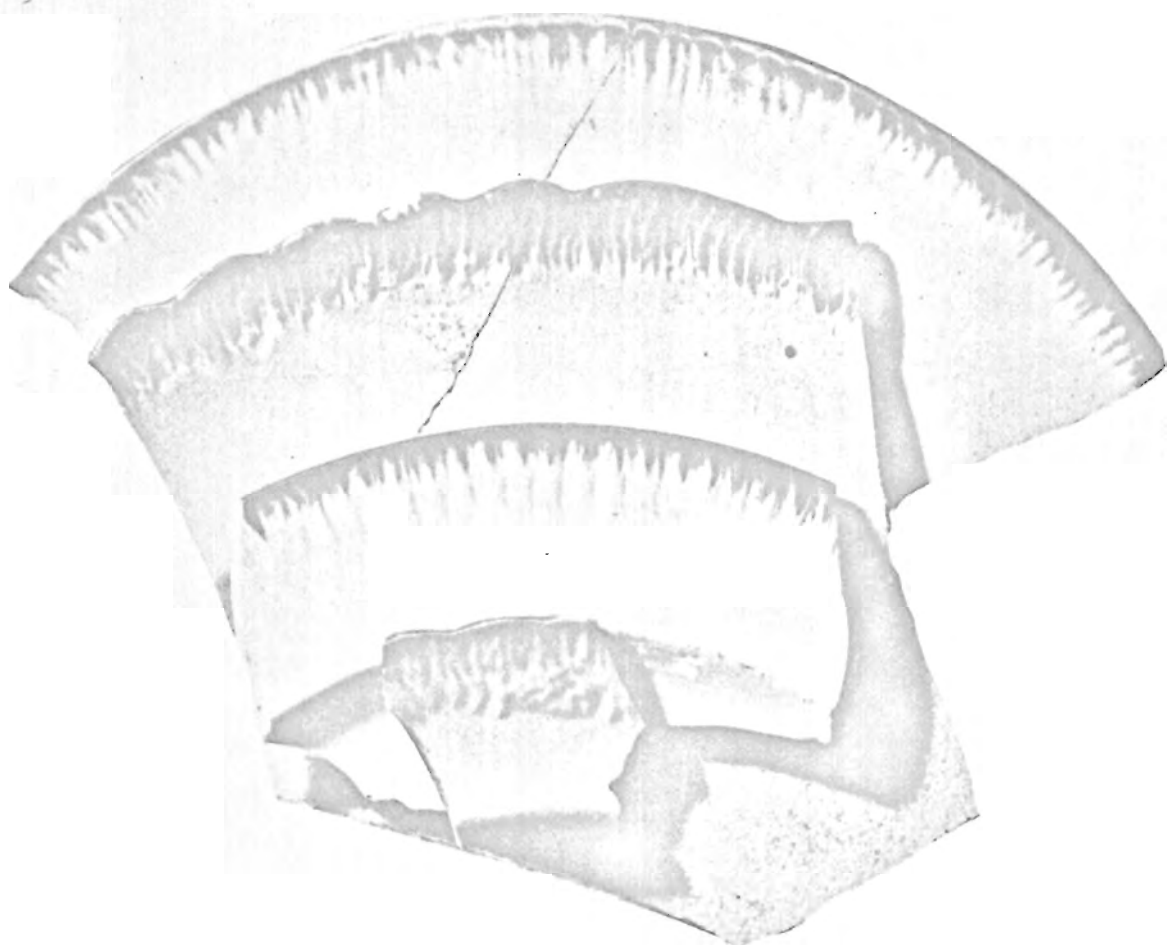


PLATE VIII

Examples of Edged Ware



A



B

C

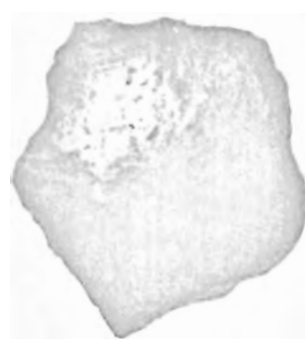
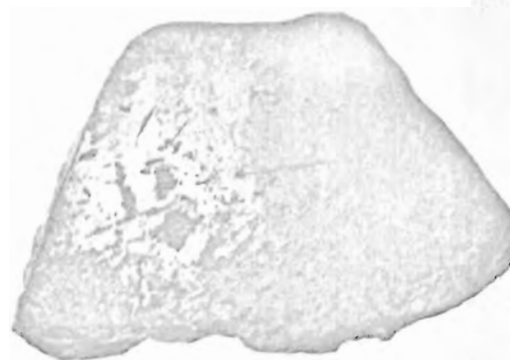
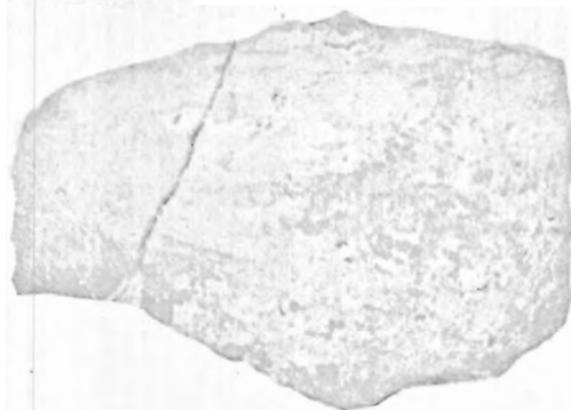
D



E

PLATE IX

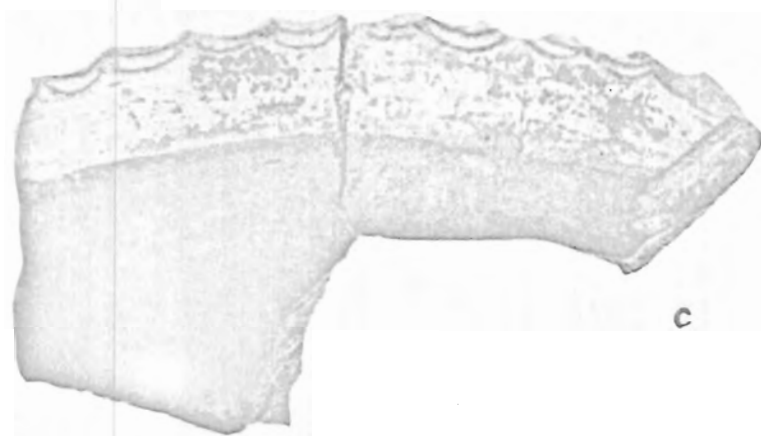
- A-Blue Painted White Earthenware
- B-Thin Black Lead-glazed Earthenware
- C- "Sprigged" Ware
- D-Agate Ware
- E-Sponged Ware



B



M



C



Cm.



0

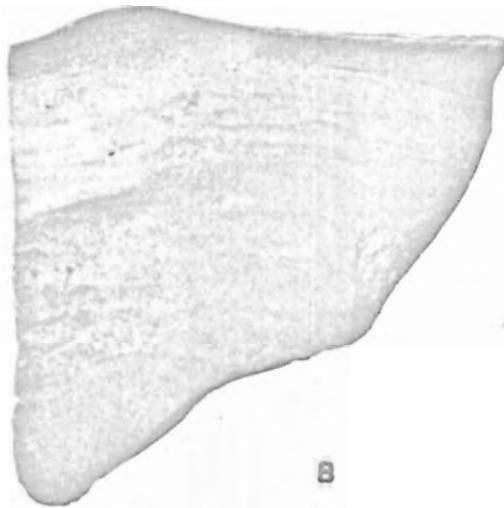
5

PLATE X

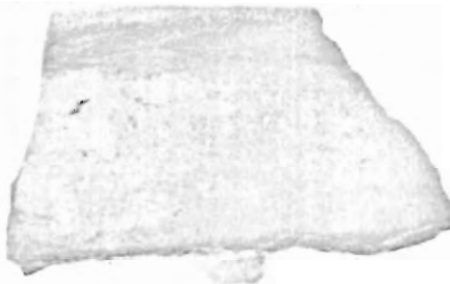
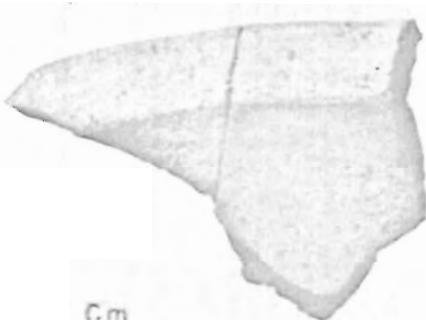
Brunswick Burnished Sherds from Brunswick



A



B



C

Cm



0

5



PLATE XI

A-Brunswick Plain

B-Brunswick Burnished Sherds from Bath

also indicates a late interest in the lot, being the last sold in the town before the Revolution.

Notice the similarity between the N4 profile, and that for the ceramics found above the burned ashes on the floor of S10. Compare this profile with that for the ceramics found on the floor of the burned house. From this comparison we can see that the house itself contained none of the late types, indicating that the above floor midden was thrown into the ruined foundation after the introduction of the later type ceramics, after the Revolution. Since a burned charcoal floor was found intact in this ruin, it can be assumed that the house was burned in 1776, as the historical documents indicate. The ceramic profile for the floor level would also indicate this by comparison with other burned structures built in the 1730s.

The last profile on the chart is from a foundation in Bath, North Carolina. On the basis of the similar percentage relationship profile with the structures from Brunswick Town dating from 1730, this ruin was assigned a date of from around 1730 to 1760. Later, after historical research was done on the deed records, it was found that the house was quite certainly built between 1735 and 1737, and was sold by Michael Coutanche in 1763 to Col. Robert Palmer who probably razed it shortly after, since it is not shown on the 1769 map C.J. Sauthier made of the town of Bath.

In this paper I have attempted to show a method of assigning descriptive type names to colonial ceramics that has proved functionally adequate at Brunswick Town. I have also attempted to illustrate the value of the percentage relationship method of ceramic analysis for use as an aid in dating of colonial ruins. Ceramically or psychoceramically, the method appears to have some validity at least in some situations. I only regret that other English sites already excavated, from the seventeenth and eighteenth centuries, have little sherd count data suitable for statistical treatment. If this information were available, a comparison with the Brunswick Town ceramic profiles would, perhaps, prove of considerable value as an aid to dating structures over a period of two hundred years. I strongly urge historic site archaeologists to at least consider the possibilities of the sherd count method, before rejecting it as too psychoceramic.

ENGLISH CLASS WINE BOTTLES OF THE 17TH AND 18TH CENTURIES

by

J. Paul Hudson

English glass wine bottles of the 17th and 18th centuries are excellent objects to use in dating English New World colonial sites. For like automobiles and women's clothes, their styles changed from time to time.

When English wine bottle fragments are found in association with clay pipes and European ceramics, the age of a colonial site usually can be determined within a decade or two. If perchance a complete wine bottle is recovered, its date of manufacture can be determined with fair accuracy. Even if only complete necks or complete bases are unearthed, they also will reveal the time the bottles were made within a range of 10 to 15 years. The date of an excavated wine bottle is not, of course, the date the site in question was established, but the date of the bottle usually reveals the approximate time the site was abandoned. As an example, if a group of wine bottles is excavated near a colonial building which was destroyed by fire, the age of the bottles usually reveal the approximate time the conflagration occurred.

One must always remember that an English glass wine bottle (or any other European cultural object, such as a clay pipe or a piece of pottery) is only one clue of many which can be used to establish an approximate date for an excavated English colonial site. Artifacts recovered near the site will help date it, but they cannot be used as the sole criterion. Other clues must be considered and studied: (1) the size of the building foundation is important as are the sizes of the bricks, for building dimensions and brick dimensions were established by English statutes throughout the colonial period. But even if one knows the statute sizes one must be careful in using such evidence, for the artisans who built houses in the American wilderness often deviated from dimensions specified by English law. (2) All available contemporary records are important, and must be studied with great care. Court records, newspaper accounts, inventories, official colonial reports, fire insurance records, journals, and similar documents of the period are extremely important; and in many instances will reveal the time the house was built as well as the year it burned or was razed. (3) If wooden beams have been recovered from a house site they, too, might be helpful in determining the approximate age of the building by the annual growth ring patterns. While only a few preliminary studies have been made of annual tree ring patterns in eastern areas, a few architectural historians (including Dr. A. Lawrence Kocher) believe that within the next few years tree growth tables extending back to the 17th and 18th centuries will be compiled for a few Atlantic coastal areas. It is believed that such tables could then be used with exactitude in determining the age of old beams, floors, sills, and other timbers from colonial-period structures. (4) Building hardware recov-

ered from a Colonial house site should be examined with great care, as each hinge, nail, lock, latch, shutter bar, bolt, and knocker might reveal information which could be used in determining the approximate age of the site.

So while artifacts are only one of many clues which should be used as dating devices, nevertheless they are extremely important. As English glass wine bottles of the 17th and 18th centuries are fairly easy to identify as to date of manufacture, and as they are found at nearly every place in the New World where Englishmen lived, we should know something about the various types which were made in England between 1650 and 1800. 1650 is our starting date, as glass wine bottles were not made in England prior to that time. Before 1650 stoneware bottles and delftware bottles were used for holding wine in both England and in the colonies.

The chart shows 8 different-shaped English wine bottles, actual size scale, which range in date from about 1650 to 1800.

All were excavated at Jamestown, Virginia - site of the first successful English settlement in the New World. Each type bottle will be described very briefly.

TYPE 1 is an excellent example of the earliest glass wine bottles made in England, from about 1650 to 1665. Note that it has a spherical body - bulbous or onion shaped - a tall neck, a very narrow base, and a very low kick-up (the kick-up is the cone-shaped depression at the base of the bottle). The glass ring for holding the brass wire tightly about the neck is well pronounced and is tooled slightly downward. (This wire, in turn, held the cork in place.) The height of this bottle is exactly $8\frac{1}{2}$ inches, and the basal kick-up is only $\frac{3}{8}$ -inch high. Bottle capacity 915 cc (about $\frac{4}{5}$ of a quart).

TYPE 2 Sometime during the 1660-1670 period the English glass wine bottles began taking on a slightly different appearance. The change was gradual, and did not occur during any particular year. The second type illustrated - which was made in England from about 1665 to 1690 - is representative of the new shape. Note that the body of the bottle has become cup-shaped or bowl-shaped. A marked shoulder, flattened slightly, has replaced the globular body, while the neck has become shorter. (The neck, however, is still relatively long compared to those on bottles made during the last decade of the century (type 3). The basal kick-up has increased in height - ranging from $\frac{1}{2}$ inch to 1 inch high. The glass ring (also known as a string rim) remains well pronounced. The bottle illustrated as type 2 is $6\frac{5}{8}$ in. high. Its kick-up is $\frac{3}{4}$ in. high; capacity is 870 cc (approximately $\frac{3}{4}$ of a quart).

TYPE 3 During the last two decades of the century another shape evolved. (In the illustration it is the third one from the left). Made from about

1685 or 1690 to 1710 (or a little later), note that it has decreased in height and has become broader and squatty at the base. The kick-up has increased in size, and has become wider, deeper, and more pronounced in overall appearance. While the neck has become shorter, the glass ring below the lip of the bottle remains well-defined, being narrow and flat in appearance. The distance across the shoulder of the bottle is still slightly greater than the diameter of the base, but not much. Compared with types 1 and 2, the 1690-1710 example is low and squat, broader at the base, and rounder at the shoulder. The short neck will help identify bottles of this period. Those in the Jamestown collection vary in length from $1 \frac{7}{8}$ inches to $2 \frac{5}{8}$ inches. The bottle illustrated as type 3 is $5 \frac{1}{2}$ in. high. Its kick-up is $1 \frac{1}{4}$ in. high, capacity 720 cc (about $\frac{3}{5}$ of a quart).

TYPE 4 (the fourth bottle from left), made from about 1710 to 1730, is somewhat similar in shape to type 3. But note that the shoulders are lower and rounder, and in overall appearance the bottle is more squat, flat, and ovoid; also, the kick-up is more deeply indented. Note, too, that the sides of the bottle are well rounded, whereas the sides of type 3 are almost straight. The example illustrated is $6 \frac{1}{8}$ in. high; its kick-up is $1 \frac{3}{4}$ in. high; capacity 820 cc (about .7 of a quart).

TYPE 5 may be classed as the "slope and shoulder" example, having almost straight sides which slope inward slightly, and a marked shoulder at the top. The neck is about equal to the height of the body. Compared to type 4, the sides of type 5 are more upright and the body taller, giving an almost cylindrical appearance. The overall appearance of this bottle resembles a short mallet. About this time (1720 to 1750) bottles were being "binned" (that is, placed on storage shelves in the cellar) on their sides, with necks resting somewhat lower than the bases so that the wine in the bottles kept the corks moist at all times. Prior to this method of "binning", bottles were stored in an upright position. From this time onward the sides of the bottles will become more straight, enabling one to place them on storage shelves in a horizontal position. The example illustrated is $7 \frac{3}{8}$ in. high.

TYPE 6 was made from about 1740-50 to about 1770. Note that it is slightly bell-shaped, with long, tapered neck, and deeply indented bottom (the kick-up). It is almost cylindrical in shape, although the sides still slope inward slightly. This type could be easily and economically binned on its side. The swelling of the cork from contact with the wine prevented the ingress of air and made long storage possible. The height continues to increase during this period, our example being $8 \frac{3}{4}$ in. high.

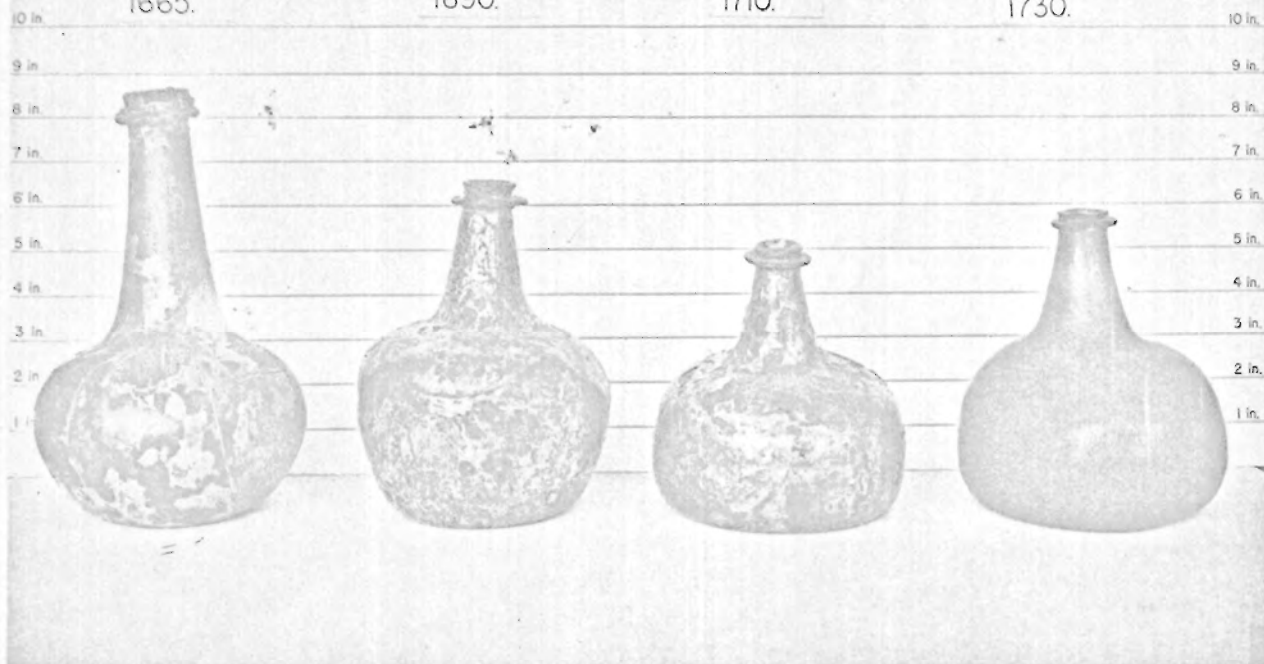
TYPES 7 and 8 are cylindrical in appearance with straight sides, and taller than the earlier bottles. Type 7 (made from about 1770 to 1790) is $9 \frac{5}{8}$ in. high, whereas type 8 (made from about 1790 to 1810) is $10 \frac{1}{2}$ in. tall. Type 7 is slightly greater in diameter than type 9. As the century

TYPE 1
1650-
1665.

TYPE 2
1665-
1690.

TYPE 3
1690-
1710.

TYPE 4
1710-
1730.

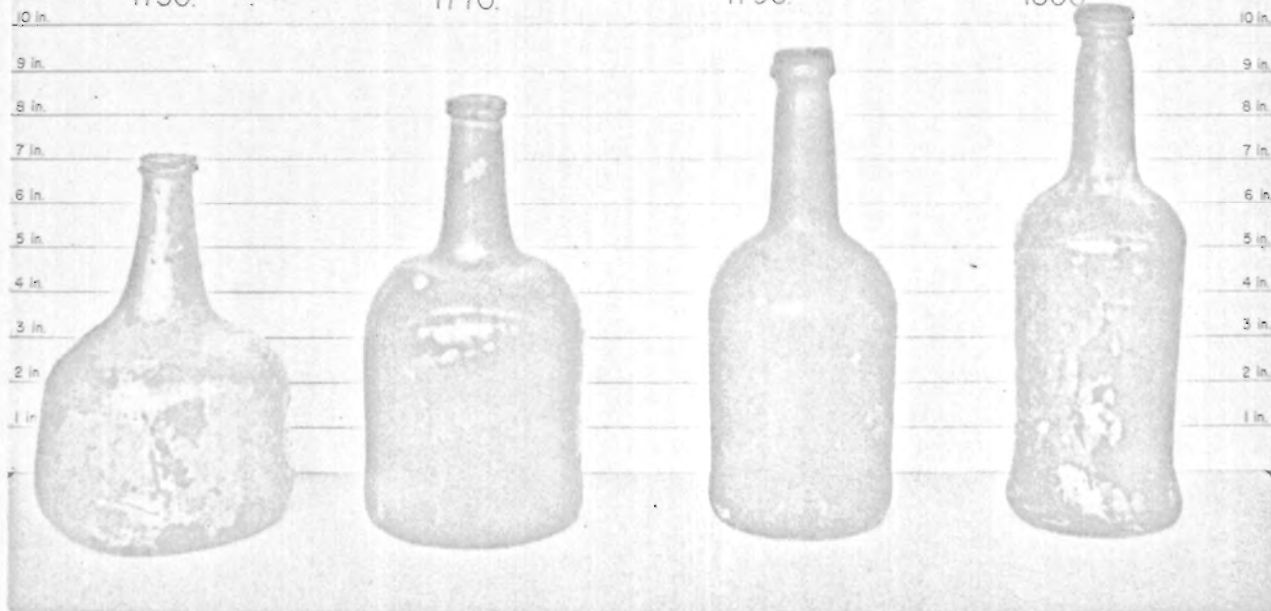


TYPE 5
1730-
1750.

TYPE 6
1750-
1770.

TYPE 7
1770-
1790.

TYPE 8
1790-
1800.



closed the English wine bottle has become cylindrical and tall, with straight sides and deeply indented bottoms. Since then there has been little or no change in shape, dimensions, or capacity.

Not all types of 17th and 18th century English wine bottles have been discussed, although the more common varieties are illustrated. A few moulded bottles of octagonal shape were made from time to time during the 18th century, but these can only be mentioned at this time. Also a few wine bottles of the 1650-1800 period bore glass seals on their shoulders; but as only a small percentage of them were impressed with such seals, they will not be described in this paper. While the chart shows bottles which held approximately a quart of wine, we must remember that quarter-size, half-size, and three-quarter-size, bottles were manufactured; also many bottles were made which held more than a quart. But in most instances their shapes resembled those shown on the chart.

A word about color. In the Jamestown collection approximately 98 percent of the bottle fragments - numbering around 40,000 pieces - are green in color, varying in tints from light olive-green to dark green. Only about 2 percent are amber or black in color.

In closing, may I emphasize again that knowing the age of excavated wine bottles is not sufficient evidence to enable one to date a colonial site, be it a building foundation, a well, a ditch, road, or refuse pit; or a pottery kiln, brick kiln, or lime kiln, or any other colonial period feature or structure. While the age of a wine bottle will help in dating such a site, it is only one clue of many which should be used.

EUROPEAN CERAMICS FROM THE CHEROKEE CAPITOL OF NEW ECHOTA

by

Charles H. Fairbanks

The sherds here reported were excavated at the site of New Echota by Joseph R. Caldwell and Clements De Bailleu during the late Spring of 1954. The work was under the sponsorship of the Georgia Historical Commission and led to the restoration of New Echota which is now nearly complete.

I was asked by the Commission to examine the European ceramics and spent two days at the site, May 26th and 27th, 1954. A technical report was prepared and submitted to the Commission. The present material is offered as it gives a good picture of the English glazed crockery of the period. This is especially valuable because New Echota is a "tight" site with a restricted duration. It thus offers us a cross-section of pottery types in use from 1825 to 1835.

New Echota has great importance in the history of the Cherokee Nation and of Georgia. Here the Cherokee Phoenix was first published, the first newspaper of the American Indians, printed in Sequoyah's syllabary. Elias Boudinott, Charles Hicks, John Ross, Major Ridge, Pathkiller, Charles R. Hicks among the Cherokee and the missionary family of Samuel Worchester lived there or met there in council. New Echota tells, in brief, the tragic story of the Cherokee Nation in Georgia.

Near the junction of the Connessauga and Coosawatee Rivers the Cherokee village of Newtown had developed in the early 1820's. The spot is about three miles northeast of the present Calhoun, Georgia. At Newtown on November 12, 1825 the Cherokee National Committee and Council passed a resolution establishing New Echota at the junction of the Connessauga and Coosawatee Rivers (Laws of the Cherokee Nation, 1852, p. 62). Two Cherokee were already resident in the immediate area and two others seem to have some sort of improvements in the town environs (ibid., 63-66). These men were evidently part of the diffuse farming community of Newtown.

Two of the men, Alexander McCoy and Crying Wolf, were later given permission to plant crops in the New Echota area. It is probable that no intense occupation occurred before the early spring of 1826.

During the first years construction included the printing office, the National Supreme Court, the legislative hall for the National Committee and the National Council, Alexander McCoy's tavern, four stores, the homes of the Cherokee missionary Elias Boudinott, and the Anglo-American missionary - - Samuel Worchester. The central area of New Echota, where the Commission's excavations were conducted, was the location of public buildings, stores, taverns, and residences of missionary leaders. The log cabins of poorer Cherokee do not seem to have occupied the area (Malone, 1956, pp. 120-6).

The archaeological collections of this section represent, then, the debris of highly acculturated Cherokee or of Caucasoid missionaries resident in the National Capitol. They can probably be taken as typical of the more luxurious wares of the not too remote frontiers. The Vann House, twenty miles to the northeast, has been admirably restored by the Georgia Historical Commission under the able direction of Henry Chandler Forman. It represents the almost princely style in which wealthy Cherokee, mostly Mexizos, lived at the time.

By 1830, Georgians were clamoring to acquire Cherokee lands. New Echota, the missionaries there, and the Cherokee Phoenix, were the objects of special attack. In September, 1831, eleven missionaries among the Cherokee were found guilty by the Georgia Courts and sentenced to prison terms of four years each. Samuel Worchester was ordered freed by the Supreme Court in 1892 but Georgia continued to do as she pleased in relation to the Cherokee. The legislative creation of a "Cherokee County" on December 21, 1831 spelled the doom of New Echota and the Cherokee Nation.

A lottery for Indian lands was held in 1832 (Malone, 1956, pp. 171-184) and Indian title to lands was extinguished by the State of Georgia. The Cherokee were rapidly driven away to less accessible spots. By February, 1834 even the American missionary Samuel Worchester was being formally ordered out of his house at New Echota (ibid., p. 180).

The dispossessed Cherokee gathered at Red Clay on the Tennessee-Georgia boundary where a treaty was presented them in October, 1835. They refused to dispose of these lands but the same treaty was forced on them at New Echota on December 29, 1835.

Under the Georgians, New Echota was no longer a capital and evidently reverted to scattered farms. Thus the ceramics surely date, in bulk, from the period before 1835. In all probability the majority date from 1825 to 1832 or thereabouts. The destruction of the Cherokee Phoenix and other equipment does not seem to be archaeologically reflected in any mass deposit of broken crockery. Perhaps the Georgians looted and removed the crockery while simply destroying the press as a symbol of Cherokee civilization.

The types referred to here are not always those names used by antiquarians and collectors. This is occasioned by the fact that we are here dealing with sherds and exact identification is often impossible. Instead I have tried to use names that are in general use among archaeologists working the American field and that are descriptive of the material. These names are really descriptive tags which refer to specific characteristics of paste, glaze or decoration. I have attempted to indicate the probable sources of the material.

The most obvious group of sherds belong to the general class of Transfer Printed Semi-porcelains. These are characterized by a rather soft, nonporcelaneous paste, a thin clear glaze, often crackled, and an under-glaze printed decoration. They were produced by all the known potteries of England from about 1750 until the present. American potteries have also produced these wares. During the period following the close of the Revolution until the middle of the nineteenth century, however, English factories largely replaced American ones. No marks were positively identified, but it is felt that the same potteries are represented as those identified for the direct painted types to be discussed later. The most practical breakdown of the large group is by color of decoration. In each color, however, a further breakdown is possible into style of design. These may be largely floral, scenic or very rarely geometric. The scenic designs may be divided into classic, Chinoise, country, or historical scenes. The historic scenes seem to be definitely lacking or in an extreme minority in this collection. This may reflect the Cherokee lack of attachment to the pagentry of American history during this period. It is notable that there seem to be few "Blue Willow" fragments in this collection. This may have possible dating significance. The colors are usually singly applied on the white ground. Rarely, however, polychrome effects are obtained. The black-on-white-style showed several fragments of an "alphabet plate" in which the letters of the alphabet were printed around the rim. This may well reflect the missionary concern with educational matter.

There seemed to be somewhat less floral designs than scenic, although from sherds this is hard to determine exactly. Flowers and leaves were generally in an English style, although some Chinese-influenced designs were seen. Few pieces, either scenic or floral, were large enough so that entire designs could be determined. These whole designs have some value for dating as the scenes are often taken from datable drawings. Such dating is extremely risky in the case of material of this type, and I have not resorted to it.

The direct painted semiporcelain is much more attractive to modern eyes. In general the predominantly floral designs were painted under glaze. Overglaze paints do occur rarely. Again blue-on-white was the most common, although yellow, green, brown, and tan might be combined to form a polychrome. A second group I have called Polychrome Banded. It has a series of parallel bands or stripes around the vessel, usually a broad blue or tan band in the center. Finger-painted floral designs, and brown, or black dendritic elements often are found in this wider band. The rim area may have impressed circles, latices, or rosettes. A few sherds of direct painted, floral, rather hazy designs in a purplish blue were found. I have called this Direct Cobalt Hazy. It is apparently to be referred to the 1830 period. It evidently was not very popular during the occupation of New Echota.

A slightly less prominent group is the featheredged semiporcelain. The edges of plates and saucers have an impressed design that somewhat resembles a feather, with the mid-rib at the lip. The material varies greatly in shape and length of the grooves forming the "feathers." These, I believe, are differences in factories, not in date. At any rate, no divisions are at present generally recognized. Related types, numerically very rare, have impressed chevrons, feathers, or trees along the rim area. The center of the plates was plain. The impressed edge is usually painted with either blue, green, or yellow. A few specimens were seen without any paint. Blue is by far the most common. No yellow was seen at New Echota. This type was extremely popular from about 1790 until about 1830 and forms the bulk of ceramics on many sites in that time range. It was somewhat surprising to see it in a relatively minority at New Echota. This is probably due to the fact that New Echota falls in the end of its time span.

Minority types, represented by only a very few sherds were: blue-on-white splatterware, green-on-blue splatterware, plain yellow, and large amounts of white semiporcelain. These white sherds are certainly, in part, the plain parts of decorated specimens, largely the blue featheredge.

True porcelain was in a very marked minority. There were a few pieces of white porcelain, a little blue-on-white porcelain, both almost certainly of English origin. They are not further identifiable. We might include in this the group of white-on-blue "Jasper ware" that is often incorrectly called "Wedgewood." It was almost certainly developed by Josiah Wedgewood in 1775, but other factories made the same type and many pieces do not have the Wedgewood mark. Several pieces of the white-on-blue "Jasper ware" were seen in the collections, separated from context, as well as two floral handles in the collections I examined. The white relief was of a horse and several human figures. This ware was a luxury product throughout almost its entire life, although in the 1820's it certainly did not cost the fancy prices of a hundred years later.

Ironstone china was noted in some strength in surface collections previously studied but did not show up in these excavated collections. It is generally later than the dates ascribed to the New Echota occupation, occurring mostly after 1850. One piece of Ironstone or hard porcelaneous ware with a decoration in low relief was noted.

Marks: Only two marks were identified with certainty. One was Enoch Wood & Sons, Burslem, a mark surrounding an eagle with shield body. This mark was used between 1818 and 1846. A Davenport over an anchor was used by a factory that existed at Longport, England from 1793 until 1882. Another Davenport mark was tentatively recognized.

It is to be expected that English marks would predominate in this period as the English potters had nearly driven American wares off the market. The Enoch Wood & Sons mark was on a blue feathered edge plate. In addition to the factory marks a series of artist's marks were found. These were an "R" in brown, three blue dots, and " " in blue. These are believed to be artist's marks for the Worchester factory of England. They, of course, occurred only on direct painted sherds. The dates of the marks surely agree with the occupation of the site.

A final group of sherds are heavy earthenwares and stonewares that can well be called jug wares, although they comprise fragments of pitchers, casseroles, and churns as well as jugs. They have salt or lead glazes ranging from a metallic brown, to yellow, with the majority ranging in the browns and tans. The stonewares are usually salt-glazed with colors of grey or olive. The earthenwares are usually lead glazed with tan or orange colors. This is a common utilitarian, rough class used mainly for kitchen and farm purposes. Some of it may well be American as it was the cheap ware that could compete with English types. The glazes are usually thin and watery and can be distinguished from earlier varieties of the same class.

The sherd count for the excavated materials was as follows:

Transfer printed - 385

Blue - 268

Pink - 23

Green - 13

Black - 13

Sepia - 31

Magenta - 8

Brown - 2

Direct Painted - 285

Blue - 93

Polychrome - 96

Brown - 1

Banded - 90

Cobalt hazy - 5

Featheredged - 120

Blue - 100
 Green - 17
 White - 3
 B/ W Splatterware - 2
 G/ W Splatterware - 1
 Yellow Semip. - 5
 White Semip. - 409
 B/ W Porcelain - 1
 Ironstone - 3
 Jasper ware - 2
 Earthenware - 33
 Greenish - 1 Brown - 3 Orange - 1 Tan - 27 Metallic - 1
 Stoneware - 123
 Gray - 34 Black - 9 Brown to Tan - 80
 Total 1,342

In examining additional ceramics from the site of New Echota a few additional notes were made. These observations do not in any way change the original report but they do amplify the first impression. It was not possible, in the time available, to examine each lot of sherds in detail, or to compare the types with the types previously established. Only one additional potter's mark was seen in this collection. It was the "Clews Warrented" mark of a Staffordshire pottery at Cobridge operated by James Clews from 1819 to 1829. It appeared on a semiporcelain quite similar to that of the bulk of the material described before.

A new type that appeared in small quantities was a semiporcelain decorated with a blue splatter ground on which appeared a somewhat stylized fowl in direct painted polychrome. The inside of the saucer and outside of the cup seemed to be the areas decorated. The background blue may actually be a sponge technique rather than a true splatter. The brush painting of the fowl was well done and vigorous. It is closely related to the other direct painted types previously described. The splatter technique is apparently derived from the rather similar technique used on the Metropolitan Tin Enameled wares, often called "English Delft," that directly preceded the development of semiporcelains in Great Britain.

A few sherds were seen of a honey colored or brown glazed ware. This was on a soft paste similar to very early Staffordshire wares. The sherds have small parts of pressed or applied raised figures covered

by the glaze. This material, of course, looks like a late variety of the Nottingham wares of England and may be a late variety of that group. It also bears some resemblances to some of the Bennington wares made in the United States. From the small sample and the absence of any marks it is possible to judge but it is least possible that it is Bennington ware.

One sherd of a slip-decorated stone ware was seen. It appears to be a combed yellow and brown type but is rather small and I cannot be certain that it was actually combed. This slip-decorated combed, or marbled, ware was extremely popular in the first half of the 18th century, after which it began to be generally replaced by salt glazed stone-wares of blues and greys. It is probable that this piece, however, dates from the early 19th century and not from any earlier occupation of the site.

Other than these sherds, the collection from the later digging seems to be very similar to that reported earlier. The collection is clearly from the 1820's. The preponderance of English material indicates that the new nation had not yet been able to establish its industrial independence from the former mother country. The Cherokee, like their white compatriots, imported much of their table ware from Great Britain. The variety of ceramics indicate how much some of these Cherokee had become acculturated and had taken over the culture of their white neighbors. The families of the missionaries among them would be expected, of course, to depend largely on traditional table service.

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European Ceramics from the Cherokee Capitol of New Echota
(Fairbanks)

Plate I DIRECT PAINTED SEMIPORCELAIN

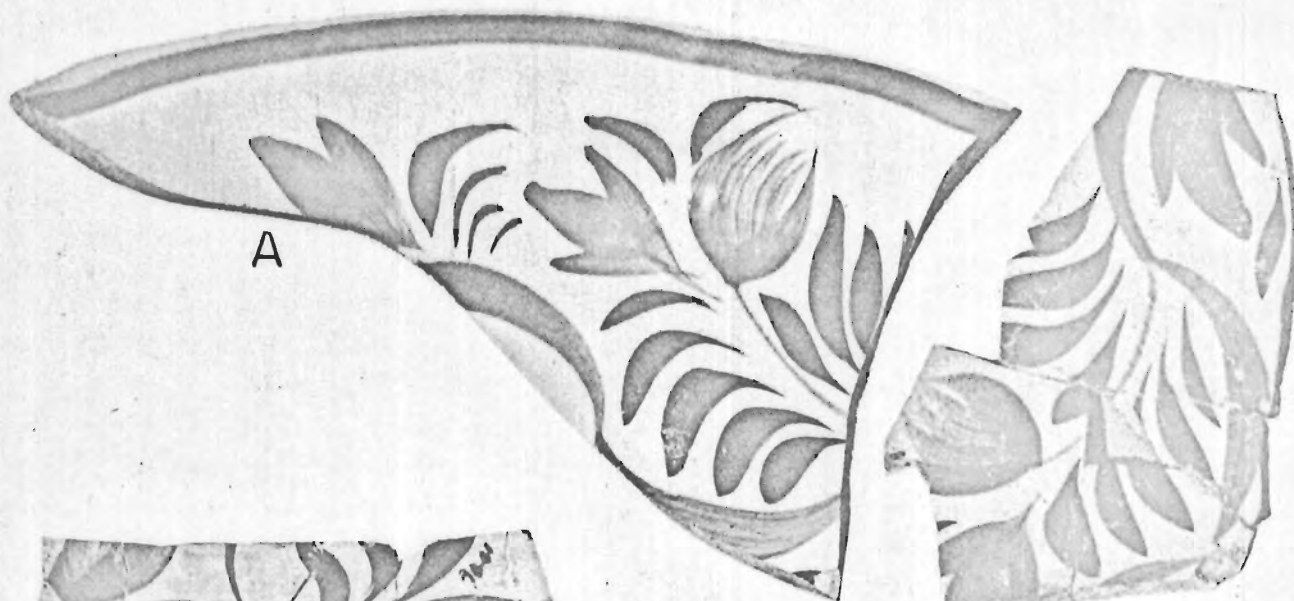
- A - C
Blue-on-White Plate Sherds
 - D - F, H
Cup Sherds
 - G Saucer
- Probably all Worchester potteries. Various scales.

Plate II BLUE FEATHEREDGED SEMIPORCELAIN

showing the range of impressed rim treatment.
Various scales.

Plate III TRANSFER PRINTED and BANDED SEMIPORCELAINS

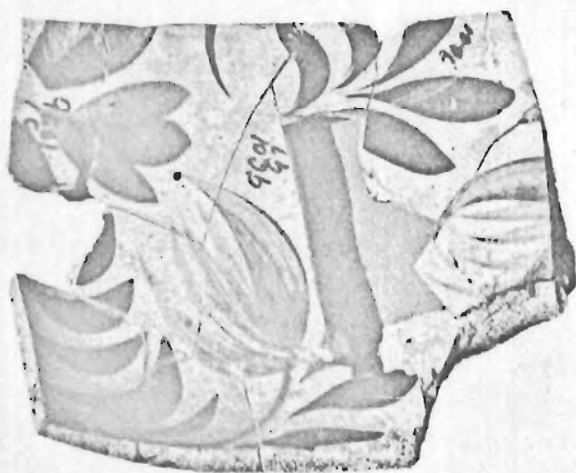
- A, D
Transfer Printed Blue-on-White Plate Sherds
 - B - C
Pink-on-White Plate Sherds
 - F, G, H, L
Blue-on-White Sherds
 - I Sepia-on-White Alphabet Plate Sherd
 - J Blue-on-White Spatterware Semiporcelain
 - E, K
Banded Ware with Finger Painting
 - M Banded Ware Cup with impressed lattice in green at
rim and sepia dendritic designs on tan band.
- Various scales.



A



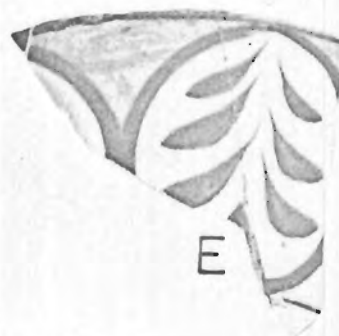
B



C



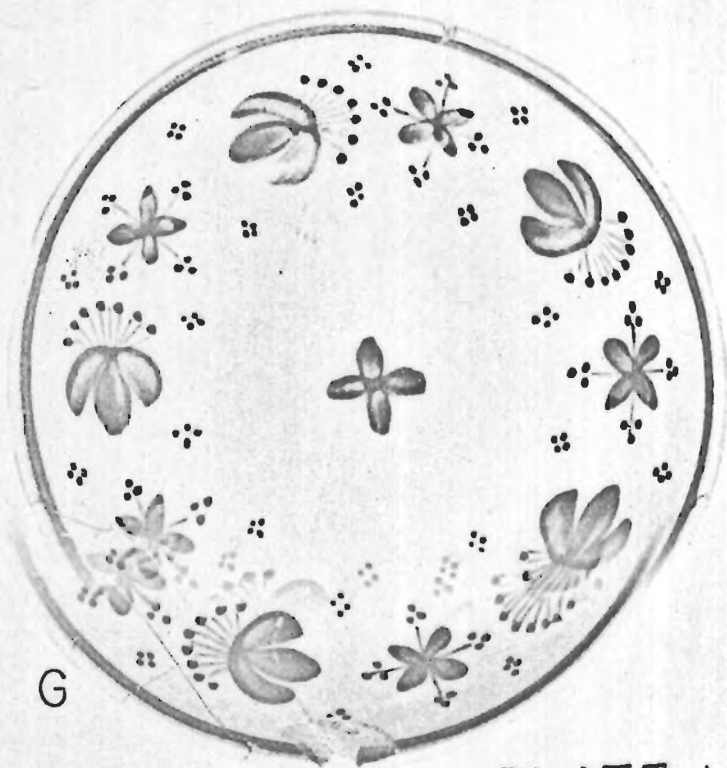
D



E



F



G



H

PLATE I

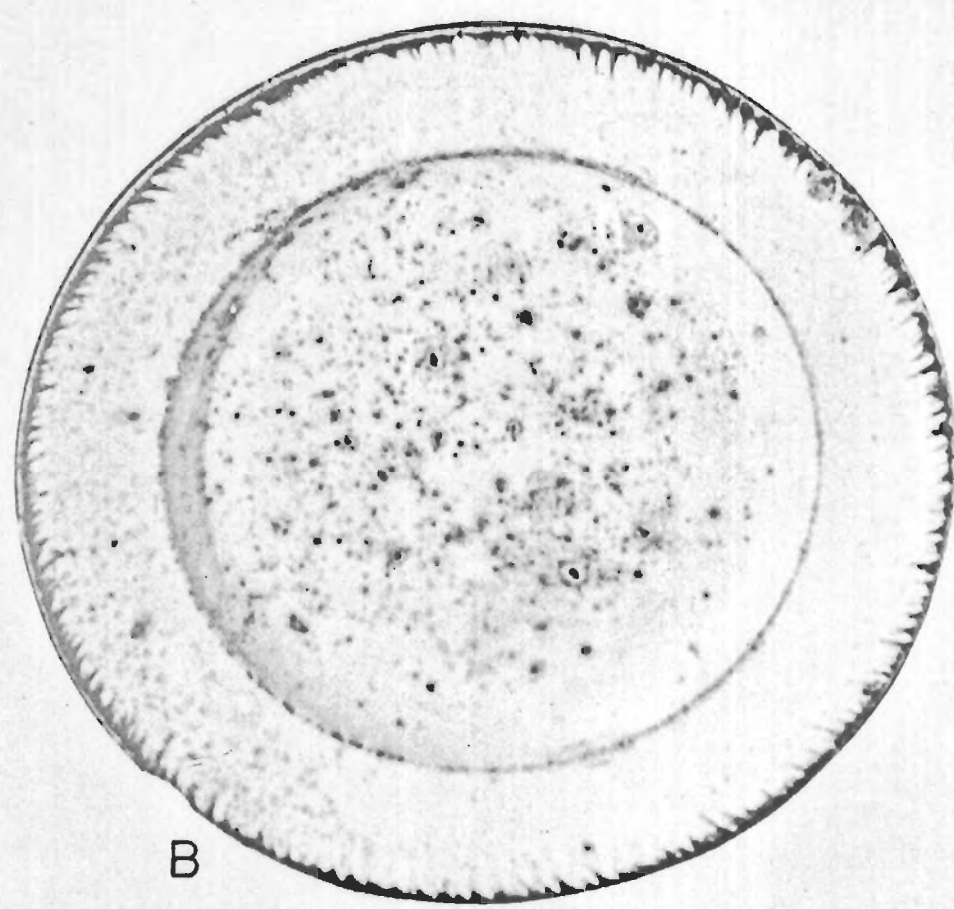
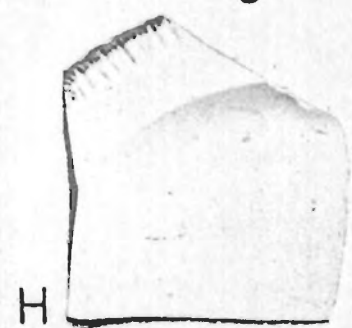
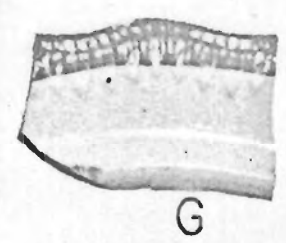
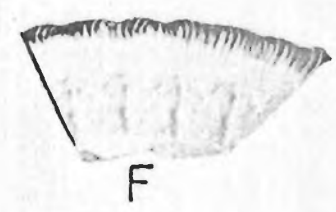
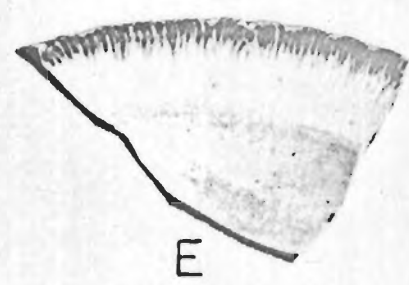
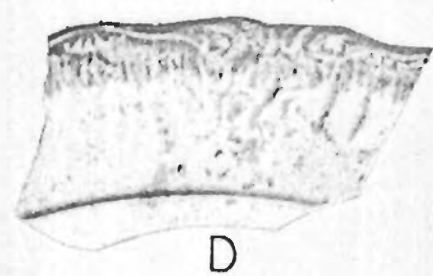
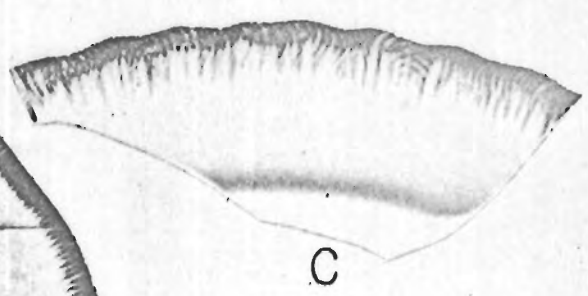
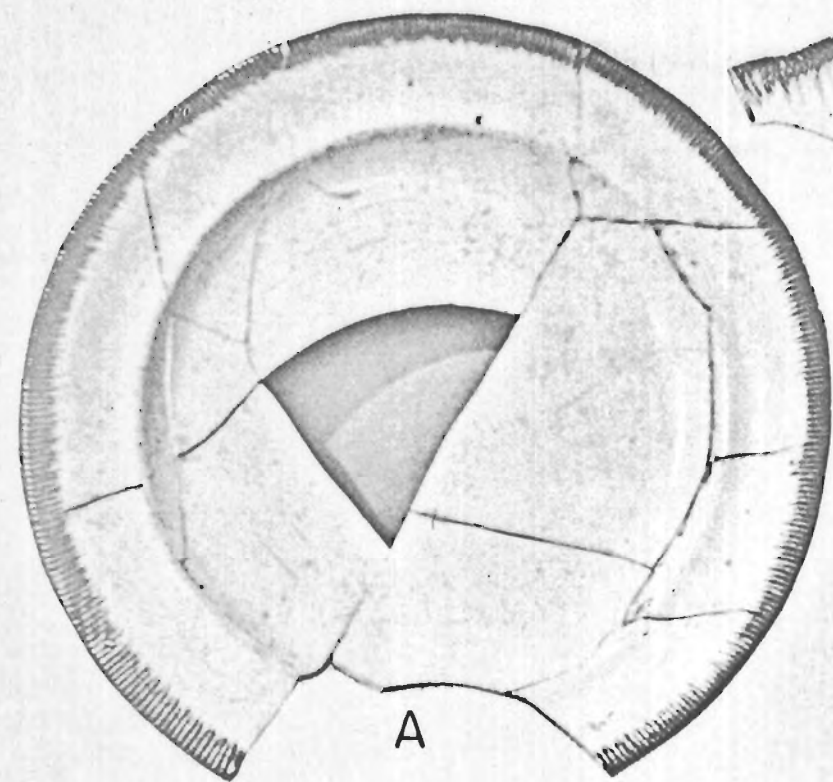
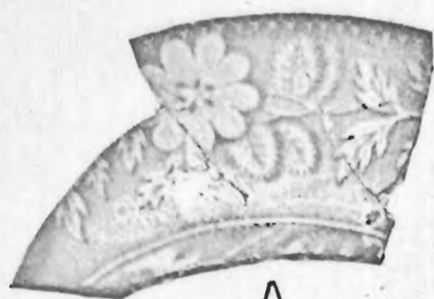


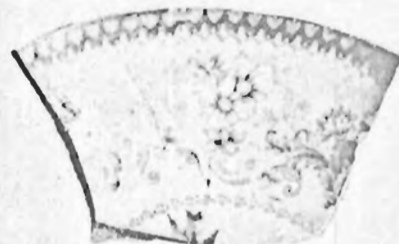
PLATE II



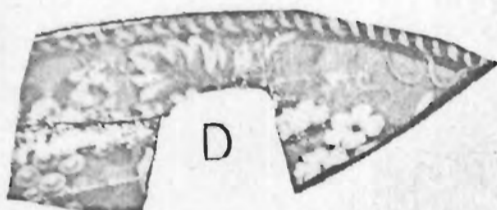
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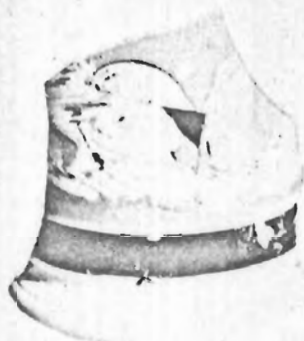
B



C



D



E



F



G



H



I



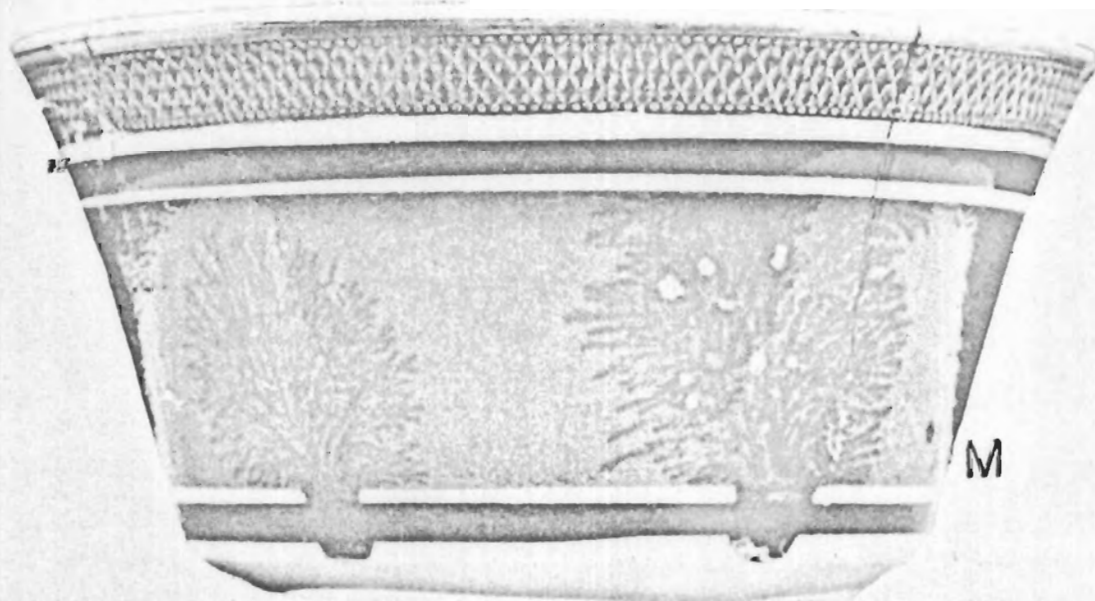
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K



L



M

PLATE III

A METHOD OF CLEANING IRON ARTIFACTS

by

Stanley A. South

As excavation of the ruins of the homes in Brunswick Town progressed, a wide variety of 18th century iron objects was recovered. As boxes of these objects were cataloged, a method of cleaning them to prevent further damage by rust was needed. Various methods are being used to solve this problem. The difficulty with these methods as a rule is the time involved, and the involved process necessary to achieve satisfactory results. For instance a chemical method used by the National Museum involves soaking in a 5% solution of sodium hydroxide for six weeks, during which time the specimens are removed periodically and washed in dilute sulphuric acid, then in water, than back into the caustic soda. A similar method involves boiling the specimens for two days in a 20% solution of sodium hydroxide, which can prove dangerous to handle. Another method, now being used is electrolysis. Still another method sometimes used is to heat the specimens red hot in a stove and then plunge them into cold water, which results in some of the rust being removed, but is too violent for delicate artifacts.

At Brunswick Town, for one reason or another, none of these methods were considered satisfactory for our purposes, the main reason being the lack of time necessary to spend on either of these methods. What was needed was a method that would be rapid, simple to accomplish, produce excellent results, and not involve an elaborate nor expensive quantity of equipment. The solution to all these problems was found in sandblasting.

If enough iron were to be cleaned, it might pay an organization to buy or build a sandblasting machine consisting of an air compressor, an air tank, and a sand tank, but it is doubtful that a savings could be effected over having it done by a professional sandblaster. Shipyards, appliance refinishing plants, glass companies, and some automobile body shops have sandblasting machines. The price for blasting will vary from fifteen dollars an hour, which is too high, to four dollars an hour, which is quite reasonable. At Brunswick Town we pay four dollars an hour, in which time fifteen to twenty artifacts can be cleaned. Compared with the other methods, this one is far superior in time and money saved, and the results are completely satisfactory.

The procedure involves directing a jet of air blown sand from a hose onto the object to be cleaned. A respirator mask and protective helmet must be used to protect the operator (Plate I). The cataloged artifacts from Brunswick Town to be cleaned were in paper bags and boxes with the catalog number on the outside. As the operator completed cleaning one object, it was placed back into the bag from which it came

by an assistant who handed him another artifact, thus utilizing to the maximum, the time the operator was working.

As the stream of sand is directed onto the object every trace of rust is removed down to the bare grey metal in a few seconds. However, by regulating the distance of the nozzle from the artifact, a stronger or weaker flow of sand could be directed against the object. This ability to control the degree of the cutting of the rust enables the operator to proceed lightly on very thin and fragile portions of an artifact, and cut to the bare metal on thicker, stronger areas. Objects such as a belt buckle that sometimes have rusted so much that only a shell of rust remains can be gone over lightly and the sand particles etc. removed, without cutting into the artifact to any great depth, thus cleaning the exterior of such badly rusted objects more satisfactorily than can be done with any other method. In fact, such badly rusted objects cannot be cleaned by any method except slightly by sandblasting.

Once the articles are cleaned they should be dipped into a rust preventative such as Penetrol, a rust preventative made by the Flood Company, Hudson, Ohio. After this dries they can be dipped into a pan of hot lacquer, or into a gloss varnish. After the first coat of varnish dries, they can be dipped into satin varnish and they will dry with a soft finish. Once the articles are sandblasted they should never be touched by the bare hands until a rust preventative is applied because the acid on the hands will produce rust spots. Until they are coated they should always be handled with gloves.

The sandblasting method of cleaning iron artifacts is thought to be the most successful method yet found for cleaning artifacts in a short time on a tight budget. Twenty artifacts such as locks, hinges, pintles, jews harps, keys, buckles, nails and tools can be cleaned and treated with rust preventative, and coated with a protective coating ready for display in a museum in less than two hours time, not counting drying time for the lacquer or varnish, and at a cost of less than five dollars, a cost of twenty-five cents for each artifact. No other method can match this achievement.

This method does not, of course, remove the impregnated salts that may have soaked into the metal, especially in the case of large thick iron artifacts, but it is highly effective for removing the rust. With small artifacts of the type usually recovered by the archaeologist this method has proved highly satisfactory, and no soaking to remove salts has been found to be necessary.

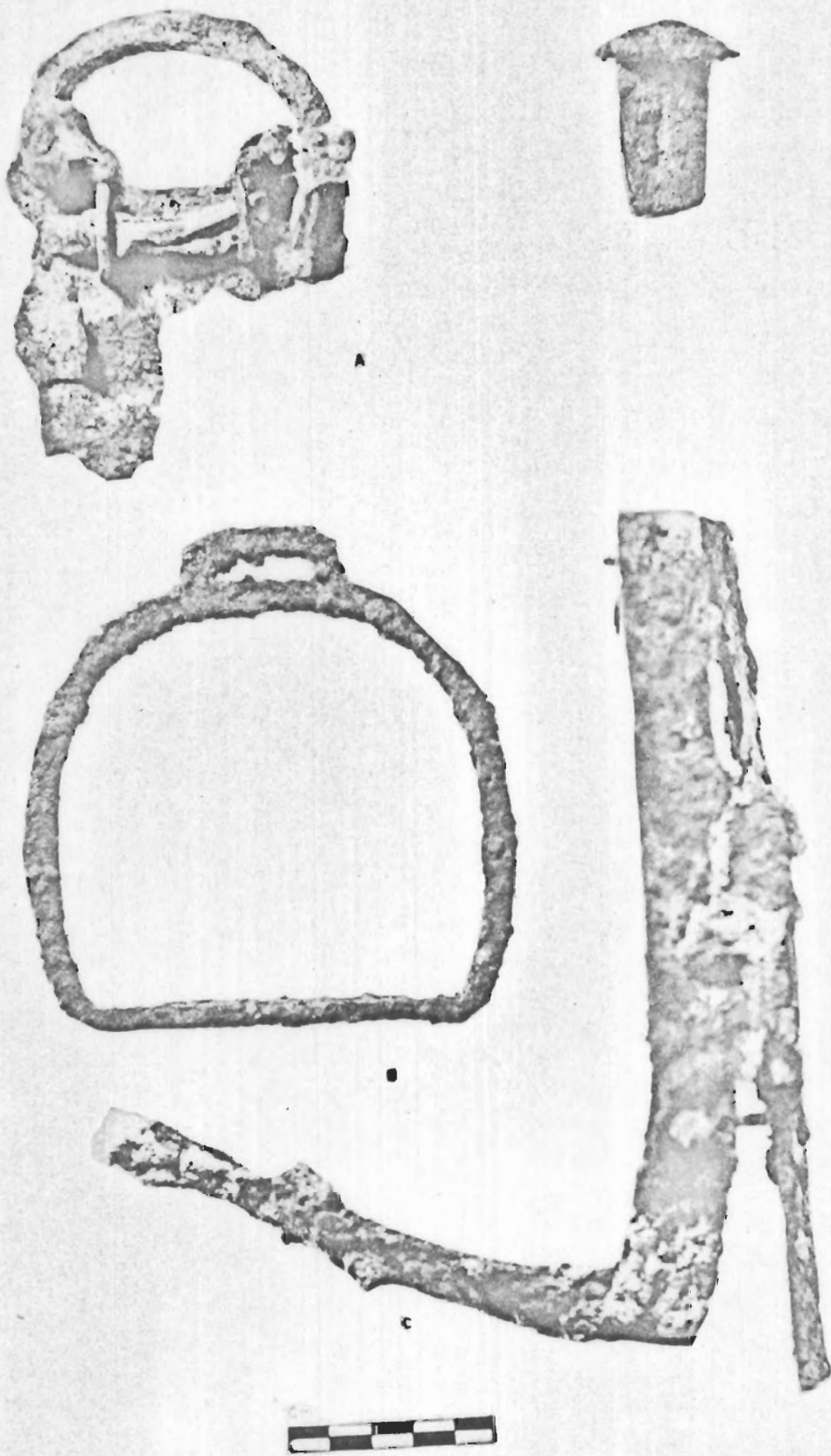


Plate I

Iron Objects Before Cleaning

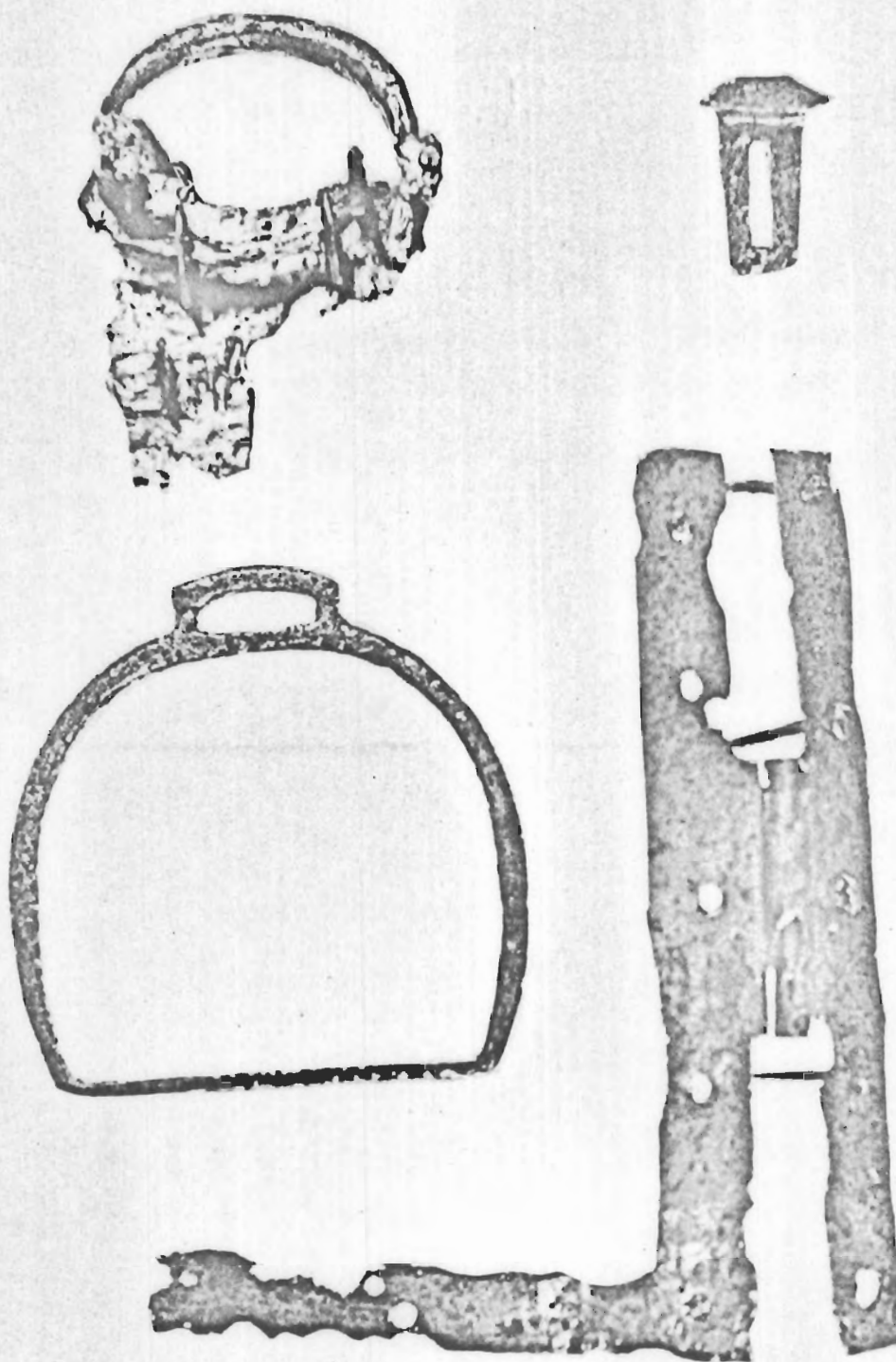


Plate II

Iron Objects After Cleaning by Sandblasting

A NEW METHOD OF CALCULATING DATES FROM KAOLIN PIPE STEM SAMPLES

by

Lewis R. Binford

In 1954 Harrington published an article on the study of metrical changes in kaolin pipe stem hole diameters through time. He found that there was a general and regular reduction in the hole diameters as you go from 1620 to 1800. In attempting to use this correlation to date Indian occupations in the Virginia-North Carolina area in 1954-55, I found that Harrington's method of data presentation was rather clumsy when attempting to compare archaeological samples of pipe stems to the control data or basic data on which the correlation was originally determined. Harrington had presented the observed correlation as a series of percentages for the occurrence of various hole diameters by forty year time periods. Very seldom is an archaeological sample likely to correspond to the forty year time periods set up by Harrington, so that when comparing observed percentages with the basic chart it was very difficult to arrive at an accurate age estimate. While attempting to eliminate this cumbersome difficulty it became quite obvious that Harrington's observed correlation of a metrical attribute with time was ideal for regression analysis. I computed from Harrington's percentages a straight line regression and arrived at a formula which would allow me to substitute values from any archaeological sample into the formula and determine an absolute date which would be the mean date for the period of sample accumulation. This I was able to do by using Harrington's original percentages and converting them to mean hole diameters for the given time period. This allowed me to calculate a straight line regression formula using years and mean hole diameters. The resulting formula is: $Y = 1931.85 - 38.26X$, Y being the date you are attempting to determine, 1931.85 being the theoretical date, if we project this correlation, at which the stem hole diameters would reach zero, and 38.26 being the slope of the line, that is, the interval of years between a mean of any one of the various metrical categories 5, 6, 7, 8, or 9/64 of an inch. If you had a sample with a mean of 5/64ths, and another with a mean of 6/64ths, there is an interval of 38.26 years between them according to Harrington's correlation. X in the formula is the mean pipe stem diameter for the sample you are attempting to date, and this is determined simply by measuring the hole diameters of the pipe stems in the sample and computing the arithmetic mean for the sample. The formula then gives you the mean date of the pipe stem sample, and is the mean date for the period of accumulation.

The first set of data on which I used this particular formula was the historic Nottoway and Meherrin Indian sites in the Virginia area. I had very good data as to the period of occupancy for at least four documented sites, and in all cases (this was the first application of the

formula as such) I was amazed. I couldn't believe the results could be so close to the known dates. On one particular site, a Warrasqueoc occupation of 1675-1702, the mean pipe stem date determined by this formula was 1683, and with the other sites I found equally good results. In conversing with Carol Erwin, who is writing up the historic material from the Macon Trading Post, I learned that she had found, in using the formula, that the mean pipe stem dates fall between the known estimated periods of occupation for the site. H. Geiger Omwake, who is one of our better authorities on pipe makers' marks, originally analyzed five fairly well dated historic sites, using Harrington's method in an attempt to demonstrate that the correlation was in fact valid. I have reapplied my formula to his data and was able to make more refined temporal estimates for the sites which were actually closer to the known dates. The other cases of application of the formula are Fort Michilimackinac and Brunswick Town. For the former site we have excellent documentation on the date of abandonment although its date of establishment is in dispute, being somewhere between 1700 and 1720. In addition to the documented span of the site, we have documented dates for the period of use of various structures, one of which was a soldiers' barracks built in 1769 and torn down in 1781. From the fireplace and a small closet that was adjacent to the fireplace of this structure a large sample of kaolin pipe stems were recovered yielding a mean pipe stem date of 1776, right in the middle of the known period of occupancy. These cases of application have convinced me and others that Harrington's correlation and this method is valid and quite useful for dating historic sites.

There are certain limitations to the method. When I applied the formula in the analysis of a sample from Mackinac Island, occupied from 1780 until the present, I found that the correlation fell to pieces. Known samples of pipe stems derived from hearths dated 1805 yielded pipe stem dates of 1732. In other cases of the application of the technique to late materials the results were equally disturbing. In the way of explanation it is quite obvious that with the influx of pipes manufactured in Montreal and at other seats of American pipe making there is a corresponding reoccurrence of certain "early" styles, in addition to the appearance of a new style of elements. This break in the traditional direction of stylistic change is responsible, I feel quite sure, for the breakdown in the correlation after roughly 1780.

I will mention certain sampling problems which also will affect the validity of any mean date determined by this technique. First, it must be kept in mind that you must have an adequate sample, that is, a large enough sample to be representative of the population being dated. The next major caution was brought forcibly to my attention by the material from Fort Michilimackinac. Early in the analysis of the Fort material it was obvious that throughout the span of the fort there had been an increasing logistics efficiency as well as an increase in population. The

factors taken together resulted in there being many more pipes in use during the late period as contrasted with the early period. Thus, the increased rates of accumulation for the late period tend to skew the total sample from the site in favor of a later date. This brings us to the point that the accuracy of the date depends upon the possession of a random sample of a population which was stable with regard to rates of deposition through the period of sample accumulation. If either one of these conditions are not met, then you can expect less accuracy in dating.

I might briefly mention that by calculating the standard deviations of the means of samples, you have a rough estimate of the length of time over which the sample was accumulating.

In summary the regression formula presented here allows you to estimate from the variation observed in the hole diameters of kaolin pipes, a mean date for the period of sample accumulation and by using standard deviations estimate the length of time involved in accumulating the sample. The accuracy of the date depends upon (1) derivation of the sample from a population deposited prior to 1780, (2) randomness of the sample, (3) representativeness of the sample, and (4) a constant rate of accumulation throughout the period of sample building. I might mention that these limitations apply whether using Harrington's percentage technique or my regression formula.

KAOLIN PIPE STEM DATES FROM THE BRUNSWICK TOWN RUINS

by

Stanley South

In 1954 J. C. Harrington's paper on the dating of kaolin pipe stem fragments based on the reduction of the size of the bores through time was published. (Harrington 1954) Since that time other historic site archaeologists have used Harrington's method and found it useful. Geiger Omwake found it valid in analysis of the pipe stem fragments from the Schurz site in New York. (Omwake, 1958) Recently Lewis Binford worked with dating pipe stems from Fort Michilimackinac in Michigan, (Binford 1961), and worked out an improved method of computing the mean date of a sample, based on Harrington's data. The purpose of this paper is to present the results of the use of these pipe stem dating methods with samples taken from the ruins of the 18th century English colonial town of Brunswick in North Carolina.

The use of Harrington's method involves measuring the stem hole diameters in terms of sixty-fourths of an inch and converting then into percentages of the total sample, and comparing the resulting data with a table worked out by Harrington. And adaptation of this table by Omwake (Omwake 1958) is shown in Table 1.

Table I. Distribution of Pipe Stem Bore Diameters
During Arbitrarily Determined
Time Spans

Time Span	Percentage of each diameter (in inches) represented					
	9/ 64	8/ 64	7/ 64	6/ 64	5/ 64	4/ 64
1620-1650	20	59	21			
1650-1680		25	57	18		
1680-1710			16	72	12	
1710-1750				15	72	13
1750-1780				3	20	77

This method is useful when making a generalized estimate of the chronological position of the site from which the sample was taken, but as Omwake points out, percentages from other sites do not correspond exactly with those of Harrington, due "to the virtual impossibility of finding sites whose dates of occupation duplicate the various time spans selected by him. (Omwake 1958) This fact does not effect the validity of the method, however, it does present some problem in comparison of the sample percentages with the time spans shown on

the Harrington table. Faced with this problem, Binford has worked out a most useful means of arriving at the mean date of a pipe stem sample.

Binford's method involved the calculation of a regression line for the changing hole diameter through time, and arrived at a formula for computing the mean date. In calculating the regression line he determined that the date 1931.85 would be the date at which the hole diameter would theoretically reach zero. The slope of the regression line equals 38.26. With these figures he worked out the following formula: $Y = 1931.85 - 38.26X$. Y is the unknown date, and X is the mean measurement for the hole diameters for the sample in question. (Binford 1961)

We can apply the Binford formula to Omwake's data from the Schurz site as follows:

Table II

7/ 64ths	33 = 221
6/ 64ths	79 = 474
5/ 64ths	92 = 460
4/ 64ths	10 = 40
	<hr/>
	214 1195 Mean hole diameter = 5.58

Substituting the mean hole diameter of 5.58 inches in the formula we arrive at a mean date for the sample of 1718, which compares favorably with the 1720 mean date computed by Omwake from Harrington's table. If either the initial occupation date, or the terminal date of the site is known, the mean date can be used to arrive at a more detailed chronological position for the sample than is possible with the Harrington table.

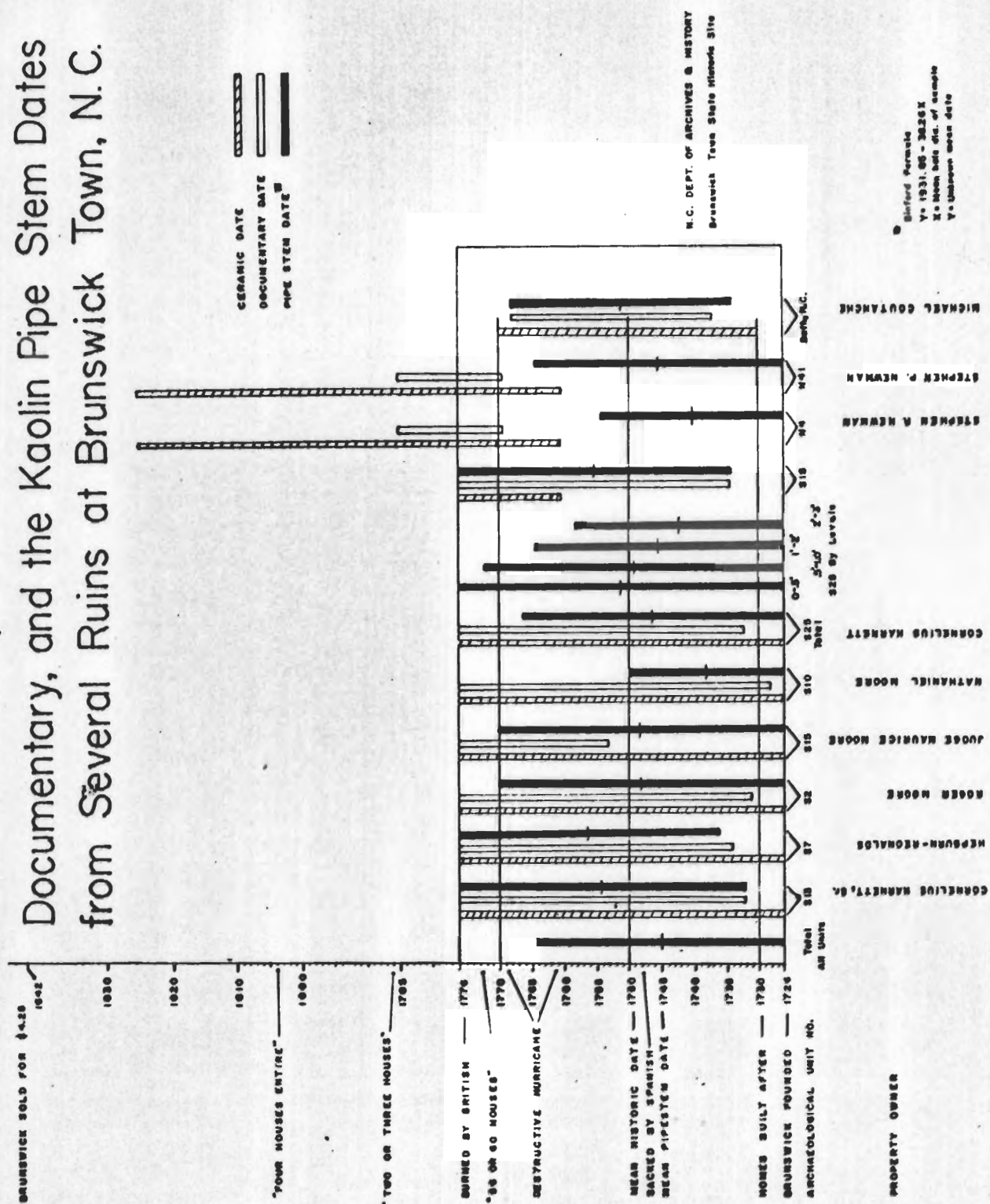
From nine ruins at Brunswick Town a total of 5374 pipe stems have been recovered. Over 55% of these came from a six room inn. These stems have been measured and the resulting data substituted in the Binford formula. Since all stems recovered are either 4, 5, or 6/ 64ths inches in diameter, the time span for the occupation of the town according to Harrington's table, would be from 1710 to 1780. We know the town was occupied from 1726 to 1776, so the pipe stem chronology is correct, but not very helpful except in a very general way. With the Binford formula the mean date can be used along with the known dates for each ruin in order to obtain a more restricted chronological span for the occupation of a particular site. The use of the Binford formula at Brunswick Town can be seen in Table 3, where the pipe stem dates are compared with the known documentary date, and the ceramic date for each excavated unit.

Although Brunswick Town was begun in 1726, the deed records indicate that most homes were built after 1730, and although the town is known to have been burned in 1776, it is also known to have been in decline and abandonment before it was burned. Therefore, the effective occupation period for the town generally was from around 1730 to 1770, with a mean date of 1750. The pipe stem mean date is 1745. As can be seen from Table 3, the ceramics, documents, and pipe stems correlate very well for some excavated units, while others do not. Unit S15, for instance has no documentary data before 1753, but the ceramics and pipe stems indicate that it was occupied earlier. Unit S10, on the other hand, has documentation from 1728 to 1776, but the pipe stem analysis indicates that the mean date was 1738, with a terminal date of 1750. Unit S25, the inn where most pipe stems were found, indicates a good correlation between the three dating methods for the unit. In the yard to the back of the inn the refuse from the building had accumulated to a depth of three feet. The pipe stems were analyzed by levels, and indicate an earlier time span for each descending level. The advantage of the Binford formula is well illustrated here.

Unit S18 presents a different problem. Here the ceramic analysis indicates that the unit was occupied primarily between the 1760s and 1776, yet the pipe stems indicate a mean date earlier than the beginning date of the ceramics. Units N4 and N41 are similar to S18 in that a late ceramic date is not paralleled by a late pipe stem date. Along with the Creamware, Mottled-glazed Creamware and White Earthenware ceramic types dating from the 1760s to the first quarter of the 19th Century, one would have expected to find a high percentage of pipe stems with 4/64th inch diameter bores, but such was not the case. There appears to have been a decrease in the pipe supply in Brunswick Town after the 1760s, at least in these three units. Perhaps further excavation will help to determine why structures occupied during the last years of Brunswick's history present pipe stem dates a quarter of a century earlier than would be expected. This lack of correlation of the pipe stem data with the documentary and ceramic data in late ruins at Brunswick is shown graphically in Table 4.

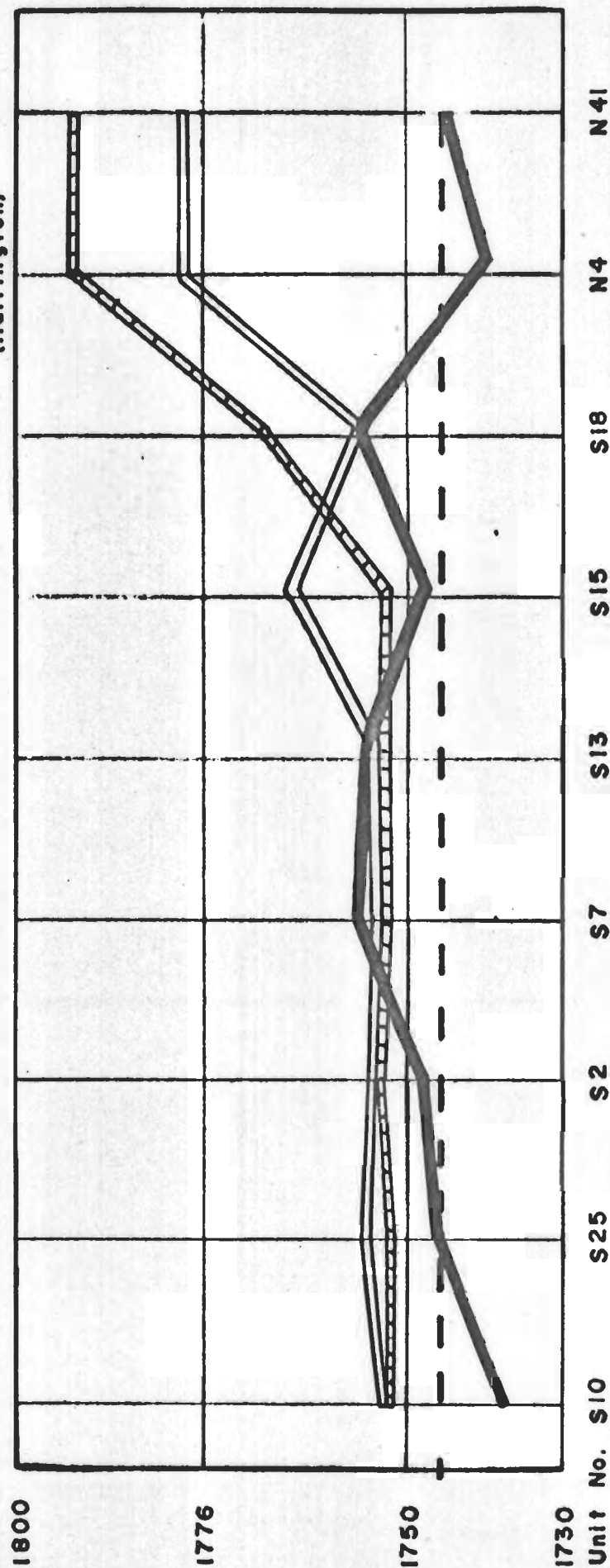
In summary it can be said that (1). An unexpected disconformity in the pipe stem data occurs in late ruins at Brunswick Town. (2). The Binford method of arriving at the mean date for pipe stem samples appears to be a convenient and a valid method of dating.

The Relationship Between the Ceramic, the Documentary, and the Kaolin Pipe Stem Dates from Several Ruins at Brunswick Town, N.C.



The Mean Date Relationship for the Ceramics, Documents, and Pipe Stems from Several Ruins at Brunswick Town, North Carolina

Ceramics
 Documents
 Pipe Stems
 (Blinford)
 Pipe Stems
 (Harrington)



N.C. Dept. of Archives and History

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SALVAGING SEALS FROM THE EARTH AND THE ARCHIVES

by

Stanley South

During the excavation of the ruins at the 18th century English colonial town of Brunswick in North Carolina, the soil levels are troweled to recover the objects that can be located in this manner, then all the soil is passed through a screen with a one quarter inch mesh. This screening allows the recovery of objects that may have been missed in the troweling process. The soil is then passed through a window screen to recover objects that are smaller than one-quarter inch. Thousands of brass pins, needles, buck shot, hundreds of beads, and other small objects are found using this method.

Among the artifacts recovered from five ruins at Brunswick Town are five seals, or matrices made of glass, used to impress into sealing wax the design on the matrix. The wax impressions made by these matrices are known as seals, as is the matrix that produces the impression. The wax seals were used on wills, land grants, and other legal documents beside the names of the signers. They were also used to seal letters of correspondence. These personal seals were frequently carried in the form of a signet ring, though not all people carried them. Those who did not own a seal could borrow one from one of the witnesses present when the document was signed, or he could draw one with the pen, and write "seal," or "his mark" on the do-it-yourself seal.

The seals found at Brunswick Town are of a rampant lion, a full length figure of a clown with the word "Harlequin," the head of a woman, and the head of a man, and a stylized pair of crossed anchors and rope. The American historic site archaeologist frequently recovers artifacts, such as these seals that require research in various odd publications in order to determine something of their function, their history, and the evolution of their form. In researching seals it was found that the reference sources usually mentioned the early development of the art of engraving seals, and its evolutionary development as an art form to the sixteenth century, whereupon the author dismissed the development in the seventeenth and eighteenth centuries with a statement such as the following: "...the general tendency of the art was downwards, and the use of the seal was gradually becoming merely formal among the masses. ...The reduction of the personal seal, used to corroborate a deed, to a small circular piece of red paper, such as is found on every legal deed, had delivered a death blow to the erstwhile carrying and using of a private and peculiar seal."* This consistent dismissing of the development of the seal in the seventeenth and eighteenth centuries by authors writing

*Birch, Walter DeGray, Seals, p. 193, Methuen & Co., London, 1907.

on seals, leaves a noticable lack of reference material available to the archaeologist who may want to determine something about the seals he is recovering from his American colonial sites.

In order to have some basis for comparison of the seals found at Brunswick Town, a search was made in the state archives for wills and other documents of the seventeenth and eighteenth centuries having seals remaining intact. It was here in the archives that an unfortunate situation was found to exist in regard to many documents containing seals. The process of laminating documents in transparent plastic has been a technique of preserving documents which has been welcomed by archivists, librarians and historians concerned with preserving the printed word. However, since a wax seal is not the printed word, it melts when heat is applied to bond the sheets of plastic together. In order to avoid too large a smear of red wax on the document during lamination, the seal is carefully picked away so as not to damage the paper. The lamination can then take place without fear that a wax smear might obliterate a portion of the signature. What happens to the wax seal? Since it is old and cracked on the document, it falls to pieces when picked away from the paper, so the pieces are swept into the waste basket. No record is made of the seal except in certain cases the notation "with seal" is made in the description of a document. This situation has been found to exist not only in the state archives, but in the leading libraries where the process of preserving the written word through lamination continues.

Recently it was learned that a group of early eighteenth century documents was discovered in an attic near Brunswick Town. It was reported that there were several seals intact with very good impressions on several of these papers. By the time the papers were examined by this writer they had already been preserved by the archivist, and the seals were red smears. How wide spread this practice is, is not known but if seals are continually laminated out of existence at the present rate, in a hundred years there will be very few examples of 18th century seals remaining on documents in our archives.

Fortunately not all seals in the archives are in danger of being destroyed. An earlier process of preservation of documents involved placing the paper between layers of silk, without heat, and this process not only does not damage the seal, it actually preserves it by keeping the cracked pieces together and prevents them from becoming separated from the paper. However, the silking process added acids to the document, so is not considered a satisfactory method today.

In order to salvage as many of these seals as possible, the writer is taking photographs of seals on documents in the archives and in the major libraries of the state. Then when the seals are destroyed, a photograph will remain. To date a total of one hundred and fifty seals have been photographed from documents of the seventeenth and eighteenth centuries.

From these a tentative pattern can be seen. If photographs of seals from archives throughout the colonies were available, a significant developmental pattern might become evident. The pattern reported here depends, of course, on photographs taken of those seals that have survived, and whose impressions are distinct enough to be clearly seen. Some seals were covered with a strip of the document on which they were placed, resulting in an illegible seal.

Several personal seals of property owners in Brunswick Town have been found on wills in the archives. As other seals are recovered from the ruins of Brunswick they can be compared with these seals from documents, and in some instances a seal may be traced to a particular person. An almost exact duplicate of the rampant lion seal found at Brunswick in the inn was discovered on the will of James Ward of Chowan County dated in 1744.

The association of a particular seal with an individual connected with his site is of great interest to the historic site archaeologist from an historical point of view, but the association of the seals with a development pattern through time is of interest to him as an anthropologist concerned with evolving cultural forms.

In the last half of the seventeenth century armorial seals with a shield motif were used, as illustrated by the seals of the lord proprietors of North Carolina. There is a definite difference in the detail involved in these seals of prominent men, and the winged hearts, fleur de lis, swans, angels, and initials seen used by less well known people on this side of the Atlantic.

In the first half of the eighteenth century the armorial shield was continued along with hearts, flowers, angels, harlequins, anchors, initials and animals. The lion was frequently used, sometimes rampant, or ridden by a man. Ten percent of the seals of this period were relief heads of men or women with a drape around the shoulders or a wreath around the forehead, or with a military helmet. By the last half of the eighteenth century 48% of the seals in the sample were of relief heads.

The type of research project reported here, where the archaeologist begins with an object he has recovered from a colonial site, and follows through on the research as far as his time and funds will allow, is a good example of the kind of tangent the historic site archaeologist frequently finds himself involved in. He finds a wig curler and may become interested in searching Diderot's Encyclopedia to discover something of the wigmaker's trade, or he may take a trip to Spain to learn about glass bead making techniques, but in the final analysis he is concerned with the interpretation of the data he recovers from the earth, regardless of the sometimes devious route he may take in arriving at his goal. Whether he is dealing with Indian potsherds or worked stone,

glass beads, kaolin pipe stems, brass kettles, or wax seals, the American archaeologist is primarily concerned with culture history as it is reflected in the evolution of artifact forms through time. In some instances, as with the seals reported here, he can make use of the archival and historical data, but in most cases he cannot afford to lean too heavily on the historian, the ceramicist or other reference sources outside the Field of Archaeology, but must analyze and interpret his archaeological data utilizing archaeological techniques. It is largely through archaeology that we are beginning to learn something about the development of gunflints, ceramics, beads and other cultural items recovered from historic sites. The historic site archaeologist frequently turns to history for aid, but he should not fail to turn back to archaeology and apply its techniques for recovery, analysis and interpretation of archaeological data to the fullest.

EARLY 19TH CENTURY TRADE MATERIAL FROM
THE COLFAX FERRY SITE
NATCHITOCHES PARISH, LOUISIANA

by

Clarence H. Webb

The Colfax Ferry Site from which I am presenting material is located twenty-five to thirty miles south of the historic Natchitoches Post site in northwestern Louisiana. The chief reason for presenting this is the comparative infrequency of trade materials found and described from Louisiana and the lower Mississippi Valley, and a hope that our findings may be of value for comparison with contact materials from the eastern portion of the southeastern area.

The first European contact with this part of Louisiana was by Bienville and St. Denis in the year 1700 and, as you know, the Natchitoches Post was established by the French under St. Denis in 1714. This area continued under French rule until the transfer to the Spanish in 1769, but even when this occurred the French influence continued to be dominant. In fact, the governor for the first ten years under the Spanish regime was De Mézières, a French officer who had previously been in this area. The Spanish period terminated with the Louisiana Purchase in 1803 and our information shortly thereafter comes largely from Dr. John Sibley, who was the first United States agent at Natchitoches.

The aboriginal settlement in this area was largely dominated by the Natchitoches Indians, the lower Natchitoches village of the Caddoan confederation or grouping along Red River. These Indians were found in this vicinity by all of the early French explorers. There were several associated groups, including the Doustioni and Adai. In the late period, at the time when we believe the Colfax Ferry site was occupied, there were many Indian groups moving westward who entered the area. There are descriptions from the early 1800's, for example, of the advent of Choctaw, Chickasaw, Alibamu, Koasati, Kichai, and even Shawnee and Delaware Indian groups. Almost all of these had left by 1840. It is also possible that some of the Indian groups from central and southern Louisiana may have moved into this area. We know for instance that in the early 1700's the Natchitoches left their village, moved to Lake Pontchartrain and lived for some years with the Acolapissa. It is entirely possible, after their return, that Houma or Acolapissa from southern Louisiana, the Opelousas or, even more likely, the Avoyelles from central Louisiana may have moved near the Natchitoches. The Natchez invaded this area but were driven out after a bloody battle with the French and their Indian allies. I mention these groups because the

native pottery found at the Colfax Ferry site gives no certain indication of the Indian group involved. *

The first description of contact or European trade material excavated in the Natchitoches vicinity was by Winslow Walker, who in 1935 described materials found at the Natchitoches Fish Hatchery site. Trade beads, guns, and quite a few similar articles were found. Later, two friends and I found two additional sites, the Lawton Plantation and the Southern Compress sites, which had similar French trade materials, apparently early. All of these sites, which were within ten miles of Natchitoches, also had typical Natchitoches Indian pottery. The characteristic pottery type, Natchitoches Engraved, found in each instance, established these as settlements of Natchitoches Indians. The native pottery was quite similar to types found at Keno and Glendora sites near Monroe, Louisiana, and also similar to pottery found on the lower Arkansas River.

The site at Colfax Ferry was found by a friend of Stu Neitzel, a man from Marksville whose name is Mitchell Smith, a veteran of World War II. During service in the South Pacific Mitchell had learned to use a mine detector, and he has been using a similar instrument to locate sites in Louisiana during the past several years. After discovering evidence of metal objects at this site Smith worked out some ten or twelve burials which contained contact as well as native materials. He contacted Stu, who was then in Mississippi, and was advised to get in touch with us. On three or four subsequent week-ends in the first part of 1960, a group of us worked with Smith at the site and were able to complete ten additional burials. We also made a small survey, attempting to establish some of the stratigraphy, but this was not too successful in the short time available. Shortly thereafter the owners of the land, who were not too interested in preventing depredation, themselves began to dig in the site. Others from nearby towns came on week-end excursions and as a result the site is thoroughly torn up.

The site is located on the first of a chain of hills which reaches the river, terminating the flat overflow valley which extends some thirty miles south of Natchitoches, fertile land which was cultivated by the Natchitoches. It is immediately adjacent to a very old ferry which connects the town of Colfax on the east side of Red River with the western hills in which the site lies. About one mile south of the site there is a white cemetery with tombstone datings back to the mid-1800's. About half of the names are French, half English.

*"Subsequent information from Hiram Gregory, a faculty member of Northwestern State College, Natchitoches, Louisiana, places the Pascagoula Indians living on these hills, attested by official documents from 1795 to 1811, with a small village of Biloxi possibly with them in 1805."

The native pottery vessels from the burials are plain, without the characteristics of Cadoan Pottery. The temper is shell or finely ground clay. We feel almost certain that the trade material dates between 1803, the beginning of the American period, and 1840, when most of the Indians had moved out. It is further identified by the finding of an 1820 dime about 10 inches beneath the topsoil. A creamware plate is stamped "Castleford Pottery" on the undersurface. Only two of the crockery vessels have the manufacturer's stamp; the other, a bowl, has "Phillips-Longport." Almost every burial had one or more wine bottles, more often hand blown greenish glass bottles which were prevalent throughout the earlier French period; others are dark brown and squattier in shape. One small bottle has stamped on the sides "By the King's Patent Essence of Peppermint (sic)."

Iron tripod pots, bullet molds and many other objects of iron or steel were found. There were many spoons and knives, but no forks. A claw hammer, numerous scissors, gouges, a file, clasp knives, strike-a-light, musket parts were found. Interestingly, we did not find a whole gun or gun barrel with the burials, nor was the total assemblage of firing mechanism in a single burial. Most of the gun parts were of iron, but one decorated trigger guard was of brass. The gunflints were generally rectangular with a ridge down the center. Musket balls were 11 mm. in diameter.

A folding comb, a small cup containing bright vermilion pigment, and many beads and silver ornaments were present. The beads and silver ornaments were found in profusion, some with the majority of burials. Silver ear assemblages each included a ring, a droplet and four to five triangular pendants. Circular silver ornaments were perforated and had pins for attachments to cloth bands. Some of these had markings which showed that they were made from hammered-out Spanish mill dollars and other Spanish coins of the late 18th and early 19th centuries. Rouletting was a frequent decoration on the thin silver ornaments. Two finger rings were silver, another brass. Small pendants in the form of the cross suggested a religious motif, as did a small oval medal which is fragmentary. Larger medallions were of thin silver and one of enamel or porcelain, beautifully decorated. The silver ornaments were probably made in this country or Mexico. Many brass C-shaped bracelets were found.

The beads were nearly all small, 1 to 3 mm. in diameter and were either in clusters or scattered profusely with the burials. When strung, those from several burials were 20 to 35 feet in length, and a half dozen burials yielded four to six thousand beads each. There was a total of approximately 30,000 trade beads from the twenty burials. Colors were white, black, dark brown, red, blue and a few clear transparent. Some were faceted, the smaller 1 to 3 mm. in diameter, the larger 4 to 6 mm. Groups of pipestem beads were found in two burials; only two clay pipes,

both with broken stems, were present.* Most of the glass beads were round or short barrel-shaped, a few oval, and a few small red tubular.

About half of the burials had evidence of coffins (wood or regularly placed hand-wrought nails). Some of the objects, as for example bracelets, were in small wood boxes. Only traces of skeletal materials or teeth remained.

* Average diameter of pipe stem perforations was $4/64$ inch, consistent with post-1780 dating (Binford, South).

CLASSIFICATION OF CERAMICS FROM HISTORIC AMERICAN SITES

by

B. Bruce Powell

Bill Haag, in his excellent summary of "Twenty-five Years of Eastern Archaeology" at the New Haven meetings in May, 1960, said: "If one examines the history of the development of any science or individual discipline, early in its story there is a necessary preoccupation with classification." (1961:19.) The discipline of historic sites archaeology, it seems to me, now stands in this position.

One of the pressing problems facing workers in historic sites appears to be the lack of a generally acceptable classification of the ceramic wares found in 17th and 18th century sites in the United States. I realize a great deal of time has already been spent batting this subject back and forth, but I shall take this opportunity to put my oar in.

I believe there is a lack of understanding, or at least a failure to apply understanding, as to just what classification is all about. What is a classification? How does classification work? To what use can classification be put?

Let me begin with basics: A classification is a systematic arrangement of whatever material is to be ordered, into classes. I will repeat that: a systematic arrangement into classes. Now what does that mean? A systematic arrangement is one that forms a system, or coherent body of ideas or principles. A class is a group of things having common characteristics. Our ceramic classification, then, should arrange our pottery into a system of groups having common characteristics. Most classifications, I submit, have not met this basic definition.

Now to progress a little farther. Within each class or rank of a classification, the categories are coordinate, that is, on the same order. Furthermore, within each rank, every category is subordinate to, or is a part of, the wider category in the rank above. This reasoning leads us to the proposition, then, that a classification is made up of a set of categories arranged in a series of ranks (Beardsley, 1950:407)

Now the logicians tell us that a classification must satisfy three rules. The classification is weakened in proportion to its digression from these rules.

Rule 1 states that in each rank, one, and only one, basis of division may be used. This is the most important rule. Violation of it leads to the fallacy of cross classification and results in failure to keep the various ranks distinct.

Rule 2 states that in each rank classes should be mutually exclusive. Any classification that satisfies Rule 1 will also satisfy Rule 2.

Rule 3 states that in each rank the classes should be exhaustive. This is the most difficult rule to satisfy and is probably never reached in practice. However, the more closely we approach an exhaustive classification, the more nearly perfect our classification becomes (Beardsley, 1950: 409-410; Searles, 1956: 323).

A ceramic classification, in addition to general rules, should, I feel, aid in the identification of pottery and be easily understood by other workers in the field. It should use terms in the most general usage, and it should be as simple as possible. One of the purposes of classification is to simplify and make more understandable the data used. Necessarily involved or obscure classification defeats its own purpose.

I am well aware of the fact that all classifications are arbitrary -- no one classification is right nor is any one wrong -- so long as it results in a systematic arrangement of the data into classes and does not violate the logical rules of classification. But for any specific purpose some classifications are apt to be better than others. My purpose this afternoon is to present a classification of those ceramics found in Anglo-American sites of the 17th, 18th, and early 19th centuries in the United States that will facilitate the exchange of professional data concerning those ceramics among historic sites archaeologists. I must omit Spanish-American ceramics since they fall outside my own particular experience.

Keeping in mind the criteria for classification which I have discussed, let us look at some recent ceramic classifications in historic sites archaeology. Now I realize that none of the classifications I am going to criticize are meant to be all-inclusive classifications of historic sites ceramics. But each is a classification, even if only of the ceramics of one site, and each will help to illustrate some point about which I have been speaking. Also, these examples will provide a background against which to judge the classification I shall present later.

First let us look at Louis Caywood's list of ceramics from Green Spring Plantation, near Jamestown (1957: 21).

Caywood presents a nine-fold classification (Fig. 1). Its first rank, the categories numbered 1 through 9, I believe, violate all three rules of classification. This rank is not based on one principle, rather, several are present: paste characteristics (Eathenware vs. Stoneware); place of origin (Hispanic vs. English and Dutch); decoration (Slip-decorated vs. Blue vs. Brown); manner of manufacture (Crude vs. all the others); etc.

The ranks are not mutually exclusive. A single sherd could well be

"Crude Earthenware" and "Hispanic Majolica" or "Brown Stoneware" and "Salt-glazed Ware."

Finally, these classes are not exhaustive. Porcelain is not listed although in the text he mentions "many types of fine Chinese Porcelain" (1955: 20).

As a descriptive device, when used with the textual material, this listing may be adequate. As a classification of the pottery of Green Spring Plantation, it is woefully inadequate.

Next let us look at one of John Cotter's ceramics lists from his massive Jamestown report (1958: 223-234) (Fig. 2).

The secondary rank here, ignoring the brick and tile, almost meets the criterion of Rule 1. If Cotter had included delftware under earthenware, rather than having given it a separate listing, he would have had a rank based on a single principle -- that of paste or body-type. Since delftware is an earthenware, he has violated Rules 1 and 2 -- he has more than one basis of classifying the sherds and his ranks are not mutually exclusive. As far as I know, this classification is exhaustive -- all the ceramics from this particular structure are included.

Cotter's third rank under Stoneware and under Porcelain is more successful. He has divided them simply by place of origin. Under Earthenware and Delftware, however, he has again mixed his criteria. I do not know how creamware came to be included under English Delftware.

Appendix F of the Jamestown monograph contains many of these listings. This is neither the best nor the worst. None, however, is completely successful. Incidentally, Edward B. Jelks, in Appendix A of this same volume, produced what is probably the most sophisticated classification of the ceramics of a historic site I have yet seen (Jelks, 1958: 205-206). Cotter's presentation would certainly have been improved had he followed Jelk's lead.

Maxwell and Binford, in their excellent publication on the excavation at Fort Michilimackinac, try very hard to avoid giving a "detailed, technical description or classification of... (their) ceramic sample" by stating that their "classificatory divisions are categories of convenience for better interpreting this particular site" (1961: 92). Whether their classification is detailed or technical, I will not presume to judge, but it is a classification.

I am presenting this in the usual outline form although Maxwell and Binford did not (Fig. 3). I hope I am doing no violence to their presentations.

With a little stretching, I think we can say the first rank holds up pretty well on the basis of being divided according to the single principle of paste hardness. The second rank, however, begins to fall apart. Placing of glaze, color

of glaze, type of glaze all are used as criteria. There is both indistinctness and overlapping here. All the delft, for instance, is tin glazed, or else it isn't delft, and it is certainly not clear what the color of the glaze might be on "pink paste delft."

Finally, let us look at Stan South's Brunswick Town Ceramic Catalog (Fig. 4). The classifier here has fallen into the same fallacies we have seen before. His ranks are not based on a single principle and they are not mutually exclusive. Slipware and Salt-glazed Stoneware, for example, are not comparable, and "Unglazed" cannot be a subcategory of "Lead Glazed Earthenware."

Before I go on, let me say that for years I have been making up and using classifications as bad as, or worse than, any I have shown you here. It has been only very recently, as I have tried to use other people's classifications in my own study, that I have begun to see that something needs to be done. I am going to present now a classification which I hope will avoid the common fallacies and will provide, at least, a firm base from which we can take off to build bigger and better classifications in the future (Fig. 5).

As my first rank I have taken the three classic divisions of pottery: Earthenware, Stoneware, and Porcelain. These are based on hardness of earthenware paste, the third rank on color of paste.

Under the soft paste red-and buffwares, the fourth rank is based on type of glaze, the fifth on presence of decoration, and the sixth on type of decoration. I think all our soft paste earthenware types will fit into this scheme.

Under the medium paste earthenwares, the fourth rank is based on decoration. I am not too happy with this whole Medium Paste category, but this is a very involved complex of ceramics which needs a great deal more thought.

Under the hardpaste earthenwares, I have used common names but the basis of separation is paste content. Since they are characterized by slight differences in composition, it is possible a better acquaintance with them will allow me to bring them in line terminologically with those above. It might even be possible to express the differences in color notation.

Under Stoneware, the second rank is based on glaze and the third on place of origin except under the white saltglazed, where the third becomes type of decoration.

Under Porcelain, the second rank is based on paste hardness, the third on place of origin and the fourth on type of decoration under

Oriental Hard paste or on body composition under European Soft paste.

Now, quite frankly, I don't know how successful this classification is. It is not exhaustive, but perhaps it is nearly so or can be made so. I have not, I believe, violated Rules 1 and 2 of classification. But I have been working on this thing steadily for some time, and I haven't had the opportunity to "sleep on it" or to use it in practice as perhaps I should. I shall appreciate your thoughts and comments either now or at some future time after we have all had a chance to do some thinking on it.

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GREEN SPRING PLANTATION, VIRGINIA

1. Crude Earthenware
 - a. Virginia earthenware made at Green Spring
 - b. North Devon Grit-tempered Ware
 - c. English made Crude Earthenware
2. Slip-Decorated Ware
 - a. North Devon Sgraffito Ware
 - b. Earthenware with slip decoration
3. Hispanic Maiolica
4. Delftware (English and Dutch)
5. Whieldon Ware
 - a. Agate Ware
 - b. Tortoise-shell Ware
6. Creamware
7. Brown Stoneware
8. Gray Stoneware
9. Salt-Glazed Ware

Figure 1.

(Caywood 1955: 21)

JAMESTOWN, VIRGINIA. STRUCTURE 17

Ceramic:

Brick:....

Tiles, rooding:....

Stoneware, salt-glazed:

German:....

English:....

Earthenware:

Spanish (?) Olla

Locally made (?), unglazed

Locally made, lead-glazed

English slip-decorated (brown spots, yellow glaze)

English sgraffito

Italian sgraffito

English lead-glazed: Dark
Light

English coarse-tempered, Devon

Small earthenware bowl,....

Large pot,....

Delftware:

B/ W (English-Dutch)

English: White

Purple/ white

Manganese purple-speckled

Polychrome

Orange/ white

Creamware

Porcelain:

English?

Oriental

Figure 2.

(Cotter 1958: 233-34)

FORT MICHILIMACKINAC, MICHIGAN

Stoneware (White salt-glazed)

Creamware

Canton Ware

Soft-paste Wares

- lead interior -- tin exterior glaze
- green glazed ginger jar
- dark green-glazed
- dark brown, lead glazed
- unglazed
- thin, buff-glazed earthenware crocks
- mustard-glazed
- cream-glazed
- green-painted
- light brown, lead-glazed
- white-glazed delft
- tin-glazed delft
- pink paste delft
- buff paste, dark, blue-painted delft
- brown paste, band-bordered delft
- sponge blue-painted delft
- light blue-glazed delft
- massive, blue-painted delft
- red-lipped delft
- brown line, polychrome delft

Figure 3.

(Maxwell and Binford 1961: 93:95)

BRUNSWICK TOWN CERAMIC CATALOG

As of May, 1961

Slipware

Combed Yellow
Dotted Yellow
Trailed
Marbled
Sgraffito
Mottled
Green-Glazed

Delft
Unglazed Delft

Salt-Glazed Stoneware

White
Scratch-blue
Blue and Grey
Brown and Grey
Unglazed Red
Lustered

Black Lead-glazed Stoneware
Oriental Porcelain
Overglaze Enamelled Porcelain
English Porcelain

Lead-Glazed Earthenware

Thin Red Clear
Thick Red Clear
Brown-Black
Cream-paste Brown-Black
Spattered
Thin Black
Black Red-paste
Green Laminated
Agate Ware
Unglazed

Salt-Glazed Earthenware

Brown
Brown Lustered

Creamware

Green-glazed
Mottled Glazed
Transfer-printed Earthenware
Blue Grey? Transfer-printed Ware
Edged Ware Green Blue
White Clear-glazed Earthenware
Banded Ware (Mocha, etc.)
Sponged Ware
Hand Painted White Clear-glazed
Earthenware

Indian

Figure 4.

(South, personal communication)

ANGLO-AMERICAN CERAMICS FROM HISTORIC AMERICAN SITES

I. Earthenware

A. Soft Paste

1. Redware

- a. Unglazed
- b. Lead Glazed
 - (1) Undecorated
 - (2) Slip decorated
 - (a) Sgraffito
 - (b) Trailed
 - (c) Combed

2. Buffware

- a. Unglazed
- b. Lead Glazed
 - (1) Undecorated
 - (2) Slip decorated
 - (a) Sgraffito
 - (b) Trailed
 - (c) Combed
 - (d) Variegated (Marble, Agate, Tortoise-shell, etc.)
- c. Tin Glazed
 - (1) Undecorated
 - (2) Decorated
 - (a) Manganese purple
 - (b) Blue
 - (c) Polychrome

B. Medium Paste (Creamware)

- 1. Dark paste
- 2. Cream paste (containing calcined flint)
 - a. Undecorated
 - b. Slip decorated
- 3. Cream paste (containing china clay and china stone) (Queensware)
 - a. Undecorated
 - b. Molded decoration
 - c. Enamel decorated
 - d. Transfer printed
- 4. Bluish paste (Pearlware)
 - a. Undecorated
 - b. Molded decoration
 - c. Enamel decorated
 - d. Underglaze transfer printed
 - e. Overglaze transfer printed
 - f. Metallic oxide decoration (Lusterware)

(Figure 5 continued on page 45)

- C. Hard Paste
 - 1. Stone china
 - 2. Ironstone
 - 3. Opaque china
 - 4. Opaque porcelain
 - 5. Semi-china
 - 6. Semi-porcelain
 - 7. Granite ware
- II. Stoneware
 - A. Unglazed
 - 1. Black (Basalt ware; Egyptian black stoneware)
 - 2. Red (Ehlers; Astbury; Wedgwood rosso antico)
 - 3. Cane-colored
 - 4. White (Jasper)
 - B. Saltglazed
 - 1. Brown
 - a. German
 - b. English
 - 2. Blue Gray
 - a. English
 - b. American
 - 3. White
 - a. Molded decoration
 - b. Enamel decorated
 - c. Incised decoration (scratched-blue)
- III. Porcelain
 - A. Hard Paste
 - 1. Oriental
 - a. Underglazed blue decorated
 - b. Overglaze enamel decorated
 - 2. European
 - 3. American
 - B. Soft Paste
 - 1. European
 - a. Glassy porcelain
 - b. Bone porcelain
 - c. Soapstone porcelain
 - 2. American

Figure 5

PERILS AND PLEASURES OF HISTORIC SITES ARCHAEOLOGY

by

Dr. John Cotter

The writer wishes to express his regret of not being able to deliver the following paper in person and his gratitude to the reader for doing the job for him.

The title Perils and Pleasures of Historic Sites Archaeology is not entirely facetious. The peril is plainly that sites which can preserve and interpret the past for the future generations of this country will, in large measure, be lost, either by outright destruction or by neglect. Perhaps, even worse, some will be forever damaged by bad preservation and worse interpretation. The pleasure of historic sites archaeology is a legacy we hope to leave to future generations. By pleasure, indeed we don't mean "fun" but rather the enduring joy and satisfaction of establishing an understanding of the past through a realization of the essential continuity of culture in this civilization.

The objective then of historic sites archaeology is to preserve the evidence of the past and to interpret it meaningfully and accurately so that it may be understood by generations to come. Now, let's see how things are shaping up.

Approximately 65% of the present population of the United States lives in the northeastern portion of the country bounded by the Mississippi River and the Ohio, and eastward to D.C. and Canada on the North. Within this area took place what was to be economically the vital settlement of this Nation beginning with the 17th-century cities of Philadelphia, New York, and Boston from which sprang not only the seed of western expansion in the 19th-century but also the phenomenon of Megalopolis which has spread urban and suburban sprawl from Boston to Washington. Presently, man has settled everywhere along the eastern seaboard and westward through the Allegheny to the Great Lakes and the great rivers, leaving only the mountain tops and the few remaining heaths and marshes to the dwindling wilderness. Man has usurped first the Indian villages, then his own early settlements, until he has flung down masses of asphalt, concrete foundations and substructures upon virtually every trace of his heritage. Where construction has not usurped the land, the land has nevertheless been used by the plow or covered by flood control waters. Literally nothing remains undespoiled but the barren or craggy hilltops and the places where forestation is economically profitable or sentimentally obligatory, the latter often on land has been set aside for what we are pleased to term recreational purposes. Now let us see where this leaves us.

It leaves us with a National Survey of Historic Sites and Buildings which was established within the provisions of the Historic Sites Act of 1935 in order to take an inventory of "Historic and Archaeological sites of buildings and objects for the purpose of determining. . . exceptional value as commemorating and illustrating the history of the United States." Within this framework there have been established 21 themes of which five are directly concerned with the prehistoric and the historic Indians from their first glimpse of the contemporary scene. All of the 21 themes, however, which follow the progress of civilization within the country's boundaries from Spanish exploration and settlement to the growth of the United States as a world power, include archaeological problems.

■ Within the Northeastern United States which is coincident with Region Five of the National Park Service, the Service has responsibility for sites which are thus within and without its immediate jurisdiction. Within the National Park Service the happily increasing awareness and a progressively more effective support has more than doubled the archaeological budget within the past year alone. Such areas within the river basins as the great Carlyle Reservoir in Southern Illinois and the nearby Shelbyville Reservoir, the Curwensville and Shenango Reservoirs of Pennsylvania, the Allegheny Reservoir of Pennsylvania and New York, the many small reservoirs of New England, the minor reservoirs of Indiana and Ohio are all the subject of archaeological survey and salvage. Covered bridges in New England have been saved and archaic and Middle Mississippian sites in Illinois have been investigated. This program is continuous and urgent, but it is no less urgent than the saving of sites to be overwhelmed by the flood of the building within the cities and suburbs.

By the terms of the Antiquities and National Historic Sites Act is the National Park Service limited in the extent of its jurisdiction to conserve sites. In general, it may not save sites that are not on Federal property. At present, the only instance in which the Federal Government may step in to save archaeological sites which it does not own directly, is in the instance of highway salvage wherein a way has been worked out for the Government to allow certain building funds to be used for archaeological surveys through state and institutional cooperation. At the present time, although enormous funds are contributed by the Government for urban renewal, no federal funds are being used directly for archaeological salvage in the city and suburban wastelands. In brief, those historic sites which lie outside the National Park system must be saved, if saved they are to be, through intelligent and active interest of state, county and municipal groups and agencies. In this respect, it is more than suggestive that where real estate is concerned archaeological salvage has to be profitable before it is to be popular. This is not to discount the good will and good intentions of dozens of historical community welfare and social betterment societies, but rather to point out that the real estate, willy-nilly, is being developed. The ground is usually cleared first before questions concerning historical sites on the ground are asked.

You have heard the story of Independence National Park in Philadelphia. This area is a small island within the urban renewal nucleus of Philadelphia in which it is the only example of programmed archaeological salvage. In New York City, there is no program whatever for archaeological salvage specifically organized for new urban renewal developments. In Boston, likewise, no program. In Pittsburgh, a happy providence saw the State step in to save Fort Pitt and leave it a tiny speck of historical heritage beneath the bridges, trestles, and encroaching buildings of the downtown sector. A single happy example to date of town-sponsored municipal archaeological salvage, planned and consummated by a qualified historic sites archaeologist is that of Alexandria, Virginia, where Edward Larrabee was hired to excavate and restore a portion of Fort Ward.

A brief resume then of achievements to counterbalance a negative picture within this northeastern region of the National Park Service is Hopewell Village, the 18th and 19th century iron community near Birdsboro, Pennsylvania, where a three-year archaeological campaign is beginning soon to establish the complete identity of the casting house and associated structures. For the past twenty years Hopewell Village has been the scene of an intermittently continued archaeological program of investigations which, together with extensive historical research has permitted an 85% reconstruction of the scene together with a complete program of interpretation for the visiting public. At Morristown National Historical Park, archaeological techniques have verified the location of a portion of the Jockey Hollow encampment of Washington's army so that some of the huts which housed the shivering men can be reconstructed. At St. Croix, the tiny island in the St. Croix River between Maine and Canada where Champlain and Sieur de Monts attempted to establish a settlement in 1604, the National Park Service is reestablishing a National Monument and will develop its interpretation on the basis of archaeological investigations initiated by Wendell Hadlock in the early 1950s for the Service. Much remains to be done. The site of the Jesuit Mission of 1613 on the shores of Acadia National Park in Maine remains to be identified and further reconstructions of an archaeological nature must be carried on at Harpers Ferry, West Virginia, where a considerable program has already been initiated to verify historic site locations; and at Fort McHenry where archaeological investigations have resulted in creating an accurate reproduction of the original flagpole from which waved the flag sighted by Francis Scott Key at his notable moment of patriotic inspiration one evening in 1814.

The Chesapeake and Ohio Canal is having its first complete archaeological survey by Edward Larrabee under contract to the Service. Thus, you have the accomplishments, and the lack of accomplishments, of historic sites archaeology viewed from the standpoint of Federal obligation. These are times when the obligation of the Federal Government to perform services such as these is necessarily limited. The responsibility of cities, counties and states for archaeological salvage remain large,

and, at present, largely uncoordinated, funded or implemented. It is up to interested groups, such as we have here in the Conference of Historic Sites Archaeology, to carry the work by means of the example within its membership as far and wide as possible. And, if you can bear to hear it, we, as conservationists, are going to have to wake up to the ready and invaluable support available for historic sites archaeology on the part of such active, influential and well-funded groups as The Daughters of the American Revolution, the Colonial Dames, the various civic Junior Leagues, and numerous national and local patriotic and civic societies. The fact that historic sites preserved through archaeological techniques, such as Brunswick Town, North Carolina, can be held up as an example, bodes well for the future of historic sites archaeology in the South. The fact that Colonial Williamsburg is growing increasingly aware of its debt to archaeology is another good sign. There is little doubt that when archaeology, its aims and accomplishments, are presented with sufficient force to the American public, the conservation of historic sites will follow that much more quickly and with that much more efficiency.

A DISCUSSION OF THE CONTRASTS IN THE DEVELOPMENT OF THE SETTLEMENT AT FORT MICHILIMACKINAC UNDER BRITISH AND FRENCH RULE

by

Lewis R. Binford

I would like to begin this rather brief comparison between the British and French occupations at Fort Michilimackinac with something of a statement of the history of the occupation itself. The French were the first settlers at the site, the actual date of initial settlement is in dispute, but sometime between 1705 and 1720 a French settlement was established at Michilimackinac. By 1720 we have a reference to its existence, so it was established prior to 1720. The primary function of the early settlement was not to house troops, but simply to serve as the hub for extensive fur trading activities with the Indians. It was a fortified settlement. Slightly after 1720 it did house a few militiamen; however, it was not a major military garrison under the French. The Fort remained under French rule until the end of the French and Indian war.

The British occupied the fort in 1760. In 1761 the British garrison was massacred there by the local Indian groups participating in Pontiac's uprising. It was not until '63 that it was reoccupied by British troops. In '63 a much different development began in terms of the settlement itself. The British moved in with garrison troops and throughout the period of British occupancy the number of troops in garrison increased. By the end of the British occupation (1781) there was a large garrison and the function of the site had changed from that of a fortified settlement to a strict military post. This we know from documentary data. We also know that the nature of the internal social organization of the settlement changed radically throughout the period. By the late British period we had a very definite and marked ranking of sub-groups among the people occupying the site. There were the commandant and certain officers and wealthy traders composing the highest status group, minor officers, enlisted men, civilian traders and camp followers all following with decreasing status. Such ranking was not characteristic of populations inhabiting the site during the French period, particularly during the early years. If we assume that as anthropologists one of our major aims in research is the the explanation and explication of cultural differences and similarities, we are in an excellent position to make the maximum use of status, functional specificity, style change, logistical changes etc. as explanatory hypotheses for observed differences in artifact distributions, formal differences and structural associations. This site provides an excellent methodological "laboratory case" for the analysis and interpretation of archaeological data.

Now to some of the differences and similarities which exist between the French and British materials at the fort. For the French period, our sample

is restricted to what appears to be civilian housing. We have no identified French institutional buildings. Thus, when comparing French with British materials, we can exclude the known British institutional buildings. We have six civilian houses and the Commanding Officer's house of the late British period, but this happens to be status row. We know from the documents that the houses in this particular row housed the most wealthy traders and the high status officers so that the observed differences between French housing and British housing may be explicable in terms of the differential status of the occupants. Keeping this in mind, I will mention some of the major differences between these houses. The French houses, most of which were destroyed around 1734, are architecturally fascinating. You never know what to expect when you start on a new one in that each is different, although there are certain common patterns of construction. The north walls are generally vertical pickets with a daub plaster cover; similarly, south walls are generally of this construction. East and west walls may be constructed of small pickets two or three inches in diameter set in a different type of wall trench. In cases where we had a burnt structure, the latter type of wall was covered with elm bark siding. The floors in these houses were equally diverse, and in a single structure there may be several flooring techniques used. Adjacent to the hearth there may be a clay base with split white cedar puncheons, while back from the hearth area the flooring may be wooden planks on squared sills. In areas where sill and board construction was used there also tends to be the location of sub-floor storage basements. These are normally from three to four feet deep and five feet long, constructed with small vertical pickets and backed with elm bark. These houses yield no evidence of the use of plaster, brick construction, or shingles. Stone construction is normally restricted to the fire chambers of the fireplaces. Above the smoke chamber, construction was normally of stick framing with mud daub cover. Roofing was probably of elm bark. This is a rough picture of the civilian houses of the early French period, roughly 1720-1734.

The next group of houses to be considered was built by the French in the late 1740's and incorporates a number of new architectural features. These houses were rebuilt several times and were occupied in the late British period. They were stacked log exterior walls built on corner rock pilasters. They had fireplaces that tended to be of the earlier type but larger. Plank flooring was the only form used. Roofs were of split shingles and 'basements tended to be better constructed and larger. Hardware and structural fixtures were more elaborate including such items as door knockers, etc. Associated with these later houses are many more items manufactured in Europe which are the functional equivalents of locally made forms during the early period. These observations suggest a much higher level of logistic efficiency for the later period.

British institutional buildings are entirely different from anything else on the site. They have stone foundations, very massive back to back fireplaces, and brick construction. These were stacked log structures with

many more windows and a different kind of window glass than was used in earlier buildings. There was obviously no lack of nails when these buildings were constructed, a situation we can infer for the early period, in that few are found.

A fascinating area of study besides the differences in institutional buildings versus habitational units in terms of architecture, etc. is the differential composition of materials associated with various civilian houses. With certain late houses are found such items as signets, handles from delicate boxes and writing cases, gold gilt pen knives, brass door knockers, ivory billiard balls and fine pewter. Such items certainly suggest high status, wealth, and access to the logistics network. In the way of contrast another house may have many awls, scraps from the manufacture of trade goods from sheet brass, tinkling cones, cubes of vermillion, and gun parts, all items suggestive of a very different status and way of life when contrasted with the former assemblage.

Ceramics tell a story which is not solely related to changing styles in Europe. Sherds from early contexts are few and then largely tableware as opposed to utilitarian bowls, etc. similar to the large quantities of "rough" ware found at such sites as Jamestown and Williamsburg. More cups, and "assessory" vessel forms occur in the early period with less items such as plates and bowls. No doubt most of the tableware utilized daily was locally made from wood. By the late period this situation had changed. A greater diversity in vessel forms is obvious. Plates, bowls, creamers, teapots, cups and even an occasional decorative piece are part of the late assemblage.

I would like to conclude this very brief exposure to the materials from Michilimackinac by saying that in addition to the fascinating interpretative problems with regard to changing logistics, population density, functions of the site and social complexity with which we are attempting to cope, we are analyzing the materials from the fort in a detailed and completely formal frame of reference so that this material can provide a chronological control sequence for the Great Lakes area during the early historic period. It is hoped that the report which Moreau Maxwell and I are currently working on will provide such a framework together with the distributional, associational and functional analysis in something of an exercise in interpretative methodology.

HISTORIC ARCHAEOLOGY IN THE LOWER MISSISSIPPI VALLEY

by

Stephen Williams

Introduction

If the field of historic archaeology can be said to be less than thirty years old, going back to Setzler's 1943 definition of the term, then the definitive work in the Lower Mississippi Valley can be said to be typical of the discipline. The published results range from a single integrated site report, that of Quimby (1957) on the Bayou Goula site, to the pioneering work in the early part of this century by Clarence B. Moore (1908, 1911), where he recognized evidence of white contact with Indian burials. So far, almost all the published references concern contact sites where European trade items are but a small part of the total archaeological data. In this introductory section I should also mention Ford's pioneering work with regard to historic complexes in this area published in his 1936 report.

To my knowledge, no colonial sites such as the French forts, Fort Rosalie at Natchez, or St. Peter near Vicksburg, have been archaeologically explored, though not for lack of trying, with the exception of Arkansas Post to be discussed later. For example, one can point to Phillips' (1951) work in an attempt to identify various Spanish and French sites in the Lower Mississippi Survey volume. However, I know of no literature concerning early Spanish or reliably identified De Soto sites in this area (Nash, 1961).

Even aboriginal sites with abundant trade goods are rare, with the single exception of the Fatherland site, the Grand Village of the Natchez (Ford, 1936:59-68). At this site, only briefly reported by Ford, but excavated extensively by Moreau Chambers in 1932 and 1933, a large amount of trade goods were found. Usually, however, the only items that have been found in the area under consideration are a few glass beads and some bits of brass. This situation is somewhat paralleled by that in the neighboring Caddoan area, as Webb (1962) has mentioned, and as I have pointed out with regard to the historic Caddo (Williams, 1961), there are very few known historic sites before the American period beginning in 1803. In juxtaposition to these data there is quite a bit of documentary evidence for trade goods coming in during the late French and Spanish periods. Almost the only sites, as the Colfax Ferry site

(Webb, 1962) has shown, that really have lots of trade goods are apparently very late, that is early nineteenth century. Krieger (1961) has remarked on this situation for sites further west.

The Lower Mississippi Valley does not lack for ethnohistorical data (Swanton, 1911), but little of it has been directly tied up with archaeology. The Fatherland site and the Natchez Fort, the refuge of the Natchez after the 1730 massacre are very rare exceptions. Even the identity of the Bayou Goula site (Quimby, 1957) has been questioned by Phillips (1957). Nonetheless, some very useful comparative studies have been made on Lower Mississippi Valley material, and here we must look to Quimby's (1942) work, rather obscurely published in the Michigan Academy of Sciences, in which he has compared French colonial material from Michigan with contact sites in this area. Quimby (1958) again has an interesting paper, also obscurely published, on silver, which is very useful for comparative purposes.

Contact Sites

Turning then to the archaeological sites in detail, I have been able to locate seventeen Indian sites with trade material on them. (See map and list.) Running from north to south and beginning just below the mouth of the Ohio in Southeast Missouri, there is first the Campbell site (Chapman and Anderson, 1955). At the time of that report no historic material had been found, but since then one burial with glass and iron beads has been found. The beads are the ubiquitous blue glass, and Anderson tells me that he has a second burial with some small pieces of iron. This is a late Mississippian site with some hundred burials, but only two show any trade materials. Passing a little further south into northeast Arkansas, we have the Bradley site (Moore, 1911), where rather abundant trade goods were found, although these items are not quantified by Moore. They include glass beads, copper bracelets, and fragments of china and glass. Nearby is the Rhodes site where Moore found one blue glass tubular bead with Burial no. 42. Finally, in this same general area, there is the Kent site, again excavated by Moore, in which he found a single burial (no. 22) with glass beads mixed with shell beads. All three are sites of the Late Mississippi Period, and certainly cannot be considered primarily Historic except for this rather minor evidence of extending into this general time period.

Crossing the river, and coming down into northern Mississippi, one encounters the Oliver site, excavated by Charles Peabody around the turn of the century. This site, next to Fatherland, has the most trade goods in the published record. Goggin has dated the material as Seventeenth century, including glass beads, iron, copper, and brass hawk bell; unfortunately no chinaware, at least in our collection.

The next sites are in the region near the mouth of the Arkansas River. Here Phillips (1951:392-424) attempted to locate the four Quapaw villages but without success. More recent work by Holder (n.d.) indicates that the Dupree site is in fact Quapaw (Griffin, 1960:851-852), and Griffin has suggested the term Wallace focus (phase) for the late protohistoric manifestations in this region including the Menard, Wallace and Dupree sites.

Ford (1961) who has done the most recent work in the region is convinced that the Menard site is the Quapaw village of Osotouy. Previous work at the site (Thomas, 1894; Moore, 1908) produced glass beads with four burials, brass beads with five burials, and some iron. Ford's fairly extensive work at the site produced a meager handful of historic specimens (Ford, 1961:158-159) including five glass beads and a charred boar's tusk. The identification of the site therefore rests primarily on physiographic and documentary evidence.

Coming down the river and back into Mississippi, the next site is Mabin, due west of Yazoo City, at which some very large wirewound glass beads were found. These items are now in the Butler Collection, Department of Archives and History, Jackson, Mississippi. There is also a rather elaborate "portrait" clay pipe from this site. We have always been interested in this site because it has some of the very earliest Hopewellian pottery that we have found in the Lower Yazoo; it also has Poverty Point materials, and some later materials. To go to Jackson as I did and find glass beads of what I think are possibly nineteenth century Chickasaw or Choctaw origin, just filled out the total time span for this important site. I say possibly Chickasaw origin because these beads do look something like some of those that Jennings (1941) got from northern Mississippi, and they are quite different from those which were found at Fatherland and other sites of a similar and earlier time period.

The next site is Haynes Bluff. Moore (1908) found a single shallow burial with small glass beads. Ford (1936) thought it might possibly be a village of the Yazoo (circa 1700), but as far as I know no further historic materials have been found at this site since no extensive excavations have been carried out there. Haynes Bluff is a few miles north of Vicksburg. Nearby is the Russell site, which has not been reported on before. The material is in the Russell family collection and the Butler Collection, Jackson, Mississippi. There is a fairly large amount of material, including some rather impressive strings of medium sized blue glass beads, iron axes, copper bracelets, and a little soapstone bullet mold. The general run of materials

is virtually identical to that at the Fatherland site. I would think it fairly safe to identify it as Tunica or Yazoo of approximately 1690 to 1730.

The Natchez Fort site was reported by Ford (1936) and by Green (1936). There is little question that it is the Natchez refuge site of 1730. There are blue glass beads, lead bullets, and iron shells. This site was shelled by the French after the massacre, and is one of the well-established and identified historic sites in the Lower Valley.

Proceeding down the river, the Oak Bend Landing site also excavated by Moore (1911) had two burials with historic materials. One had fragments of sheet brass or copper and glass beads, and the other (no. 13) had a badly corroded piece of iron; not a very impressive assemblage. In contrast, the Fatherland site at Natchez is, as I mentioned, the most prolific yet excavated. There are several European ceramic vessels from this site in the collection now extant at Jackson, but no potsherds of chinaware or glass. This lack is interesting as a commentary on the changes in archaeology. It is hard to overestimate the importance of Fatherland, because its historic occupation covers a rather short period of time, probably between 1690 and 1730, and there is little question as to its cultural identification. Neitzel's current excavations there should make significant additions to the field of historic archaeology.

Turning from the vast quantities at Fatherland we have the Neitzel site at Stu's home near Marksville, Louisiana. He was out digging a garden, and ran into an historic Tunica burial of the eighteenth century accompanied by a rifle. Stu tells me they have been doing historic archaeology with a vengeance in Marksville lately. One of the surviving members of the Tunica tribe has excavated a Tunica cemetery, and is charging admission to see the burials. Unfortunately they are not in the literature yet.

The next site, that of Angola Farm, is a rather rich site; a cemetery with a lot of glass beads, bottles, clay pipes with the "T D" markings, brass objects, iron knives, and flintlock guns. This is believed to be Tunica, post 1706, and unfortunately has not been adequately described. The best trait list for Angola Farm is to be found in Quimby's (1942) study, the one in which he compares material from Michigan and Louisiana. The comparisons are good, so there seems to be little question as to the date of Angola Farm. The question of whether this is Tunica or not is one that is not settled at the present.

Going further south in Mississippi there is a site by the name of Trudeau which Moore (1911) also worked. Here he found a brass kettle,

a catlinite pipe, and some iron and steel objects. He was given this material that had been eroding from the site.

Finally there is the Bayou Goula site reported by Quimby (1957). It is a multi-component site with historic material apparently covering the period 1682 to 1750. Quite a variety of trade items have come from this site, including glass beads, bottles, iron axes and knives, flintlock guns and chinaware.

Colonial Sites

I have been able to list about a dozen colonial sites in the Lower Mississippi Valley (see list and map) some of which should be available for historic site archaeology. As I pointed out earlier, very little of this kind of work has been done. Just touching on a few, Charles Nash (1961) has recently written on the area around Memphis, and mentions that Fort Nogales and Fort Prudhomme have been destroyed by river action, and therefore there is little we can do with that. The Arkansas Post locality has been worked on by Ford (1961) at the site of its first location, and by Holder (n.d.) at the site of a later location. Only a few traces were found by Ford as was detailed above. In contrast, the site which Holder dug, the later French fort, did have a very rich deposit of trade material. Holder found quantities of ceramics and glass from the period of 1730 - 1760. He found faience ware made at Rouen and Lille, which French experts dated with fair ease. This site, when published, will make an important addition to colonial sites within the Valley.

Fort St. Pierre just north of Vicksburg was an important mission site; Father Davion was there for a while. It has been located (Ford, 1936) on the basis of some tiles found there, but I am not convinced of that location. Fort Rosalie should be in downtown Natchez. Traces of it were seen in 1893, but as far as I know nothing else has been done with the site. Point Coupée on the Mississippi is lacking in evidence except for the fact that Quimby (1942) mentions some short-stemmed dark clay pipes from Marseille have been found near there. South from Baton Rouge the story is about the same. There are colonial sites, but no archaeology has been done on them, as far as I know.

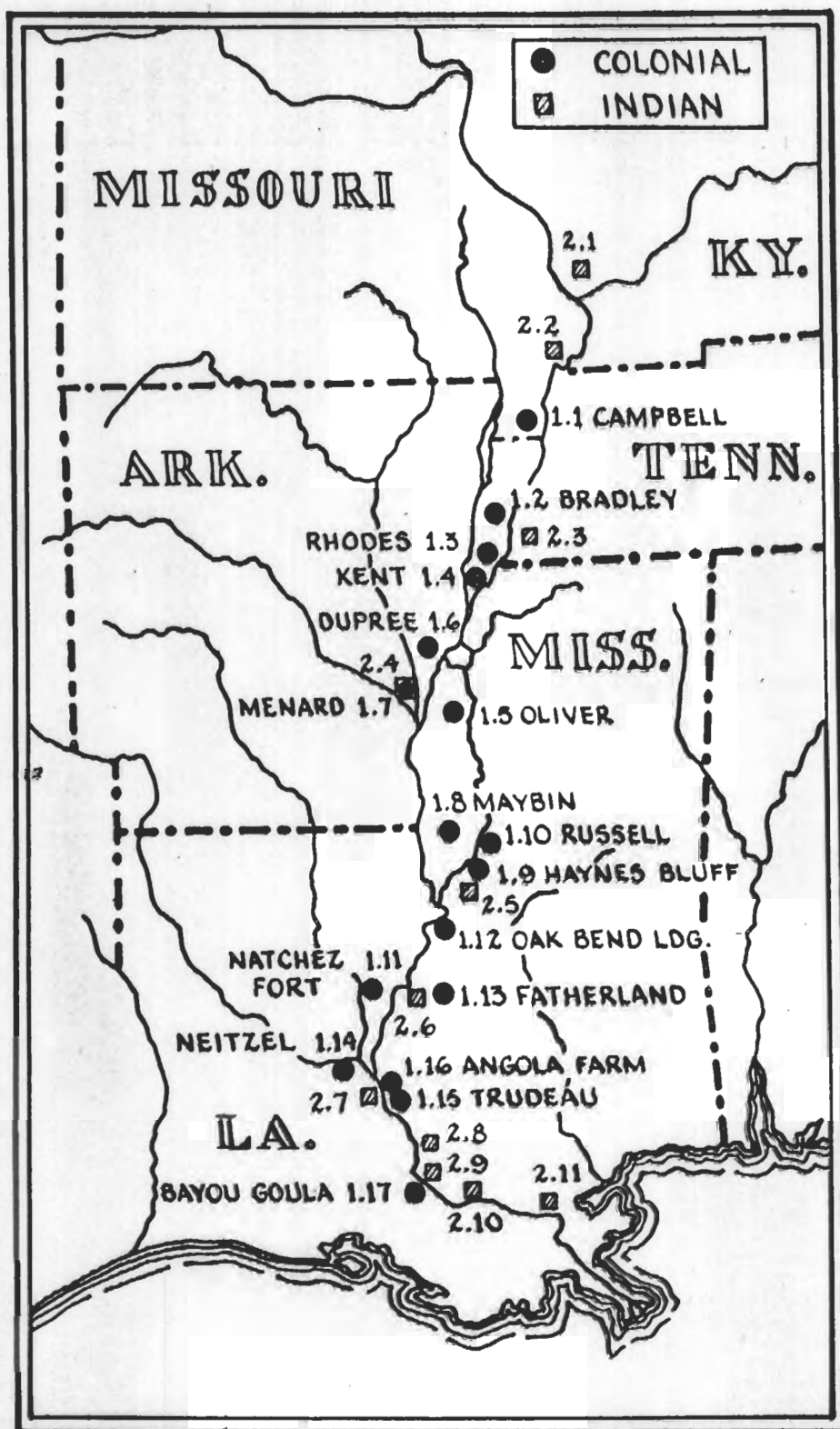
Conclusion

I would like to conclude with some problems raised by this brief survey. It is no surprise that we know so little about the colonial sites because not much work has been done in this field so far. There was evidently destruction of many of these early sites by the river. This is shown by what has happened to the sites at Memphis and also the problems

of the French Posts near the mouth of the Arkansas. The white settlers were not accustomed to the high waters and the meandering of the rivers, very often placed their sites very badly. Arkansas Post was moved about half a dozen times.

Another problem is why do we have so many Indian sites with so little trade goods. Possibly this situation is caused by two things: first, the lack of excavation of major sites. It is certainly true that we have not excavated very many of them. If we look for historic evidence, we must keep in mind the Campbell site in Southeast Missouri where a hundred burials have been excavated, but only five beads have been found. Therefore you may have to go a long way to find anything. Certainly surface collections, which at present form the major bulk of our data on this area, are not too good for picking up this kind of information. An exception is found in Russell site where evidently a number of the burials were quite shallow, and beads were being plowed up with regularity. You could go there and pick them up after a rain quite easily. The second reason for this situation may be a real lack of trade goods coming in. Ford (1961:159) stresses this point. However, as I mentioned in the case of the Caddo, there is good documentary evidence in the eighteenth century for that region showing quantities of hard goods coming in and being given to the Indians, and yet we still find very little.

Another problem for historic archaeology in this area is that what we have to say about the ethnohistory of the Mississippi Valley is at present still pretty sketchy, despite the fact that we know a lot about the Natchez, in definitive terms with regard to location. There is a lack of early maps that makes exact identification of seventeenth and eighteenth century sites very difficult. There is also a tremendous amount of movement here, as in other parts of the Southeast. We know that there were a number of splinter groups moving about. For instance, we see what happened after the Natchez massacre with the Natchez moving off in several directions. Other groups were coming together as at the Bayou Goula site, so it is going to be rather difficult in this period to be able to identify with any great certainty the actual occupants of a particular site. Clarence Webb (1962) has detailed what happened around the beginning of the nineteenth century when you had this tremendous flood of people from the east moving in here, and Delaware going into the Mississippi Valley further north, even before the turn of the nineteenth century. However, I still feel that this is a very worthwhile project, and not hopeless. That we have not made too much progress since the late thirties is the fault of the archaeologists and not the fault of archaeology itself.



**HISTORIC SITES IN THE LOWER
MISSISSIPPI VALLEY**

LOWER MISSISSIPPI VALLEY

LIST OF SITES

1. Indian Sites with Trade Materials (Lower Mississippi Survey site numbers)
 - 1.1 (8-Q-7) Campbell (Chapman and Anderson, 1955), (Leo Anderson, personal communication)
 - 1.2 (11-P-2) Bradley (Moore; 1911:427-446; Thomas, 1894:226-227)
 - 1.3 (12-O-6) Rhodes (Moore, 1911:413-426)
 - 1.4 (13-N-4) Kent (Moore, 1911:406-410)
 - 1.5 (16-N-6) Oliver (Peabody, 1904; Brown, 1926: 101-106; Goggin, personal communication)
 - 1.6 (16-L-6) Dupree (Holder, n.d.)
 - 1.7 (17-K-1) Menard (Thomas, 1894:226-231; Moore, 1908:486-509; Ford, 1961).
 - 1.8 (21-N-4) Mabin (Butler Collection)
 - 1.9 (22-M-5) Haynes Bluff (Ford, 1936:110; Moore, 1908:569-570)
 - 1.10 (22-N-19) Russell (Butler Collection)
 - 1.11 (23-J-3) Natchez Fort (Ford, 1936:65-68; Green, 1936)
 - 1.12 (24-M-7) Oak Bend Landing (Moore, 1911:378)
 - 1.13 (26-K-2) Fatherland (Ford, 1936:59-65; Quimby, 1942)
 - 1.14 (28-H-29) Neitzel (R. S. Neitzel, personal communication)
 - 1.15 (29-J-2) Trudeau (Moore, 1911:376)
 - 1.16 (29-J-3) Angola Farm (Ford, 1936:129-133; Quimby, 1942)
 - 1.17 Bayou Goula (Quimby, 1957)

2. Colonial Sites (after Shepard, 1956:191)
 - 2.1 St. Denis (Southern Illinois)
 - 2.2 New Madrid
 - 2.3 Chickasaw Bluffs (Nash, 1961) Fort Nogales,
Fort Prudhomme - 1682
 - 2.4 Fort Arkansas (Arkansas Post) - 1686 (Ford, 1961)
1730 - 1760 (Holder, personal communication)
 - 2.5 Fort St. Pierre (Peter) (SE 1/4 Section 34, T18N,
R4E on Vicksburg Quad)(Ford, 1936:99)
 - 2.6 Fort Rosalie (Natchez) - 1714 (Ford, 1936:50)
 - 2.7 Pointe Coupée (Quimby, 1942:547)
 - 2.8 Baton Rouge
 - 2.9 Manchac - British and Spanish occupied forts
 - 2.10 Les Allemands - German Coast
 - 2.11 New Orleans - 1718
 - 2.12 Fort Adams ?

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LATE CREEK SITES IN CENTRAL ALABAMA

by

Charles H. Fairbanks

This paper is a report on some work that Florida State University did this summer in central Alabama under a grant from the National Park Service at Horseshoe Bend National Battlefield Park. The conditions of the contract required that we do three things. First was to locate the fortification of the Red Stick Prophets which was attacked spectacularly by Andrew Jackson and John Coffey. The result was that Jackson acquired a national reputation as an energetic fighter of Indians. Secondly we were to define the area of the Prophets' village, Tohopeka, in the toe of the horseshoe, this village was supposed to have been established on ground where no white man had ever set foot, and thus was a sacred town. We did both of these with some success. Finally, it was suggested that we investigate to some extent the location of the large Indian village of Nuyake, which, according to Benjamin Hawkins had been established in 1799 and destroyed during the Red Stick War. Hawkins' description is quite clear, but the Park Service wanted to know where it was, among several possibilities across the river.

For the first of these objectives, the location of the Prophet fortification, we were completely unsuccessful. We found that there had been extensive sheet erosion, and some gully erosion in the narrows of the Horseshoe Bend. Extensive trenching, first by student shovels, and then by power ditch digger, yielded no evidence of fortifications, which according to Jackson's description must have been of considerable strength, and should have had ditches and so on. We came to the conclusion that erosion has been so extensive that there is no aboriginal land surface or anything approaching it remaining in that area.

Then we moved down into the toe to locate the area of the Prophet's village. We dug a series of twenty-seven test pits ten by ten feet in size, and we got a variety of pottery, in all, 2409 sherds, which isn't at all abundant. This agreed with what we knew of Tohopeka that it had been established, probably late in the fall or winter of 1813, and was destroyed in March of 1814, so we didn't expect much broken pottery etc., to have accumulated in that time. In Tohopeka we found what I believe are certainly two ceramic complexes. Whether they are contemporary or in sequence I don't know as yet. We found minor amounts, 14.5 percent of the pottery, belonged to easily recognized Creek ceramics. We found that only 38 sherds, or 9.2 percent of the Creek pottery was Ocmulgee Fields Incised, 252 sherds, or sixty percent was a variety of Chattahoochee Brushed; that is, it was a brushed pottery which is sand or grit tempered, and would more closely approximate Chattahoochee Brushed than Walnut Roughened or the Florida types of brushed. Then we got some

stuff that for a long time we have been calling Ocmulgee Fields Plain, which are the plain parts of Ocmulgee Fields. Indised pots evidently. One hundred and twenty-five or 30 % were of these sherds, for a total of 415 recognizable Creek sherds.

The amazing thing to me in this collection, was the degree to which it resembled the Ocmulgee Fields complex here at Ocmulgee, which dated from approximately 1685 to 1715 or 1716. Here we have in a period of tremendous culture change among the Creek, brought on by, on the one hand the shift from a barter economy and the commercial hunting of deer, and on the other by the encroachments of Americans: Virginians, Georgians, South Carolinians etc. There were tremendous changes in the economy of the Creeks, and yet for a period of at least one hundred years their pottery changes only in very minor ways, and these minor ways may be simply the effect of different clays. Here at Ocmulgee we have residual Eocene clay, in the Talapoosa Valley we have a highly micaceous erosional clay, but other than this I don't think they are much different. I suppose that the reason for this conservatism of Creek ceramics in this period is due to the fact that this was a matrilineal society. The pottery was made by the women, and the principal impact of the deerskin hunting trade was on the men who spent increasing time out in the woods hunting deerskins, and harassing the frontiersmen. The women, however, stayed at home making the old kinds of pots. In addition, we found two percent of the total sherds were Lamar Complicated Stamped, or Lamarish Plain looking sherds, etc., and it is not quite clear just what they are, and may be hyper-conservative types. Fourteen and a half percent of the total sherds were Creek types. Eighty percent were something which I have named Dadeville Plain. This is a plain, sand tempered, heavily micaceous pottery, rather soft, but rather well smoothed, and well made in all. When it first appeared it had notched lips that off hand suggested some sort of Avarett Plain or Swift Creek Plain. We found that the vessel form was a globular pot with straight or slightly flaring neck with occasional elements on the shoulder, and in one case a raised ridge oblique to the lip. Almost always on the globular jar the lip is notched. There is another form, a hemispherical bowl, apparently with an incurving rim and a plain lip. In addition, we found one strap handle on this material (so it is Late Mississippian I guess). We also got large sherds that looked more and more Missippian. We got one fragment of a pipe which seemed to be some sort of rather tall tubular bowl with neatly polished shallow grooves encircling it. It has a vaguely Late Woodland flavor to it. We did get about one quarter of a bi-concave discoidal. We do not know very much about the chronological position of this material as yet. Except for the notched lip and the strap handles rather than loop handles, it would seem to fit in with Macon Plateau Bibb Plain, but this may be because it is rather drab pottery without distinctive characteristics.

We did find Tohopeka, and I think we can pretty well plot on the map where the Prophet huts were in this area and they show an extreme con-

servatism in ceramics. We found no trade materials which might relate to the nativistic millennial movement among the Prophets of destroying the white man's materials etc.

Then in the final week we moved across the river to Nuyaka. This site was named in honor of the treaty of New York in 1790, and occupies a broad flat, agriculturally ideal, flood plain. We could not investigate the central part of the village as it was under lease to a farmer and in very sorry corn and cotton at the time. We did locate one quite useful pit. This had been a slightly bell-shaped storage pit which had later been filled with household trash. The household trash included parts of at least five pottery vessels of Indian manufacture which had been broken, and we got large sections of them. Large quantities of animal bone, a little trade material, some silver work, a few beads, musket balls, gunflints, etc., numerous slabs of puddled clay flooring showing grass impressions. Evidently someone refurbished a house and rebuilt the area around the fireplace, dumped all the trash in this pit and covered it up. Included in the pit fill were a large number of hen's egg shells. We carefully salvaged these small bits, then we found a whole shell, the quantity is quite surprising. There are several accounts of hens in Creek and Cherokee sites in the Southeast during this general period, but I have found no accounts of how the Creeks ate hen's eggs. This was somewhat surprising. The animal bone included large amounts of tortoise, apparently land tortoise, numerous quantities of pig and cow bones as well as miscellaneous small animals which I take to be rabbit, but this bone analysis is still in progress.

The pottery was what we had learned to expect in this area. Most numerous were this Horseshoe Bend variety of Chattahoochee Brushed, and at least one of them was a tall slab-sided pot which does look larger and deeper than the Ocmulgee variety, and approaches those described by Spoehr, Quimby, etc. from the modern Creeks in Oklahoma. Some of them were small, and except for their mica content, could be lost in the Ocmulgee collection. There were at least three Ocmulgee Fields Incised cazuela jars, and with the discovery of these I take back all I have ever said about the sloppiness of Ocmulgee Fields Incised pottery. This very often looks as if it had been incised with a diamond stylus, it is so neat and precise and well controlled. From the execution, the quality, (which is a very subjective thing) it could not be distinguished from the Ocmulgee material except it is a lot neater and has a good deal of mica. There is a slight suggestion that the lip form which is generally extruded at Ocmulgee and other central Georgia sites, is much simpler in central Alabama.

The trade materials consisted of a few white barrel shaped beads of rather small size, a little larger than seed beads, and some opalescent pink, barleycorn beads which are extremely fragile, and it was almost impossible to get them out of the ground whole. We did find a

little silver tubular dangle (completely tubular, not conical), a little annular disc slightly smaller than a dime, and one of the loop button and dangle type earrings which occurs before 1700 and continues almost to 1900 (in the Plains at least), of course not in the Southeast. All in all this gives us a good picture. We found no European ceramics, but we did get some European bottles of the common green type, some of it patinated, and we hope to get annular ring counting on this.

In the intervals between our contractual work at Horseshoe Bend we took the weekends to investigate the other great Upper Creek sites in the immediate vicinity. The most important of these were Tukabatchi and Big Talassee. (Big Tulsa, Big Tallahassee). Tukabatchi on the right bank of the river and Big Talassee on the left bank face themselves nearly across the river, and are the classic sites of the Upper Creeks of the 18th and very early 19th centuries. We had no difficulty whatever in locating these sites from the description in Hawkins' sketch of the Creek country. They are well known to local relic collectors, and have been extensively looted. It was here we saw on several visits various individuals with mine detectors looking for silver.

We also investigated a site about four miles upstream from Horseshoe Bend which has been called by Swanton, Tukabatchi Tallahassee, but I doubt that this is really Tukabatchi (Old Town, and its name during the late post-Revolutionary period was Talamutchasi or New Town, and again we got a good picture of the material.

Then we began to investigate a series of sites along Hillabee Creek in an effort to locate the historic Hillabee towns which present another aspect of the Upper Creek conglomeration. We found a few very minor remains on Hackney Creek which seems to be the approximate location of the main Hillabee town, and we found characteristic pottery there. We found two small sites far up Hillabee Creek which may be the "Under the Mountain" towns described by Hawkins, but again these areas have reverted to forest land and gone out of cultivation, and we just couldn't get much material.

At Vicker's gravel pit, which is probably the site of the Hillabee-town of Ennetichapco, we got a pretty good collection. Then we went farther down to the junction of the Talapoosa and the Coosa and got surface collections from the Tuskegee town and mound section which included some beads and some scraps of trade materials. We collected a little material including a couple of gunflints from the Fort Toulouse area, which probably isn't actually Fort Toulouse, but is rather Andrew Jackson's Fort Jackson of 1814. Interestingly enough we found that all of these have about the same constellation of materials. In all of them we found Ocmulgee Fields Incised, Ocmulgee Fields Plain, and at least some materials of Chattahoochee Brushed, all of it sand tempered. We

did find on such sites as Talamutchasi and so on, that there had evidently been an earlier occupation which seems to include Swift Creek Complicated Stamped and something I take to be roughly Deptford Check Stamped, along with medium sized, narrow stemmed projectile points of quartzite. There doesn't seem to be any flint in this area. I am fairly sure that these quartzite stemmed points are Creek points because we found them in some quantity. At Big Tulsa there is an extensive deposit of petrified, agatized wood in the immediate vicinity, and points etc. were made of this agatized wood. We did not find any large quantities of small triangular projectile points.

Big Tulsa (Big Talassee) is one of the most spectacular sites I have seen. Even the students were eventually persuaded to pick up only decorated sherds larger than a quarter. You simply can't truck the stuff off the surface of the ground, and this in the face of sixty or seventy years of intensive surface collection by local collectors. We dug one ten by ten foot test pit in the edge of Big Talassee. It was in cotton, the only good cotton we saw in Alabama, and the very agreeable leasors said we could dig if we would fill in, and not leave open pits. We found that the mixture of Ocmulgee Fields type pottery extended to a depth of at least two feet, but we are sure we are on the side of the slope. In addition we have the more conventional central Alabama types, the shell tempered black wares of Moundville type which are so well known from burials at Tukabatchi and at Big Tulsa. I think we obviously have at these big, old towns of the Upper Creeks, a complex of earlier Mississippian types plus the Creek ceramics, and only extensive stratigraphically controlled excavation will sort out when one of these pottery complexes stops and the other begins.

At Tuskegee, which Swanton suggests is a slightly different complex than the rest of the Upper Creeks, we found different types of pottery. There are shell tempered wares, and less of the Creek types, and this is probably due to the fact that at the junction of the Coosa and Talapoosa the direction of pre-historic contact was more to the north. In addition, at Nuyaka we found one of the quite typical small posthole like pits in which corncobs had been burned and in place, and we got a very good corncob sample which must be between 1779 and 1814. It has not yet been analyzed, but we hope to get some good information on Creek corn out of it.

In regard to these corncobs in small pits, they appear to have been burned in place, and my theory is that they are mosquito smudges. This seems to be a regular feature beginning on the late Fort Walton level, and going on up into the Creek.