GEOLOGICAL SURVEY OF ALABAMA

WALTER B. JONES, STATE GEOLOGIST

MUSEUM PAPER 32

GUNTERSVILLE BASIN POTTERY

By

MARION DUNLEVY HEIMLICH

UNIVERSITY, ALABAMA

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LETTER OF TRANSMITTAL

University, Alabama
December 1, 1952

Honorable Gordon Persons
Governor of Alabama
Montgomery, Alabama

Sir:

I have the honor to transmit herewith the transcript of a report on "Guntersville Basin Pottery", by Marion Dunlevy Heimlich. It is requested that this be printed as Museaum Paper No. 32 of the Geological Survey of Alabama.

Respectfully,

WALTER B. JONES,
State Geologist

TABLE OF CONTENTS

FOREWORD

When Dr. William S. Webb, former Senior Archaeologist for the Tennessee Valley Authority, recently wrote me that he still had a copy of an eleven-year-old manuscript of mine and thought it should and perhaps could be published, I was intensely flattered. These pages had originally been intended as a chapter in the report of the Guntersville Basin which was to have been published by the Smithsonian Institution, Bureau of American Ethnology for the Tennessee Valley Authority. But World War II and subsequent lack of funds waylaid it. This report now appears as a separate publication, by the University of Kentucky Press.[1] It provides the individual site descriptions, the pottery data and study for each site, and the cultural orientation for the material included here.

A job of updating and rewriting this chapter seemed virtually impossible for one who has been out of the field entirely for over ten years. So I offer it here, apologetically, as it was then, for whatever documentary usefulness it may have. I only hope that my current reputation as a reporter of present day events will not be dimmed by my very obvious earlier limitations.

My respects and appreciation to those who made this work possible are extended to Dr. Webb mentioned above; Dr. Walter B. Jones, Alabama State Director of Conservation; David L. DeJarnette, Curator, Alabama State Museum; and to the Central Archaeological Laboratory staff members who participated extensively in the laboratory work on pottery: Mrs. Christine Adcock Wimberly, Messrs. Harold Dahms, Harold Anderson and James Russell Foster.

The means for excavation of the materials from Guntersville Basin and the facilities of the Central Archaeological Laboratory at Birmingham, Alabama were supplied jointly by the Alabama State Museum, the Tennessee Valley Authority and the Works Progress Administration.

M. D. H.

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[1]Webb, Wm. S. and Charles G. Wilder, An Archaeological Survey of Guntersville Basin on the Tennessee River in Northern Alabama.

GUNTERSVILLE BASIN POTTERY

by

Marion Dunlevy Heimlich

Pottery Type Classification

The inhabitants of the aboriginal villages scattered along the banks of the Tennessee River in the Guntersville Basin of Northern Alabama were prolific potters. Their ceramic styles were nearly identical to those of their near neighbors both up and down the great river. A descriptive system of pottery types for this area was well laid out in earlier reports on the cultural remains from the Wheeler and Pickwick Basins.[1] That system is used in this study.

The five temper categories (fiber, sand, limestone, crushed sherd or clay and grit, and shell) found in Wheeler and Pickwick Basins also occurred in the Guntersville Basin. They characterize broad cultural horizons which may be arranged in relative chronological sequence. In addition, certain surface finishes and decorative designs appear to be diagnostic of several periods within these broader horizons. In the analysis of the Guntersville Basin sherds and the comparison of them with Pickwick Basin pottery, it became apparent that nearly all of the features of the Pickwick types occur in the Guntersville Basin. In the latter Basin, however, there is a greater range and a greater variety, particularly in form.

The types were established on the arbitrary bases of temper, surface finish and decoration. When specific features of these

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[1]Griffin, James B., "Report on the Ceramics of the Wheeler Basin," *An Archaelogical Survey of Wheeler Basin on the Tennessee River in Northern Alabama*, by William S. Webb, Bureau of American Ethnology, Bulletin 122, Washington, D. C.: Government Printing Office, 1939, pp. 127-165; and Haag, William G., "A Description and Analysis of Pickwick Pottery," *An Archaelogical Survey of Pickwick Basin in the Adjacent Portions of the States of Alabama, Mississippi, and Tennessee*, by William S. Webb and David L. DeJarnette, Bureau of American Ethnology, Bulletin 129, Washington, D. C.: Government Printing Office, 1940, pp. 513 ff.

arbitrarily chosen constants appeared to be culturally significant, subdivisions were made. For example, the sand tempered complicated stamped category was divided into two types distinguished on the basis of designs which represented different chronological horizons. Several types established for the Pickwick Basin have since been divided on the basis of cultural significance gained from the more recent Guntersville Basin excavations and studies.

The types within a temper group or ware generally are very similar in qualities of paste, surface finish, decoration, and frequently in form. Repetition of the description of these qualities is needless, and after the first complete description of each ware, only the variations from the norm will be noted.

Geographic and descriptive names are used, and in addition, the key system originated in the Pickwick report has been retained for the purpose of ready identification of temper by those unfamiliar with the type names. In this system the number 1 indicates fiber, 2 – sand, 3 – limestone, 4 – clay and grit, and 5 – shell tempering. The small letters indicate differentiation in surface finish. Where the surface finish or technique of decoration was constant, but a typological division made on other bases, the double letter was applied to the second type. For example, types 5d and 5dd are both shell tempered, smooth surfaced and incised. Type 5d is incised with fine lines in geometric arrangements. Type 5dd is decorated with broad incising in curvilinear patterns only. Differentiations in form also occur. Alphabetical designations omitted in the following series generally represent types found in the Pickwick but not in the Guntersville Basin.

Fiber-Tempered Ware

Type la-Wheeler Plain (plate 1-A, sherds 1-12).—The tempering material of this type is vegetal fiber, suggestive of grass, which has been decomposed or carbonized. The structure is vermiculated and cellular. Occasional sherds contain considerable sand and some mica, in addition to the fiber. This mixture may have been due to natural agencies. The texture is medium

and shows a laminated structure due to the fibrous aplastic. When little or no sand is present the clay is slightly chalky in texture. The hardness is most frequently less than 2, the sandy sherds generally being the harder. The exterior is cinnamon buff or light gray and the interior generally darker gray or occasionally buff. The cross section varies in shade, the color of the exterior often penetrating 2 to 3 mm. The remainder of the core is generally dark gray. The surface finish is irregularly smoothed, showing tool markings and vermiculated pitting. The sherds range from 5 to 12 mm in thickness. Since the fiber tempered sherds are typologically indistinguishable from those of Pickwick, the form may very well be the same straight or slightly flaring sided bowl illustrated by the only restored fiber tempered vessel from North Alabama, Plate 228, in the Pickwick Basin Report.

Type 1e—Pickwick Simple Stamped (plate 1-A, sherds 13-17)—The surface of this type was irregularly malleated with a sharp straight edged tool. A site variation is the very sandy paste of all sherds of this type from Ms^{v}32.

Sand Tempered Ware Type

Pottery containing sand tempering is found in several cultural horizons. Certainty of assignment can be established by associations and stratigraphy in only a few cases. Some specimens for which the chronological position is not known have been named on the basis of typological similarity to those for which the position can be determined. Design motifs appear to be easily recognizable diagnostics.

In a comparative analysis of the Guntersville and Pickwick Basin sand tempered sherds, two temper groups which graded into each other were recognized. Both groups occurred in the two Basins. The group prevalent in Guntersville Basin. The group prevalent in Guntersville Basin is described and subsequently referred to as sand temper group 1. The minority group in the Guntersville Basin, group II, is the prevalent variety in Pickwick Basin.

Type 2a—O'Neal Plain (plate 1-B, sherds 12-21).—In temper group I, observed with a seven power lens, approximately 5 to 20 per cent of the sherd is composed of from fine to large-medium grains of sand, predominatly angular. The composition of the sand is as follows: (1) *quartz* (predominantly), milky and clear varieties; (2) *feldspar*, content variable, predominant in a few sherds; (3) *mica*, abundant when present. The sand content in the paste may grade from 20 per cent, down to a few scattered grains. The surface of an unweathered specimen of this group is relatively smooth, whereas a weathered sherd is very gritty.

In sand temper group II approximately 20 per cent to 40 per cent of the sherd is composed of medium sized sand grains which range from subangular to rounded with water worn surfaces. The composition of the sand is as follows: (1) *quartz* (predominantly), milk or clear varieties, usually with a pink variety in evidence; (2) *feldspar*, content negligible; (3) concretionary nodules of *limonite* and hematite varying in size and quantity within the sherds examined; (4) *mica*, present. Unweathered sherds presents a relatively smooth surface with slightly protruding quartz grains. A distinguishing factor in group II is the high percentage of large sand grains uniformly distributed throughout the paste.

A number of fractures indicative of the coiling technique of manufacture have been noted. The hardness is rarely 2.5 and more commonly 2.0, ranging to 2.5. The paste core is gray to black, the interior gray or smudged black and the exterior gray, or buff to brown.

A variety of forms representing both temper groups may be reconstructed from the rim, basal and large body sherds illustrated in plate 1B, sherds 12-21, and cross sections in plate 2B. The characteristic form is bowl shaped, but small, thin globular jars occur. The most frequently represented bowl form is the flat based (sherd 20, plate 1B cross section 15, plate 2B), either slightly flaring or excurvate sided vessel with a rounded lip (sherds 18 and 19, plate 1B, cross section 8 plate 2B) or a fold-

ed back rim (sherds 12 and 21, plate 1B, cross section 12-14 plate 2B), ranging up to approximately 30 cm. in diameter. Tetrapodal supports on a flattened base (cross section 16 plate 2B) and rounded bases also occur. Occasionally rims are thickened and beveled (sherd 13, plate 1B, cross section 9, plate 2B). A flaring rimmed, small, globular jar form is indicated by a number of sherds. Both straight flaring and curved flaring rims occur (sherds 14-17, plate 1B, cross sections 1-4, plate 2B).

There is considerable variation in thickness, ranging from 2 to 12 mm., the characteristic thickness being 5 to 7 mm. The base, body wall and lip are frequently fairly uniform in this respect, particularly on the thinner vessels. Occasionally bases and rims are thickened to the maximum measurements of the range. Only two appendages were noted. One flange occurs 5 mm. below the lip (cross section 11, plate 2B). A rimsherd of a very small jar has a small loop handle, sherd 17, plate 1B (cross section 4, plate 2B.)

Type 2aa-Henry Island Plain (plate 75 F, G, Guntersville Report)——Vessels of this type approximate temper group I. Two restored bowls have rounded lips, curving flared rims, shallow bodies and flattened bases. The color is brown to black. The smaller measures 13.2 cm. in diameter at the lip by 5.8 cm. in height and varies from 4 to 8 mm. in thickness, the neck being thickened. The larger measures 31.2 cm. in diameter at the lip, 5.7 cm. in height and 4 to 5 mm. in thickness.

Two jars of this type are alike in form. Lips are rounded and vertical to slightly flaring rims are raised to four peaks which are ornamented by plain or bifurcated nodes. The rims are 3 to 3.5 cm. high at the saddles and 4 to 4.5 cm. at the peaks. The bodies are flattened globular. The vessels measure 13.5 to 14 cm. in maximum diameter and 12.5 to 13 cm. from base to rim peak. The thickness varies from 3 to 8 mm. A sherd of temper group I with an oval strap handle with vertical protuberances at the upper attachment (cross section 10, plate 2B), typical of one type of shell tempered handle was found at site Ja°180A, where the jars were found.

One very small water bottle, with an animal effigy head (plate 75D, Ja°180A Guntersville Report) has been classed in this type on similarity of temper, smoothed, undecorated surface and chronological position. It is a dull terra cotta red in color and measures 9 cm. in height and 7.5 cm. in maximum diameter.

Type 2b—Alexander Incised (plate 1B, sherds 7-11 and plate 2A, cross sections 1 and 2).—Incised geometric patterns (illustrated by sherds 8-10) appear on sherds with sand temper group II. The lips on sherds of this type are frequently decorated with transverse incisions and accompanied by rows of pinched bosses below the lip. Vertical and diagonal parallel lines occasionally accompanied by punctations (sherds 7 and 11) appear on sand temper groups I and II.

Type 2f—Alexander Pinched (plate 1B, sherds 3-6, plate 2A, cross sections 3 and 4).—A few sherds of sand temper group II are decorated by pinching. The arrangement is usually systematic and sometimes occurs on rims in combination with zoned stamping. Incised lip and rim bosses are common.

Type 2g—Columbus Punctated (plate 1C, sherd 8, plate 2A, cross sections 5 and 6).—Systematically arranged punctations occur occasionally on sand temper group II. The punctations are vertical or oblique.

Type 2h—Rudder Cord Marked (Plate 75E, Ja°180A, Guntersville Report).—The one vessel representing this type is in sand temper group I. It is very similar in form to the peaked rimmed jars of type 2*aa-Henry Island Plain.* The variation lies in the sloping shoulder and the gradual curve from the rim to body whereas the juncture of the rim and shoulder forms a sharp angle on the plain jars. The surface of the rim and neck is smoothed and the entire body and base covered with cord marking applied vertically, converging at the base.

Type 2i—Sauty Cord Impressed (plate 1C, sherds 1-3, plate 2A, cross sections 7-10).—These sherds contain tempering of very fine sand and mica is abundant. This type is of temper

group I. Designs were produced by impressing individual cords in loops and parallel lines. The decoration generally occurs on the rim and suggests that a cord may have been wrapped around the rim. A characteristic series of small indentions which appear to have been made by the impression of a small stick wound at regular intervals with cord occur on the exterior and the interior just below the lip. The forms appear to have been small, relatively thin bowls and jars.

Type 2j—Kirby Complicated Stamped (plate 1C, sherds 10-13, plate 2A, cross sections 11-13).—A variety of patterns of complicated stamping are found on sherds from sand temper group I. Diamond shaped outlines filled in with parallel lines are the most common, though a variety of complicated geometric patterns such as that shown in plate 1B, sherd 10, occur. The stamped designs are frequently obliterated by successive overlapping applications of the stamp and subsequent smoothing. The form indicated by rimsherds is a slightly flaring rimmed jar, plate 2A (cross sections 11-13). Frequently the flaring rim is folded over at the upper margin.

Type 2jj—Hardin Complicated Stamped (plate 1C, sherds 16-19, plate 2A, cross sections 14 and 15, plate 1D and plate 47D, Guntersville Report).—Two design motifs in the sand tempered complicated stamped category have been separated from type 2j *Kirby Complicated Stamped.* The two patterns are concentric circles (plate 47D, Ja^{v}27, Guntersville Report), and concentric diamonds cut by two parallel lines (plate 1D) occurring in several variations, concave, straight or convex sided.

The form of this type is well illustrated by two whole vessels (plate 47D Ja^{v}27 and plate 76 Ja^{o}180A, E Guntersville Report) and several large fragments. These are characteristically elongated jars with flaring rims and conical bases. The fragmentary vessel (plate 1D) is more squat, and the base form is not known.

Type 2l-Benson Fabric Marked (plate 1C, sherd 9).—A few sherds of sand temper group I are marked with plain plaited fabric.

Type 20-Sauty Check Stamped (plate 1C, sherds 4-7).—These sherds show a gradational difference from the typical sand temper group I. The paste is generally more silty. A fine check stamp apparently covered the entire exterior of vessels, some of which had podal supports. The checks range from 1 to 3 mm. in width, the small check being more common. Several podal supports almost completely covered with check stamping were noted.

Type 2p-Laws Red Filmed (plate 1C, sherds 20 and 21, plate 2A, cross sections 16-18).—A number of sherds with sand temper group I were coated with a thin red film on the exterior and interior, or interior only. All sherds appear to have been bowls with incurving rims. Incising underlies the filming on one sherd, and the wide mouthed bowls characteristically have one or two lines incised on the exterior rim, parallel to the lip.

Type 2g-Benson Simple Stamped (plate 1C, sherds 14 and 15).—Parallel line stamping occurs on sherds of sand temper group I. A considerable gradation in tempering is represented and a higher feldspar content appears to be characteristic.

Type 2r-Rudder Incised (plate 76C, Ja°180A Guntersville Report).—A jar of sand temper group I is decorated with six arches paralleled by indentations on the shoulder area. The arches were produced by modelling. (The decoration on this type is like 5d-Moundville Incised, in the shell tempered ware.) The lip is slightly overted and the rim vertical with a narrow interior bevel. The shoulder is rounded and the body narrows toward the base giving an elongated appearance though the base itself is rounded. The maximum diameter and height of the vessel are approximately the same, 15 cm. The paired strap handles are ornamented with protuberances, one vertical at the lip and one horizontal at the center of the handle. Thickness ranges from 3 to 5 mm.

Type 2s-Rudder Comb Incised (plate 76A, Ja°180A, Guntersville Report).—One jar, identical in form to the peak rimmed jars, of type 2*aa- Henry Island Plain*, is marked with incised lines

which appear to have been made by a six toothed comb. The imprints on the neck are vertical while those on the body are generally in crude semi-lunar swirls. Sometimes overlapping and subsequently smoothing.

Type 2t-Rudder Black Painted (plate 76D, Ja°180A Guntersville Report).—One water bottle of sand temper group I has a flattened lip, long narrow neck, sloping shoulder and a globular body. Although well modelled on the exterior the vessel is thick, measuring 7 to 12 mm. The vessel bears three black painted patterns of the sun symbol surrounding the world quarter cross which appears in the negative. The water bottle measures 14 cm. in maximum diameter, 20 cm. in height, and the neck height is approximately 8.5 cm.

Limestone Tempered Ware

The preponderant ware in the Guntersville Basin is limestone tempered. Tempering, paste and surface finish are remarkably uniform throughout the entire range of types. Certain forms are associated with certain decorative types, however.

Type 3a-Mulberry Creek Plain (plate 3A, B and plate 2C, 34 Ms^{v}100, 35 Ms^{v}100, 47 Ms^{v}100 and 37 Ja^{v}155).—The sherds of this type contain 10 to 30 per cent white and light gray angular limestone tempering. It ranges in size from 2 mm. in length to particles only detectable microscopically. The average size of the limestone fragment is slightly under 1.0 mm. Visible water worn subangular or rounded sand grains of variable size constitute approximately 1 per cent of content. Variations noted are (1) weathered sherds in which the limestone temper has been leached out leaving gaping, angular pores on the surfaces and weathered fractures of the sherds, and (2) sherds containing the minimum of 10 per cent or less limestone with an equal amount of water worn, subangular to rounded, medium sized sand grains, both contained in a relatively silty paste. The hard-

ness of the paste and temper is 2.0 to 2.5. The temper generally is softened by decomposition.

The coiling technique of manufacture was used. Modelled disks 6 to 10 cm. in diameter formed the bases and vessel walls were built up of successive coils of approximately little finger thickness. The vessels were well modelled and are relatively thin considering the size. The surface is well smoothed on the interior and exterior, the exterior showing tool markings, and frequently, burnishing. The texture is medium fine to medium and the paste is well consolidated. The color is gray and buff to smoky black, darker shades predominating.

A variety of forms is represented but characteristic are wide mouthed, deep bowls and jars. The restored vessel, illustrated in figure 47 Ms^{v}100, is representative of the form of more than 75 per cent of the plain limestone tempered ware in the Guntersville Basin. The lip is rounded and characteristically slightly thinner than the body wall. Occasionally it is flattened. Infrequently the lip is thickened or folded back. Both open bowls and wide-mouthed jars with vertical to slightly flaring rims are common. (See cross sections, plate 2C). Conical and biconical perforations occur occasionally approximately 1 cm. below the lip. The vessels narrow toward the base giving an elongated appearance, though they frequently measure the same in diameter and height. The bases are conoidal, truncated conoidal or rounded (plate 2C, cross section 8-10, plate 3B, lower row) and generally, are thickened. Vessel size varies from relatively small to large, ranging up to 44 cm. in height. Body walls range from 3 to 10 mm. in thickness, 3 to 5 mm. being characteristic. Appendages occurred at sites Ms^{v}32, Ms^{o}80 and Ja^{o}28, only. Loop and elliptical strap handle forms are represented by fragmentarys. The exact form of attachment is not known with the exception of lip attachments on two of the strap variety (plate 3B). A number of curved lugs which were attached only at one end and were pointed at the free end, occur. The placement of these lugs on vessels is not known. One large check stamped fragment, bears one such lug handle (plate 6F).

Common, particularly at sites Ms^{v}32 and Ms^{o}80, were flat bases with tetrapodal supports 16 to 28 mm. in height (plate 3D, upper and lower sherds on the left). These bases suggest small vessels of the wide mouthed jar variety. Smaller, globular jars with vertical to flaring rims, marked angles at the juncture of rim and shoulder, and round or flattened-round bases also occurred. Round bodied bowls with added rimstrips were found.

Type 3b-Long Branch Fabric Marked (plates 3C and 6B).—Plain plaited fabric and basketry impressions occur on vessels similar in form to the plain limestone tempered ware. Characteristicially, however, the fabric marked vessels appear to be smaller and thinner with rims more decidedly incurving or flaring, and with rounded bases (plate 2D, cross sections 1-6). The lip is frequently flattened, with an irregular overhanging on the exterior. Several thick loop handles and a number of lug handles were found.

Type 3c&d-Wright Check Stamped (plates 6C, 3D, and 4A).—A variety of sizes and shapes of check stamping are found throughout Guntersville Basin. The size of the grid ranges from 1.5 to 8 mm., the fine grids being frequent, but the characteristic size is 4-to 5 mm. The square, rectangle, rhomboid and rhombus are represented. An effort was made to determine site, areal or stratigraphic correlations for the various grid shapes and sizes, but the only distinction found was that the rhomboidal parallelogram was more common at Ms^{v}100 while the variations in approximately equal proportions occurred at the other sites where check stamping was found.

The larger, rhombic check stamping occurs on the wide mouthed, flaring rimmed jars typical of the limestone tempered ware. Less abundantly, though well represented, are check stamped vessels which are smaller, with vertical to flaring rims and show a variety of rim and lip modifications (plate 2D, cross sections 7-12). These included the following: (1) an added rim strip 12 to 20 mm. in width with check stamping on the entire exterior, on the rim strip only, on the neck only, or on the

rim strip and body; (2) check stamping to the lip with a plain rim folded over; and (3) an unmodified flaring rim with a check stamped band 15 to 20 mm. width and a plain neck. These vessels appear generally to have been round based. Tetrapodal supports and lug handles with check stamping are frequently found.

Type 3e-Bluff Creek Simple Stamped (plate 4B, sherds 9-15).—Stamped impressions of a parallel lined paddle occur from lip to base on wide mouthed jars. The lines are stamped parallel with the lip or set obliquely. The vessels have a barely perceptible constriction at the neck and slight flare of the rim. The lip is characteristically flattened and occasionally bears oblique incisions or notching. An added rim strip 18 to 32 mm. in width, bearing obliquely stamped parallel lines occurs occasionally. Sherds of this type are characteristically thin.

Type 3f-Pickwick Complicated Stamped (plate 4C, D).—This type appears to be highly developed and is represented by a specialized vessel form and a great variety of stamped designs. The surface of unstamped areas of the vessel is exceptionally well smoothed and occasionally burnished. The vessels are well modelled. The design elements are illustrated on the sherds in plate 4C, D. Both diamond shaped and curvilinear patterns are represented. A particular diamond shaped pattern (plate 4C, sherds 3, 4, 6, 7) was very popular at the site $Ms^{v}100$ on limestone and sand tempered ware and occurred there in more than half a dozen minute variations with different sizes. The diamond shaped patterns occur almost invariably on the neck and high rims of small globular jars with narrow folded back rim strips. The bodies are plain. The lips are flattened or rounded, and the rims are nearly vertical. The width of rim strip and height of rim is proportionate to the size of the vessel and ranges from a rim 30 mm. in height folded back 7 mm., on a vessel with an approximate lip diameter of 12 cm. to a vessel with a 60 mm. rim, 9 mm. folded back rim strip and approximate lip diameter of 30 cm. The vessel walls are uniformly thin, ranging from 3 to 4 mm.

3*g-Sauty Incised* (plate 5A, sherds 9, 12, 13).—Incised borders occur on the rims and upper margins of jars and bowls. Lines vertical to the lip, opposed groups of parallel lines, and crossed lines forming bands of diamonds sometimes accompanied by punctations are represented. The majority of wide mouthed bowls bear two or three lines incised on the exterior parallel to the lip.

3*h-Flint River Cord Marked* (plate 4B, sherds 1-2, plate 5A, sherds 10 and 11 and plate 8B, cross sections 4 and 5).—Impressions of a cord wrapped paddle occur on vertical to flaring rimmed jars. Generally the neck is more constricted than on the typical plain limestone tempered ware. Cord marking was not encountered on either the deep or shallow bowl forms. Podal supports occur.

3*i-Cox Punctated* (plate 5A, sherds 2 and 3 and plate 8B, cross sections 2 and 3).—A few sherds representing small jars and bowls bear small round punctations in parallel rows or at random on the rim and shoulder area. Occasionally the indentions are of a hollow reed variety.

3*k-Flint River Incised* (plate 5A, sherds 7 and 8).—Triangles of incised lines alternated with triangular areas of punctations or rectilinear patterns of incised parallel lines enclosing a line of punctations, and, less commonly, areas of punctations set off by curvilinear incised lines occur on round bodied bowl forms.

3*l-Prospect Red Filmed* (plate 5A, sherd 1; plate 8B, cross section 1).—A thin film of hematitic paint was applied to the exterior and interior of round bodied bowls.

3*m-Flint River Pinched.*—Ridges formed by successive pinching of the clay as with the thumb and forefinger are found occasionally. Generally this occurs on sherds which were previously check stamped.

3*n-Flint River Brushed* (plate 5B and plate 8B, cross sections 6-9).—The surface is roughened, as brushed horizontally with a bundle of twigs, often vertical on the necks and rims and generally vertical on the base. Brush roughening occurs on both the exterior and interior or on only one surface of vessels. Many sherds were subsequently smoothed, some obtaining an imperfect polish so there is a gradual gradation from the brushed type to the plain surfaced limestone tempered type. Incising is occassionally applied on top of the brushing and sometimes an exterior was stamped and the interior brushed.

The majority of lips are flattened. The large conical based, deep bowl and jar forms are about equally represented. The jars are characteristically more constricted at the neck than the vessels of type 3*a-Mulberry Creek Plain.*

3*o-Harris Rocker Stamped* (plate 5A, sherds 4-6).—Three small body sherds, all from site Ms°80, are rocker stamped. One bears hollow reed punctations in addition.

An interesting fragment of steatite, engraved with parallel lines on one side and a grid pattern on the other was found. The similarity of impressions of this fragment to the impressions on sherds of type 3*c-d Wright Check Stamped* and 3*e-Bluff Creek Simple Stamped* suggests that such a stamp may have been used in the decoration of pottery sherds. The fragment and pattern impressions on clay are illustrated in plate 6I.

Clay and Grit Tempered Ware

A small quantity of the pottery of Guntersville Basin is tempered with pulverized grit and burned clay. The burned clay particles may represent crushed sherds. Regardless of the small quantity, however, a variety of decorated types are represented. The tempering and paste are difficult to describe because of the sparsity of visible tempering, the consolidation of clay tempering with the paste core and because of the heterogeneous nature of the scattered grit tempering. The qualities of surface finish and paste texture further contribute to the

differentiation of this ware from the sand and limestone tempered wares. The surface finish is characteristically smoother and the texture finer in the clay and grit types.

Type 4a-McKelvey Plain (plate 5C, sherds 13-24).—The paste is scoriaceous with the size of the vesicles variable. The sherds fracture irregularly and exhibit angular facets of hetrogeneous tempering materials. All temper constituents are variable in quantity and in combination. The tempering present in most sherds consists of (1) ground burned clay, (2) organic matter, (3) a small quantity of sand (rounded grains), (4) disintegrated quartz (variable), and in some (5) nodules either of hematite or manganese oxide, which appear to have been in the clay, rather than pulverized with the temper. The texture is frequently very fine in sherds in which the tempering is not distinctly visible. Sherds bearing a greater proportion of pulverized clay tempering are sometimes contorted and lumpy in texture.

The color is predominantly reddish buff or brownish gray. The surface color frequently penetrates to a maximum of one-half the thickness of the sherd, the remainder of the paste being dull gray. Hardness ranges from 2.5 to a maximum of 3, and is as soft as 1 on the weathered surfaces. The surface is generally well smoothed. The thickness of the sherds ranges from 4 to 10 mm. The sherds are very fragmentary, but open bowls and small vertical to flaring rimmed jars are suggested.

4b-Mulberry Creek Cord Marked (plate 5C, sherds 9-12).—Impressions of a cord wrapped implement occur. The cord marks are commonly vertical to the rim though frequently the impressions cross over at right angles. Some sherds were subsequently smoothed.

4c-Benson Punctated (plate 5C, sherds 5-7).—Small round punctations are found in rows on the exterior, paralleling the lip or scattered with no systematic arrangement. Hollow reed punctations occur occasionally.

4d-3-Wheeler Check Stamped.—The check stamping is the impression of a grid comparable to that of type *3c-d-Wright Check Stamped.*

4f-Gunter's Cord Impressed (plate 5C, sherd 1).—Cord impressed designs typical of type *2i-Sauty Cord Impressed* occur on sherds with clay and grit tempering.

4h-Kirby Incised (plate 5C, sherds 2-4).—Parallel lines were incised obliquely to the lip.

Shell Tempered Ware

Shell tempered pottery is represented by a sparse and superficial intrusion at some sites and at others by considerable midden accumulation. A number of distinct wares were found and the following are fairly readily recognizable; (1) pre-historic domestic ware, including plain and decorated types; (2) a salt-pan ware, predominantly fabric marked; (3) historic types, including plain and decorated types; and (4) a black filmed ware, including plain and decorated types.

The chronologically diagnostic quality of some groups of types and the interrelationship of others was brought out by distributional studies. Since these were not available at the inception of the type designations, the related types are not contiguous in the alphabetical series. It seems advisable, however, to arrange the descriptions by wares to correspond with this relation of types.

Pre-historic Domestic Ware

5a-Plain Shell.—Similar qualities of paste and surface finish are common to much of the plain shell tempered pottery and a number of decorated types. Characteristically, the sherds contain from 25 to 50 per cent coarse shell fragments. A large proportion of the sherds are so weathered that some or nearly all of the shell has been leached out, leaving a flat cellular struc-

ture. The sherds are flaky, laminated and medium textured. Much less commonly represented are sherds in which the texture of the clay is very fine and the shell ground so fine that it is scarcely visible microscopically. These sherds are usually very thin and suggestive of small vessels.

The color is predominantly light buff, gray or ruddy. Darker fire clouding occurs frequently. The hardness is commonly never more than 2. Weathered material is soft enough to crumble with handling. Surfaces are irregularly smoothed, and pitted on leached shells.

Form is variable. Lips are rounded or sometimes flattened. Both straight flaring and curved flaring rims are common throughout a range of heights from 8 to 25 mm. Although orifices are generally broad, necks are distinctly constricted. Flattened globular vessels are characteristic, though large vessels with approximately equal height and maximum diameter occur frequently. Thickness is variable, both on large and small vessels, the range being 3 to 15 mm. Bases and necks are frequently thicker than body walls and rims. Opposed strap and loop handles are both common and usually occur two handles to a vessel, although four are not infrequent. Attachment may be above the lip, horizontal from the lip or below the lip.

A range from narrow mouthed jar form to wide mouthed, low necked waterbottle form is also represented in the plain ware. Lips are rounded or flattened, necks are vertical and a range from sloping shoulders to angular shoulder is represented. Bodies are generally flattened globular and the bases round or flattened. The more typical slender throated water bottle form represented in a number of decorated types occurs only rarely as a plain vessel.

A variety of bowl forms occur. Incurving rimmed, slightly flaring rimmed and cup shaped bowls with the maximum diameter of the vessel at the lip are represented. Open mouthed bowls appear to be more common.

The characteristic smaller, flaring rimmed, wide mouthed, flattened globular jar, generally with paired strap or loop handles and the larger, narrower mouthed, flaring rimmed jar, with or without appendages, and bowls are represented at all of the shell tempered pottery bearing sites in the Guntersville Basin. They are characteristic of a majority of these sites. Exceptions are sites Ms^{v}32, Ms^{v}100, Ms^{o}91, Ja^{v}155 and Ja^{v}155A, where the characteristic forms differ from those described above. This specialization appears to be associated with a large chronological period and will be described with the group of late and historic types.

5d-Moundville Incised (plate 5D, sherds 1-4, plate 8C, cross section 1-5).—The physical appearance of paste and surface finish of sherds of this type is comparable to the domestic plain ware. Thin sections indicate their mineralogical similarity to the black filmed sherds from North Alabama.

A characteristic design of arches was executed in several techniques on very round bodied vessels with straight flaring rims. The design is limited to the shoulder area and characteristically consists of 4 to 6 arches sharply incised, trailed or produced by modelling or trowelling of the body wall leaving a slight ledge or shoulder (plate 8c). Although not always present, sharply incised lines radiating from the arches (plate 5D, sherds 2-4), opposed groups of parallel lines, rows of punctations, or oblique impressions of a blunt implement parallel the arches.

The lips are invariably rounded, and are sometimes thickened, or are very thin due to an interior bevel of the rim (plate 8C, cross section 3). The rims are straight flaring on the interior, due to the bevelling. Frequently they are either vertical or curving flared on the exterior. Rims are generally low, measuring 10 to 20 mm. on the interior bevel and less on the exterior. The neck is characterized by a marked line of constriction. The bodies of the vessels of this type are almost invariably round and range in size from 4.5 cm. in diameter at the lip to vessels nearly 20 cm. in diameter. Ten to 15 cm. is common. Small and

medium sized vessels measure from 2 to 5 mm. in body thickness with necks and rims from 5 to 7 mm. The larger vessels measure 7 to 10 mm. in thickness. Paired loop and strap handles are found commonly.

5*e-McKee Island Punctated.*—Random punctations are rows of punctations paralleling the lip occur infrequently on small jars and bowls.

5*f-Cox Complicated Stamped* (plate 5D, sherds 11 and 14-17, plate 8C, cross sections 9-11).—A variety of complicated stamped patterns occur on jars with curving flared rims and stamped shoulders. The filfot cross (plate 5D, sherd 17), concentric diamonds bisected by parallel lines (sherd 15) or crosses with angles filled with parallel diagonal lines (sherd 16) may be distinguished. The surface was stamped and subsequently smoothed so that the design motif frequently cannot be identified.

5*h-Moundville Red Filmed* (plate 5D, sherds 12-15).—A micaceous, hemtitic film approximately 0.3 mm. in thickness occurs on the interior and exterior of a few sherds with the mineralogical paste type typical of the North Alabama shell tempered ware.

5*i-Cox Red on Buff* (plate 7C, 1st row).—Small bowls with a clay wash which fired to a light yellowish buff and were then painted in rectilinear and cross hatched patterns with red hematitic paint occur.

5*k-Henry Island Applique* (plate 5D, sherds 9-10, and plate 6E).—A punctated strip 3 to 5 mm. in width was appliqued in arches on the shoulders of jars. Two or three sherds of this type were also red filmed. A modelled loop handle (plate 5D, sherd 9) was rivetted to the shoulder.

5*m-Effigy Vessels.*—A variety of modelled effigy vessels and vessels with appliqued effigy appendanges occur. One water bottle appears to represent a dog (plate 47B, Ja^{v}27, Guntersville

Report). The lip is rounded, the neck, measuring approximately 8 cm. in height, joins the body with a continuous curve. A modelled head and vestigual tail and 4 supports protrude from the globular body. The base is flattened. The vessel measures 21 cm. in height from the base of the podal supports to the lip, and 15.6 cm. in body diameter. A slip slightly less than 1 mm. in thickness was applied and fired to a ruddy buff with occasional gray-buff fire clouds. A number of bowls are ornamented with modelled bird heads and tails appliqued to the rims.

5*n-Crow Creek Noded* (plate 60-D, Ja^{v}155, Guntersville Report).—Several vessels are characterized by paired vertical rim extensions with strap handles and by parallel rows of appliqued nodes on the shoulder area. The lips are flattened, the rims vertical to straight flaring. Bodies are globular and sometimes slightly elliptical. The vessels are relatively small. One, average size of this type, measures 9 cm. by 13 cm. in body width, is 13.7 cm. in height from base to rim saddle and 15 cm. in height at the rim peak.

Salt-pan Ware

5*a-Plain Shell.*—A small quantity of plain sherds were recognized as the salt-pan type. These occurred at sites where fabric marked salt-pan sherds were found. The form is best represented by the fabric marked examples.

5*c-Langston Fabric Marked* (plate 6A).—Sherds 10 to 22 mm. in thickness, with coarse shell tempering, representing subrectangular and round, flat based "salt-pan" vessels are common. Simple twining, twilled twining, and simple twining with a warp of braided fibers are characteristic of the fabric marking. It generally occurs on the exterior, though occasionally on the interior of sherds of this type.

Late or Historic Domestic Wares

5*a-Plain Shell* (plate 7A).—The qualities of paste and surface finish of this ware are comparable to those of the pre-his-

toric domestic ware. The flattened globular jar form with paired strap handles is found at sites Ms^{v}32, Ms^{o}91, Ms^{v}100, Ja^{v}155 and Ja^{v}155A, but the majority of the shell tempered ware at these sites is characterized by specialized features. The lips are rounded or flattened, rims are characteristically high and curve gradually to the shoulder. Reconstructions suggest large shallow wide mouthed jars and smaller flattened jars with high necks and narrow orifices. The rims are sometimes plain but are commonly characterized by an incised, beaded or notched flange which encircles the exterior rim at or below the lip, or by four or six horizontal flanges or lugs, to a vessel. These lugs protrude 4 to 12 mm. from the vessel wall and vary in length from 4 to 40 mm. Bowls with incurving rims are frequent and are sometimes slightly carinated.

Many whole and restorable vessels were encountered at site Ja^{v}155. Typologically these vessels suggest a fusion of qualities of the pre-historic domestic ware with qualities characteristic of the sites at which European trade articles were found. The majority of vessels are characteristically small, globular bodied, relatively narrow mouthed, high rimmed vessels with four to six horizontal flanges. Rims are frequently vertical or straight flaring with a marked line of juncture between rim and body. These vessels appear to bear a resemblance in form to the late type of sand tempered jars from Ja^{o}180A (type 2aa-Henry Island Plain). The Ja^{o}180A vessels, however, bear the additional feature of rim peaks and the four appendages are node like protuberances rather than flat horizontal lugs.

Type 5b-McKee Island Cord Marked (plate 7B, 1st and 2nd rows).—Impressions of a cord wrapped paddle occur from the shoulder to the base on jars and bowls, frequently on vessels with incised rim decorations. Several restored vessels and large sections of vessels vary widely in form and indicate the range in the type. One has a rounded lip, 6 mm. wide curving flared rim with a notched rim strip 2 mm. below the lip, sloping shoulder, and a narrow subconoidal base. The vessel measures 30.2 cm. in maximum diameter, 30 cm. in height, 25 cm. interior diameter at the lip, and 5 to 7 mm. in thickness. The neck is

smoothed and plain and the body is covered with vertical and crossed impressions of a fine cord. A pair of small flat strap handles are attached on the rim from the rim strip to 22 mm. below the lip. These small, almost vestidual handles are not common. Carinated bowls are evidenced, with a type *5dd-McKee Island Incised* design below the rim and cord marking on the body.

5dd-McKee Island Incised (plate 6D, H. and plate 7C, sherds 10-15).—Bowls with incurving rims and occasional jars are incised with four characteristic design motifs: (1) two to four line guilloche, more commonly a false guilloche (plate 7C, sherd 11), (2) 2 line interlocking scroll (plate 6D), (3) parallel straight lines alternating with concentric or half circles (plate 7D, sherd 10 and plate 6D) and (4) obliquely opposed groups of parallel lines (plate 7C, sherds 7-8). Punctations frequently occur in combination with the incising. These design motifs occur in some variety and are irregularly drawn in medium broad line incising. Many vessels of this type are decorated with a variety of designs but the execution, as well as the modelling of the vessels is crude.

Restorable vessels of this type are rare but many of the sherds are large and represent bowls with incurving rims. Occasionally flat lipped, curving flared rimmed, globular bodied jars and deep plates with horizontally flaring rims decorated on the upper surface occur.

5g-McKee Island Brushed (plate 7B, 3rd row).—Fine brush roughening or twig marking occurs on bowls with incurving rims and on jars.

Black Filmed Shell Tempered Ware

A black filmed ware, plain, incised before filming and engraved after firing occurs sporadically in the Guntersville Basin. It appears to be typologically very similar to the black filmed ware used so extensively in burials at the Moundville site, Moundville, Alabama. Due to the marked degree of similarity sherds

of these types from Moundville and from Guntersville Basin were sent to Matson[1] for analysis. The major portion of his report will be incorporated in the type descriptions. The information dealing with the Moundville sherds is included in the interest of comparison. It must be realized, however, that the following descriptions are in no way intended to completely describe the range of these types at Moundville. The Moundville name has been applied, however, because of the abundance of these types there. The descriptions are intended to cover the few sherds from the Guntersville Basin as completely as possible.

5*j-Moundville Black Filmed* (figure 25, sherds 5 and 6).—

An examination of a group of Moundville Black Filmed sherds showed that several of them had an oxidized core buff to salmon in color, while other pieces with gray cores had an oxidized area at one or both surfaces. Upon the surfaces themselves, covering this light area, appeared the black film. That this film could not have been produced while the vessels were being fired was indicated by the oxidized region just beneath it. When the sherds were refired in the laborary the black very quickly disappeared, leaving the surface approximately the same color as the body.

It would be possible to obtain such a black surfacing either by using a slip containing iron which when fired under reducing conditions would produce a black iron oxide coating, or by applying an organic paint that a reducing atmosphere would carbonize. A series of fragments broken from several of the sherds were refired in an electric furnace under oxidizing conditions to 700°C. The black quickly disappeared and the resultant surface colors were but slightly deeper than those of the

[1]Frederick R. Matson, "Technological Report No. 12," Ceramic Repository for the Eastern United States, Ann Arbor, Michigan, March 28, 1940. (Typewritten).

oxidized bodies. If iron had been present as a slip the surfaces would probably have become quite red. After refiring, the polished surfaces were still as glossy as before. Thin sections of the sherds studied with the aid of a petrographic microscope gave no indication that there was a slip present except in one instance that was also obvious megascopically. Instead the black color penetrated into the body to a depth of about 0.15 mm. with no clear cut boundary line. It would appear that an organic paint had been used. This is the same phenomenon that Miss Shepard observed. She said (*The Pottery of Pecos*, II, Kidder and Shepard, p. 420) "This difference between organic and mineral paints is clearly seen in thin section; the carbon paint does not stand up as a superficial layer but discolors the clay for some depth; whereas the mineral paint generally forms a distinct outer coating upon the vessel surface."

On none of the sherds examined was any evidence of paint strokes seen. Several had burnishing marks which remained just as clear after the sherds had been refired in an oxidizing atmosphere as they were before. Miss Shepard has pointed out that (p. 420) "The suface texture of an organic paint is ordinarily quite different from that of a mineral paint. The solution of organic matter penetrates the paste without destroying the arrangement of clay particles, even though a coating of organic matter remains on the surface. Upon firing, the surface deposit is largely removed by oxidation, the absorbed pigment imparts the color and the surface clay is left in its original condition. Thus if the vessel has been polished previously to painting, the polishing strokes will be uninterrupted by paint lines, which gives the impression that the vessel was polished after painting. This point has been proven experimentally. It was found difficult to polish the moist paint surface without smearing the lines; and the dried organic matter on clay becomes hard and resistant to burnishing but paint applied on a highly polished surface has a luster comparable with that of the slip."

It would appear that the Moundville Black Filmed pottery was burnished when dry and was fired with no attempt being made to retain a smoky reducing atmosphere. Sometimes the body wall was well oxidized, but frequently the temperature and time were not sufficient to completely burn out the carbon in the core, although usually that near the surfaces was removed. After firing, an organic paint of some type (Miss Shepard, p. 414, found that a concentrated extract of many plants such as dandelion, mock orange and licorice, or sugar, honey, glue or starch would produce the black color) was applied to the surface and the vessel was then lightly refired under reducing conditions sufficiently to carbonize the surface. The resultant ash was brushed off and the vessel rubbed to restore its luster. . . . .

In order to determine whether the Moundville Black Filmed sherds found in northern Alabama were imported from Moundville or were manufactured locally by the same technique, it was first necessary to study microscopically thin sections of Moundville sherds. Thirteen such sections were examined . . . .

Eight black filmed sherds from Marshall and Jackson counties were sectioned. None of them could be assigned on the basis of microscopic study to Moundville as a place of origin. Mineralogically they were similar to the Moundville sherds, but the difference was a matter of degree. In general the northern Alabama sherds were finer textured, having appreciably less quartz, and variable amounts of hematite. The sherds were all shell tempered in moderate amounts. The clay did not contain much sericite compared to the southern type, and often it was calcitic, part of the calcite not being attributable to the shell. In the refiring experiments, only a slight color difference was noted . . . . . The color difference is slight, but sufficient to indicate that the wares were probably not made from

the same clay bed. Only one of the northern pieces studied had a well polished surface. The others were dull. A Moundville origin for these sherds is not precluded by the information available at present, for it is conceivable that a clay can be found near Moundville of the type used. However, since some sherds from northern Alabama of other types were mineralogically similar to the black filmed ones, it is probable that they were manufactured locally.[1]

[1]Ibid.

CHRONOLOGICAL RELATIONSHIP OF GUNTERSVILLE BASIN POTTERY TYPES

The general trend of development of pottery styles within the Guntersville Basin is clearly discernible. The introduction of marked influences from adjoining areas is evident. Differentiation in the time of development of a number of decorated types within wares is less clear.

The banks of the Tennessee river apparently were a very favorable and popular habitat. Evidences of occupation are frequent and every site excavated yielded wide variety in paste, form and style of decoration of pottery. An abundance of limestone and shell tempered pottery was found in nearly all of the sites. Some also yielded small quantities of sand and clay-grit tempered and a few fiber tempered sherds. Complete isolation of any of these varieties was not found. In many sites, however, the lowest levels yielded only one ware. In these cases, successively later levels yielded an increasing number of wares and a greater variety of types.

Interpretation of the chronological relationship of these wares and types raises many questions. Which wares and which types were earlier, which contemporaneous and which later? Does the occurrence of several wares at all sites represent a continuous development and thus indicate a continuous occupation of the sites? Or were the sites abandoned by one group and later inhabited by another? Are the changes in the history of a given site due to waves of migration or to diffusional influence?

The reconstruction at individual sites and the comparison of sites was facilitated by the construction of block diagrams for each type in each site. These diagrams were based on the percentage, or proportionate occurrence of a given type in relation to all other types in that level. They represent the occurrence at a given site in the arbitrary levels by which that particular site was excavated. The same general trends were con-

sistently repeated at site after site. Conclusions were drawn from this large mass of data. Diagrams only of representative sites are illustrated in plate 9.

Village middens were extensively pitted by the aboriginal inhabitants. Many burials accompanied by artifacts belonging to a different cultural unit were intruded into middens. Village midden was redeposited in the construction of burial and great domicilliary mounds. Recent inhabitants plowed extensively and at some sites excavated for the foundations of buildings.

In site Ma^{v}10 sand tempered types represent the largest proportion of pottery in the lowest level. In successively later levels limestone tempered ware is preponderate. At this site shell tempered pottery is insignificant as only one sherd occurred Its existence may be attributed to the superficial intrusion of a late burial complex which was characterized by shell tempered pottery. The quantity of fiber tempered sherds is too small to be definitive.

Again, in site Ja^{o}28A, sand tempered types and also plain fiber tempered pottery predominate in the lowest level. In this case these types are succeeded by both limestone and shell tempered wares. The sherd tabulation does not clearly indicate the relative position of shell with relation to limestone tempered ware. The total distribution of sherds by levels at this site, indicates that the second level contained nearly all of the pottery. The vertical separation at this site, therefore, was not sufficiently fine to clarify the relationship of limestone and shell tempered pottery.

Little fiber or sand tempered pottery occurred in sites Ja^{o}9A, Ms^{v}100 and Ms^{v}111. The superposition of shell tempered ware is clearly demonstrated, however. The intrusion of burials accompanied by shell tempered pottery into limestone tempered middens further substantiates this superposition.

In individual site block diagrams only the actual occurrence of sherds, mixed by natural and accidental agencies, is pictured.

Plate 10 was constructed to picture more clearly the general developmental trends on a statistical basis. The percentage bars were spaced to permit interlocking of the diagrams of plate 9. The sites were interlocked so that levels from different sites containing approximately the same proportion of given types are represented as contemporaneous. Several of the lowest levels were omitted because the quanity of sherds was so small. Site Ja°28A was omitted entirely because of the concentration of sherds in the second level.

By scaling all types for all sites in the manner illustrated by the selected sites in plate 9, it was possible to indicate the general position of all types in a relative sequence (plate 10). Similarly, the relative time span of the pottery bearing levels of all sites studied was charted. The method, in general, has been outlined. A more detailed analysis follows.

Chronological Position of Fiber Tempered Ware

As illustrated by site Ma^{v}10 (plate 9) fiber tempering including types *la-Wheeler Plain* and *lo-Alexander Dentate Stamped* are proportionately greatest in the earliest level. Evidence at site Ja°28A suggests corroboration of this early position of the fiber tempered ware. On account of fragmentary evidence here, further corroboration is pertinent. Occurrences in other areas might not necessarily represent the same time period as in the Guntersville Basin, but this early position of fiber is well substantiated throughout its distribution. One illustration is the isolation of fiber tempered ware in the early levels of site Lu°59 in the Pickwick Basin. The fiber tempered types are therefore, illustrated in the earliest chronological position in plate 11.

Chronological Position of Early Sand Tempered Ware

The chronological position of the sand tempered types is complicated by the long time-span in which only slightly varying sand tempered types are found. With the exception of the

plain ware, not yet satisfactorily subdivided, this time differential can be outlined. Evidence for the early types must be sought at Ma^{v}10 (plates 9, 10 and 11). Here the relatively greater proportion of type 21-*Benson Fabric Marked* occurs in the lowest level. At Ma^{v}10 types 2*a-O'Neal* Plain and 2*B-Alexander Incised* appear at their maximum representation in next to the bottom level. 2*a-O'Neal Plain*, 2*b-Alexander Incised* and 2c-*Alexander Zone Stamped* also occur in the earliest pottery-bearing level at Ja^{o}28A. They were accompanied by fiber tempered ware and separated from the limestone tempered horizon above by a sterile stratum. Type 2*f-Alexander Pinched* occurs sporadically, but its early occurrence at Ma^{v}10 and its frequent association with above-mentioned early types is significant. The position of type 2*g-Columbus Punctated* is not stratigraphically demonstrated, but its association with the above types is pertinent. Furthermore, these comments bear out the conclusions reached in the Wheeler and Pickwick Basin studies. These types were more common there than in the Guntersville Basin.

One difficulty in the assignment of the chronological position of sand tempered types lies in the persistent occurrence of undecorated sand tempered sherds from the earliest pottery horizon continuously through to the latest horizon contemporaneous with shell tempered ware. Gradational differences in temper and form are apparent, but no culturally valid subdivision has, as yet, been devised.

The Chronological Position of the Limestone Tempered Ware

Block charting illustrates repeatedly the precedence of type 3*b-Long Branch Fabric Marked* within the limestone tempered ware. The impressive picture presented by site Ms^{v}111 should be modified by realization of the insufficient sample of the lower levels. The interpretation of type 3*b-Long Branch Fabric Marked* as the earliest of the limestone tempered types is borne out repeatedly at other sites. The preponderance at Ma^{v}10 further locates it as occurring in its maximum representation as the early sand tempered types were decreasing proportionately.

Sand tempered pottery appears to have continued, gradually assuming limestone tempered type decorations and form modifications.

It may be noted further that type 3*a-Mulberry Creek Plain* occurs at a maximum following the zenith of the fabric marked type. It is at sites where fabric marking is sparingly represented, or on the decline, that a wide variety of decorated types appear. Within the group of decorated types, including 3*cd-Wright Check Stamped*, 3*e-Bluff Creek Simple Stamped*, 3*g-Lauty Incised*, 3*h-Flint River Cord Marked* and 31-*Prospect Red Filmed*, little time differentiation appears. A slight precedence of 3*cd Wright Check Stamped and* 3*e-Bluff Creek Simple Stamped* is suggested by the small occurrence of these types at sites appearing relatively early and where the other decorated types scarcely occur.

The actual link of earlier and later types occurs in the persistence of the greater proportion of type 3*n-Flint River Brushed* in the upper levels. As type 3*b-Long Branch Fabric marked* decreases, type 3*n-Flint River Brushed* increases. Furthermore, at sites where the brushed type is most common, fabric marking is virtually absent. Using the clearer relation of these two types as a key, the decorated types appear to be more closely associated with the brushed type. To scale even finer, it may be noted that the decorated types, particularly the incised and cord marked, have their greatest representation in the lower levels of sites where fabric marking is scarce and brushing increases in the upper levels. An intermediate position for the decorated types is thus suggested (plate 11).

Fiber tempering; early sand tempered types; fabric marked, plain, and brushed limestone tempered types appear to present a major developmental sequence in the Guntersville and adjoining Wheeler Basin. The very small quantity of decorated sherds, the obscurity of any developmental sequence or time differential between them, and the near identity of the decorations with those to the east in Georgia suggest the possibility of an outside influence injected into the general developmental sequence of the area.

Contemporaneity of Sand and Clay-grit Tempered Types with the Limestone Tempered Ware

Sand tempered type *2j-Kirby Complicated Stamped*, *2p-Laws Red Filmed* and *2q-Benson Simple Stamped*, as well as all of the clay and grit tempered types appear, both chronologically and stylistically, to be cross-overs from limestone to sand and grit tempered. Problematical is the source of types *2i-Sauty Cord Impressed and 2o-Sauty Check Stamped.* These are found in village middens with the later limestone tempered types, and are occasionally present where the demonstrable earlier sand tempered types occur. The check stamp, in its fineness, is not comparable to that on limestone tempering, however. The similarity of the micaceous paste of these two types to examples in Georgia and Florida suggest the possibility of trade.

Chronological Position of the Shell Tempered Wares

The superposition of shell tempered wares over all others is demonstrated proportionally in every site where it occurs. Whether the shell tempered pottery gradually displaced the limestone tempered ware, or whether it was carried into the region following departure of the makers of the limestone tempered ware is far from clear. At a number of sites archaeological factors fairly clearly demonstrates that the shell tempered pottery bearing culture is represented only by intruded burials. Shell tempered pottery sherds are scattered from top to bottom in the sites where it is found in any quantity. Can this be accounted for solely on the basis of mixing due to aboriginal disturbance and natural agencies? It is apparent that similarities in form and decoration between the limestone and shell tempered wares are virtually absent. Would it not be surprising for the two wares to have existed contemporaneously in the same region without influences from one crossing over to the other? Yet there is no explanation of what happened to the makers of the limestone tempered ware. The linking of the limestone and shell tempered wares, therefore, is represented by a dotted line which is posed as a question mark rather than as an inference.

The bulk of the shell tempered pottery is found in the upper levels and more particularly in the topmost level. Fortunately, a more valid time-marker than proportional distribution differentiates the shell tempered ware. Occupation of sites $Ms^{v}32$, $Ms^{v}100$ and $Ms^{o}91$ extended into the historic period. It is apparent that three decorated types, 5*b-McKee Island Cord Marked*, 5*dd-McKee Island Incised* and 5*g-McKee Island Brushed.* and the late, or historic plain ware (described in the type descriptions), occur most commonly, and in fact almost exclusively, at the historic sites. Two of these sites are not documented. $Ms^{v}32$ may be the Tali Village (of the Creek) which De Soto visited in 1540. Association of these types with the Creek in historic times is more certain at the documented Coosa site in central Alabama where these types, and only these, were found. Coosa was first described by De Soto as a flourishing village when he passed through in 1540. The village was subsequently reported at frequent intervals until its abandonment in the early 19th century. On this evidence the dates 1500 and 1700-1800 A. D. were inserted in plates 10 and 11. Any attempt to date the earlier sequences would be purely hypothetical.

The remaining shell tempered types, as well as a number of sand tempered types, may be considered as flourishing just preceding the historic era. They occur abundantly at prehistoric sites and in a relatively small proportion at the historic sites. The block diagrams of type 5*c-Langston Fabric Marked* (salt-pan) suggest a relatively long history and some prominence of the type. The contemporanity of the following sand tempered types with the prehistoric shell tempered horizon is definitely established by burial as sociation.

2*aa-Henry Island Plain*

2*jj-Hardin Complicated Stamped*

2*h-Rudder Cord Marked*

2*r-Rudder Incised*

2*s-Rudder Comb Incised*

2*t-Rudder Black Painted*

Relative Chronological Position of the Pottery Levels of Guntersville Basin Sites

Representation of the span of occupation of the pottery levels of the Guntersville Basin sites can be ordered and the validity is, of course, dependent upon the validity of the interpreted sequence of pottery types. Plate 9 represents a few sites in the chronological positions suggested by the major portion of the pottery within the site. The tentative chronological relationship of types illustrated in plate 10 is a composite interpretation of similar data from all the sites with the added evidence of whole vessels associated with other artifacts in burials. On the basis of this interpretation the life lines of a number of sites have been extended in plate 11. For example, in plate 9 the greater portion of the pottery sherds of site Ms^{V}100 indicates an intermediate position for the site. The evidence of several shell tempered vessels associated in burials, however, indicates that the occupation of the site continued to a period of contact with European trade materials. Thus, the life for each site (plate 11) has been constructed by checking the sherd tabulations (tables 1 and 2, and tabulations by levels in individual site studies), the whole vessel record and artifact associations with the tentative chronological position of types.

The major problems in such a representation are again those found in the development of the tentative chronological picture of types. Do types overlap or is there a break and a time interval between? If types represented as occurring toward the middle of the scale are absent in a site where the extreme are indicated, two interpretations are possible. Either there was a break in the occupation of the site, or certain types were current in the region but did not reach the site. A number of breaks in the occupation of sites is suggested by the type distribution. It is interesting that the break in site Ja^{O}28A (plate 11) was derived independently on the basis of typology, but that archaeologically the fiber and sand tempered pottery bearing level was separated from the limestone horizon above by a sterile strata. Because of the possible, even probable, perpetuation of types past the point of greatest popularity, only those

sites yielding early levels bearing almost exclusively fiber and sand were carried back to the earliest pottery horizons (Ma^{v}10 and Ja^{o}28A).

Geographical Distribution of the Guntersville Basin Pottery Types

The geographical distribution of most of the pottery types occuring in the Guntersville Basin has been suggested by Griffin and Haag. In view of other extensive field investigations in the Southeast, some additions may be considered.

Fiber Tempered Ware

The distribution of the fiber tempered ware on the basis of pre-1940 investigations appears to be limited to the Southeast. The Pickwick, Wheeler and Guntersville Basins of North Alabama form the northwest limits of the known distribution. Occurrences in South Carolina have been noted. In Louisiana five fiber tempered sherds came from the Little Woods Site, in Orleans Parish along the southern shore of Lake Ponchartrain in a reclaimed swamp area. The Little Woods Site consists of about five shell middens. It is of the Tchefuncte period, the earliest known in Louisiana. Fiber molds occur in the Tchefuncte Plain pottery type, although accompanying them are fragments of clay temper. The fiber tempered sherds from Little Woods seem to be tempered almost exclusively with fiber.[1]

Fiber tempered ware is abundant in Georgia. In addition to its presence at Stalling's Island, the ware is found in a number of sites in the Macon area,[2] and at a site on Price's Island in the Savannah River, at the Southernmost tip of Lincoln County, above the mouth of Little River.[3] The Price's Island material is very similar to that of Stalling's Island.

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[1]Personal communication from George I. Quimby, State Supervisor, Louisiana State Archaeological Survey, April 18, 1940.

[2]Kelly, A. R. "A Preliminary Report on Archaeological Exploration At Macon, Georgia," *Bureau of American Ethnology, Bulletin* 119, Washington, D. C.: Government Printing Office, 1938, pp. 30, 39, 40, 47, 60.

[3]Personal communication from Robert Wauchope, Department of Archaeology, University of Georgia, February 1, 1940.

As early as 1868 Wyman tabulated fiber and sand tempered sherds for certain sites in Florida.[1] The apparent focalization of the fiber tempered ware in the south Atlantic, particularly in Florida, has been pointed out by Griffin.[2] The priority of fiber tempering over all other tempers was evident in the Pickwick Basin.[3] It appears from current investigations that on the Gulf Coast and in Florida, and tempering may precede fiber, in those regions.

Sand Tempered Ware

The early sand tempered ware appears also to have a limited distribution. It occurred in only three of the Wheeler Basin sites reported by Griffin, but in greater abundance in the Pickwick Basin. Sand tempered sherds typologically identical with those of Guntersville Basin were found at Site $Ta^{v}2$, on the Coosa River near Childersburg, in Talladega County, Alabama. Nearly 80 per cent were check stamped, 20 per cent plain, and fabric marking, parallel line stamping, and pinching were recognized.

Pottery from current excavations and surface collections should throw considerable light on the sand tempered ware when those materials can be studied in detail. Surface collections from fifteen sites in Clarke County, Alabama, along the Tombigbee River, yielded very little shell tempered pottery and an abundance of sand tempered ware. One of these sites, $Ck^{v}5$, an extensive old village deep and rich in midden now being excavated, is yielding predominantly sand tempered pottery.

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[1]Wyman, Jeffries, "On the Fresh-Water Shell-Heaps of the St. Johns River, East Florida," *The American Naturalist*, Vol. II, No. 9, November 1868, pp. 450-452.

[2]*Op. cit.*

[3]Haag, *op. cit.*

For the purpose of comparison, pottery from the initial cut at site Mb°1, a large and prolific shell heap near Bayou Labatre, on the Gulf Coast just west of Mobile Bay, was inspected. The material from that site is preponderantly sand tempered and of a variety indistinguishable from Guntersville Basin sand temper group II. A number of decorated types, particularly the check stamped and cord marked, are indistinguishable from Guntersville Basin types, although a much greater range of the sand tempered ware is represented at Mb°1.

In his early work on the Florida Gulf Coast, Wyman notes of the sites he worked, that sand tempering was almost exclusively confined to St. Johns Bluff, where he recognized 50 per cent of the sherds as being sand tempered.[1] C. B. Moore also reports sand tempering along the Gulf Coast and makes infrequent references to it in Alabama toward the south.[2]

Designs of types 2*b-Alexander Incised and* 2*c-Alexander Zone Stamped* are comparable to those which occur on pottery of the Marksville period in Louisiana, which in turn appears to bear affinities with the Hopewellian ceremonial ware.[3] To the east in Georgia, and north in the Chickamauga Basin, Tennessee, occurs an abundance of sand tempered ware nearly identical to a number of types, (particularly the check and complicated stamped), sparsely represented in the Guntersville Basin.

In summary, it may be said that the greatest similarity to the sand tempered types of the Tennessee Valley may be found eastward and southward. Particularly is this true of the plain and checked stamped. Punctated, cord impressed, fabric marked, pinched, parallel line stamped and some of the incised, where they occur, appear to be nearly identical. Complicated stamp-

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[1]*Ibid.*

[2]Moore, C. B., in his numerous archaeological reports on the Southeastern region published by the Philadelphia Academy of Science.

[3]Ford, J. A. and Willey, Gordon *Crooks Site, a Marksville Period Burial Mound in La Salle Parish, Louisiana,* Anthropological Study No. 3, New Orleans: State of Louisiana Department of Conservation, 1940.

ing on sand tempered sherds, occurring chiefly in the Guntersville Basin of the Alabama area, seems to suggest a relationship northward in the Chickamauga Basin (type *2jj-Hardin Complicated Stamped*), and eastward to Georgia (types *2j-Kirby Complicated Stamped and 2jj-Hardin Complicated Stamped*), the stronghold of the complicated stamp. An interesting exception is the number of sand tempered vessels found at site Ja°180A, which, in qualities other than temper, indicate affinities with the shell tempered ware of the Tennessee Cumberland "stone grave" culture, a fact also true of the other material culture with which the vessels were associated.

Limestone and Clay and Grit Tempered Ware

That limestone tempered ware "is a local variety of the widespread woodland ware and many of its characteristics are identical with the clay and grit-tempered pottery which I regard also as Woodland", as traced by Griffin,[1] is further substantiated. Studies of the Chickamauga Basin materials in Tennessee indicate the occurrence there of a nearly identical ware.

> This type is well represented in Tennessee sites that show an early occupation preceding a later Mississippi occupation. On the Yarnell site in Hamilton County this type is stratigraphically precedent to the shell tempered Mississippi pottery. Yarnell 1 is characterized by limestone tempered pottery. This limestone tempered pottery is represented in two wares, one of which is similar in all paste characteristics to the Brushed. The tempering tends to be coarse and the firing rather uneven. Several other surface finishes beside the cord marking and a rather roughly smoothed plain type, textile impressions . . . The total number of limestone tempered sherds from this site is 5,442, of which the Brushed pottery forms 30 per cent of the limestone tempered pottery complex and is only exceeded by the smoothed-over cord marking in the coarse ware. The

[1] *Op. cit.*, pp. 160-161.

> predominant form is a large open-mouthed jar with a rim which curves in from a poorly defined shoulder . . . The bases are either conoidal or pseudo-conoidal.[1]

The ceramic report of the Norris Basin indicates an abundance of limestone tempered, particularly fabric marked, pottery in northern Tennessee.[2]

Further north in Illinois, the Baumer Site

> ". . . . Comprises a limestone-tempered fabric-impressed manifestation definitely underlying the Kincaid Middle Mississippi component. The ceramic complex is composed of three principal classes: Baumer Fabric Impressed (60 per cent), Baumer Plain (25 per cent), and four types of cord-treated variety . . . . Fabric impressed sherds give evidence of flat bases exclusively, with a cylindrical, slightly flaring-rimmed body form, with or without a slight constriction immediately above the base . . . . There is some evidence of link traits between Baumer and the grit-tempered cord-marked component (Lewis) at Kinkaid.[3]

Limestone tempered sherds are also found in Ohio Hopewellian sites and Kentucky Adena sites. Pertinent here is the question of pottery types associated with the copena culture, which has its closest affinities with the Hopewell and Adena cultures. Copena is largely represented by a burial complex with no associated pottery. Chronological position is suggested by occurrence in the mound fill of Copena sites of limestone tempered, plain and fabric marked sherds. If the Copena peoples did not manufacture this pottery themselves, they built

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[1]Personal communication from Miss Madeline Kneberg, University of Tennessee, April 20, 1939.

[2]Griffin, James B., "The Ceramic Remains from Norris Basin, Tennessee," in *An Archeological Survey of the Norris Basin in Eastern Tennessee,* by William S. Webb, Bureau of American Ethnology, Bulletin 118, Washington, D. C. Government Printing Office, 1938.

[3]Bennett, John, "News Letter," Southeastern Archaeological Conference, Vol. II, No. 3, Sept. 1940. (Mimeographed).

mounds on sites which had previously been occupied by the makers of these early types of limestone tempered ware.

Less conspicuous representation of this ware is found in Louisiana, as pointed out by Ford.[1]

> There is some evidence that the limestone-tempered types of northern Alabama are coeval with the Troyville of Louisiana. This is shown by the presence in these sites of pottery types such as Mulberry Creek Plain and Wright Check Stamped, which are comparable with Louisiana types of the Troyville and Coles Creek periods. Even more directly comparable are the slightly later clay-tempered Alabama types, McKelvy Plain and Wheeler Check Stamped. Direct evidence of trade has been provided by the identification of typical Troyville Stamped sherds from limestone-tempered sites.[2]

The clay-grit category in the Guntersville Basin includes mainly sherds containing a variety of pulverized rock with a scarcity of the sherd tempered variety found more commonly in the Pickwick Basin and in Arkansas and Mississippi. In this area to the west clay-grit tempering underlies Middle Mississippi, but the two bear typological similarities which suggest a developmental sequence.[3]

Shell Tempered Ware

Recognition of the shell tempered ware of the Tennessee River, Alabama region, as belonging to the Mississippi Pattern,

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[1]*Op. cit.*, p. 140.

[2]"Unclassified" sherds and rocker stamped sherds at Ms°80.

[3]Based on a survey made by James B. Griffin, Philip Phillips and J. A. Ford in the spring of 1940.

and more closely allied with the Middle Mississippi Phase, has been noted by Griffin.[1] The "slightly more distant connection seen with the Tennessee-Cumberland pottery, and . . . . those sites excavated by Webb and Funkhouser in western Kentucky" will be further considered here, as will be the Moundville influence. The shell tempered pottery from the Guntersville Basin appears to bear typological affinities in various directions.

The relationship of the Guntersville Basin Moundville type sherds with those from Moundville has been considered in the technical analysis under type descriptions. A similar connection with the Etowah site in Georgia is also evidenced, particularly in the near identity of type 5*f-Cox Complicated Stamped* with *Etowah Complicated Stamped.* The more common occurrence of this type in sites of a slightly later period suggests that this influence postdates the Moundville one. In this connection, the common occurrence of the incised arches (type 5*d-Moundville Incised*) at the Tolu site in Crittenden County, Kentucky is interesting.[2] Here this design element is associated with Tennessee Cumberland traits which appear conspicuously in sites of the historic horizon in Alabama. The Tolu site represents a stronghold of the twilled twined textile impressed salt-pan, type 5*c-Langston Fabric Marked* found in the Tennessee Valley of North Alabama. The 5d-Moundville Incised type occurs throughout Alabama to the south, particularly along the Warrior and Tombigbee rivers, and is found considerably modified both in design and vessel form on the Gulf Coast.

The modelled and appliqued effigy waterbottles and bowls suggest influences from the Middle Mississippi region of Arkansas, Missouri and Mississippi. Painted ware seems also to have spread from that direction, a scattered representation of which

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[1] *Op. Cit.*, pp. 163-165.

[2] Webb, W. S. and Funkhouser, W. D., *The Tolu Site*, Publications of the Department of Anthropology and Archaeology, Lexington: University of Kentucky, Vol. I, No. 5, 1931.

is found widespread over the southeast. Type *5i-Cox Red on Buff* is comparable to *Jolly Island Red on Buff* in the Hiawassee region of Tennessee.

Evidence of the Tennessee Cumberland "stone grave" culture represented by the Gordon-Fewkes sites, and the Williams site in Christian County, Kentucky, is most strikingly represented at sites Ja°180 and Ja°180A. Here the four cornered peaked rims, and the high necks with flanges of the northern culture[1] appear to have blended with sand tempering and paddle stamp influences from the Georgia area. Pottery types diagnostic of the historic sites in the Guntersville Basion bear these Tennessee-Cumberland characteristics. The decorated types which are further diagnostic of the later period are identical with material from the documented Creek site of Coosa. (See comparison in the type descriptions). Furthermore these types occur at a number of historic Cherokee sites in Tennessee[2] namely the Toqua Town site on the Little Tennessee River documented as an "Over-Hill" Cherokee site, and at the Settico site on the Hiawassee River, Tennessee, not far from Hiawassee Island.[3]

Chronology, direction of influences and diffusion would be clarified for the whole southeastern region by a detailed comparison of the Guntersville, Wheeler and Pickwick Basins. This would constitute a project in itself and should be accomplished. For the purpose of orienting the Guntersville Basin ceramic complex in its immediate surroundings, only a summary comparison will be included here.

Pickwick Basin yielded the greatest quantity of the fiber tempered ware and early sand tempered types. Progressing up river, this representation decreases in the Wheeler Basin.

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[1]And notably many archaeological traits other than pottery.

[2]Harrington, M. R., *Cherokee and Earlier Remains on the Upper Tennessee River*, Museum of the American Indian, Heye Foundation, Notes and Monograps, Vol. 24, New York, 1922.

[3]Sample sherd collections viewed at the University of Kentucky Museum.

Only twenty-two fiber tempered sherds and proportionate decrease in the early sand tempered types occurred in the Guntersville Basin. Typologically this material is identical and the same relatively early chronological position is evidenced. The distribution of the limestone tempered horizon appears to reverse this general direction. This ware is most abundantly represented in the Guntersville and Upper Wheeler Basins, and still farther up the Tennessee River. Certain differences in the limestone ware of the Pickwick Basin may be noted. In vessel form and certain incised designs the Pickwick Basin material is more reminiscent of limestone tempered ware of Hopewell or its southern affinity in Louisiana, than the highly specialized, general Woodland-like, development of this ware in the Upper Wheeler and Guntersville Basins. In Pickwick the earlier types (plain, fabric marked and check stamped) are more common and the diversity of stamped and incised decorations are rare. Surface modification by brushing was ill defined and became a classified type only when found to be so characteristic in the Guntersville and upper Wheeler Basin sites. The limestone tempered horizon of the Pickwick Basin appears to be an early representation mingling influences from the east with those from the south and west. The stamping and decorated styles of Georgia influence decrease progressively down the river. The clay-grit ware of the Guntersville Basin appears to bear out an early influence from the west in cord marking. Proceeding up the river, the sherd tempered ware focalized in Mississippi and Arkansas tends to be replaced by crushed grit tempered ware more similar to Georgia wares. The use of sand tempering with decorations typical of the limestone tempered ware in later horizons in the Guntersville Basin also points toward the Georgia-Florida region, and southward in Alabama.

A generalized Middle Mississippi shell tempered complex is characterized in all three Basins. Influence of Moundville in black filmed and incised types is more strongly suggested in Pickwick Basin, particularly at sites $Lu^{v}92$ and $Lu^{o}25$. This influence is definitely but sparingly noted in Wheeler and Guntersville Basins. A particular development evidenced in the Guntersville Basin is the flowering in the early historic period of

a ware bearing marked affinities with the "Tennessee-Cumberland" culture to the north and northwest. This appears to be a late flow of influence southward from a prehistoric specialization. This influence is only slightly reflected in the Wheeler and Pickwick Basins. In the Guntersville Basin it appears to have fused with the influences from Georgia in the qualities of sandy-grit tempering, carinated bowl forms, crude broad line incising and characteristic curvilinear designs. The similarities are with *Lamar Bold Incised* and *Ocmulgee Field Incised* types. The latter represents a late time period in Georgia, as does the similar shell tempered ware in the Guntersville Basin.

Let it be remembered that this chapter deals exclusively with pottery, but that pottery is only one industry in the aboriginal life represented at the sites considered. In historical reconstruction and in the complete interpretation of the sites pottery alone must not be overemphasized.

TABLES AND PLATES

TABLE 1
GUNTERSVILLE BASIN POTTERY TYPES[1]

		Msv14		Msv32		Msv39	
	Type	No.	Per.	No.	Per.	No.	Per.
Wheeler Plain	1a						
Pickwick Simple Stamp	1e			4	100.00		
	Total			4	100.00		
O'Neal Plain	2a	3	100.00	19	54.29	12	33.33
Alexander Incised	2b			2	5.71		
Smithsonia Zone Stamp	2c						
Alexander Pinched	2f						
Columbus Punctate	2g						
Rudder Cord Marked	2h						
Sauty Cord Impressed	2i					2	5.56
Kirby Complicated Stamp	2j			1	2.86	2	5.56
Hardin Complicated Stamp	2jj						
Benson Fabric Marked	2l						
Sauty Check Stamp	2o			13	37.14	20	55.55
Laws Red Filmed	2p						
Benson Simple Stamp	2q						
Rudder Comb. Incised	2s						
	Total	3	100.00	35	100.00	36	100.00
Mulberry Creek Plain	3a	5725	67.52	3517	41.63	827	74.71
Long Branch Fabric Marked	3b	22	.26	3562	42.16	178	16.08
Wright Check Stamped	3c&d	26	.31	464	1.49	31	2.80
Bluff Creek Simple Stamp	3e	2	.02	143	1.69	52	4.70
Pickwick Complicated Stamp	3f			118	1.40	8	.72
Sauty Incised	3g	19	.23	8	.10	5	.45
Flint River Cord Marked	3h	25	.29	19	.22	1	.09
Cox Punctated	3i			5	.06		
Flint River Incised	3k	2	.02	7	.08	1	.09
Prospect Red Filmed	3l						
Flint River Pinched	3m					4	.36
Flint River Brushed	3n	2658	31.35	606	7.17		
Harris Rocker Stamped	3o						
	Total	8479	100.00	8449	100.00	1107	100.00
McKelvey	4a	23	85.19	25	80.64	26	100.00
Mulberry Creek Cord Marker	4b	4	14.81	5	16.13		
Benson Punctated	4c						
Wheeler Check Stamp	4d&e			1	3.23		
Gunter's Cord Impressed	4f						
Kirby Incised	4h						
	4i						
	Total	27	100.00	31	100.00	26	100.00
Plain Shell	5a	339	98.84	5684	89.08	437	95.83
McKee Island Cord Marked	5b	2	.58	237	3.71		
Langston Fabric Marked	5c			2	.03	7	1.54
Moundville Incised	5d					8	1.75
McKee Island Incised	5dd			256	4.01		
McKee Island Punctated	5e			11	.17		
Cox Complicated Stamped	5f						
McKee Island Brushed	5g			190	2.98		
Moundville Red Filmed	5h			1	.02	4	.88
Cox Red on Buff	5i						
Moundville Black Filmed	5j						
Henry Island Applique	5k	2	.58				
	5l						
	5p						
	Total	343	100.00	6381	100.00	456	100.00
	Total for Site	8852		14900		1625	

[1]Unclassified sherds omitted from this tabulation

TABLE 1—(Continued)
GUNTERSVILLE BASIN POTTERY TYPES[1]

Msv43		Msv55		Ms°80		Ms°91		Msv100	
No.	Per.	No.	Per.	No.	Per.	No.	Per.	No.	Per.
34	73.91	134	79.77	11	78.58	22	70.97	102	87.18
		5	2.97					2	1.71
				1	7.14			1	.85
						1	3.23		
		2	1.19			4	12.90		
						1	3.23		
12	26.09	7	4.17	1	7.14			6	5.13
		16	9.52						
						3	9.67	2	1.71
		1	.59						
		3	1.79	1	7.14			4	3.42
46	100.00	168	100.00	14	100.00	31	100.00	117	100.00
2845	76.85	21412	73.73	9671	61.27	3461	49.93	17604	71.05
7	.19	26	.08	27	.17	2445	35.27	8	.03
206	5.56	569	1.98	220	1.39	30	.43	243	.93
85	2.30	18	.07	15	.10	22	.32	104	.42
22	.60	14	.04	28	.18	8	.12	212	.86
26	.71	64	.22	56	.35	5	.07	71	.29
2	.05	158	.54	21	.13	25	.36	49	.20
		17	.05	1	.01	2	.03	7	.03
		13	.04	2	.01	1	.01	13	.05
		5	.01					1	.01
		2	.01						
509	13.74	6749	23.23	5742	36.33	933	13.46	6463	26.03
				1	.01				
3702	100.00	29045	100.00	15784	100.00	6932	100.00	24775	100.00
1	100.00	69	88.45	8	89.00	27	100.00	12	80.00
		1	1.29						
		1	1.29	1	11.00				
		5	6.41					2	13.33
		2	2.56					1	6.67
1	100.00	78	100.00	9	100.00	27	100.00	15	100.00
51	92.72	11064	93.76	28	100.00	1213	78.73	12357	80.20
		47	.39			247	16.03	1603	10.39
		306	2.58			11	.71	5	.03
4	7.28	71	.60			57	3.70	146	.95
		2	.01					950	6.17
		21	.13			7	.45	9	.06
		7	.05			1	.06	4	.03
		133	1.13			4	.26	316	2.05
		27	.22					2	.01
		6	.05			1	.06		
		108	.91					15	.10
		4	.03					1	.01
		4	.03						
		1	.01						
55	100.00	11801	100.00	28	100.00	1541	100.00	15408	100.00
3804		41092		15835		8531		40315	

[1]Unclassified sherds omitted from this tabulation

TABLE 1—(Continued)
GUNTERSVILLE BASIN POTTERY TYPES[1]

		Ms°109		Msv111	
	Type	No.	Per.	No.	Per.
Wheeler Plain	1a				
Pickwick Simple Stamp	1e				
	Total				
O'Neal Plain	2a	10	71.42	11	73.34
Alexander Incised	2b	2	14.29		
Smithsonia Zone Stamp	2c			2	13.33
Alexander Pinched	2f				
Columbus Punctate	2g				
Rudder Cord Marked	2h				
Sauty Cord Impressed	2i				
Kirby Complicated Stamp	2j				
Hardin Complicated Stamp	2jj				
Benson Fabric Marked	2l			2	13.33
Sauty Check Stamp	2o	2	14.29		
Laws Red Filmed	2p				
Benson Simple Stamp	2q				
Rudder Comb. Incised	2s				
	Total	14	100.00	15	100.00
Mulberry Creek Plain	3a	4227	33.45	1327	40.62
Long Branch Fabric Marked	3b	8	.06	932	28.52
Wright Check Stamped	3c&d	7	.05	27	.83
Bluff Creek Simple Stamp	3e			43	1.32
Pickwick Complicated Stamp	3f	1	.01	16	.49
Sauty Incised	3g	16	.13	2	.06
Flint River Cord Marked	3h			1	.03
Cox Punctated	3i				
Flint River Incised	3k				
Prospect Red Filmed	3l				
Flint River Pinched	3m				
Flint River Brushed	3n	8378	66.30	919	28.13
Harris Rocker Stamped	3o				
	Total	12637	100.00	3267	100.00
McKelucy	4a				
Mulberry Creek Cord Marker	4b				
Benson Punctated	4c				
Wheeler Check Stamp	4d&e				
Gunter's Cord Impressed	4f				
Kirby Incised	4h				
	4i				
	Total				
Plain Shell	5a	84	100.00	724	85.18
McKee Island Cord Marked	5b			2	.23
Langston Fabric Marked	5c			119	14.00
Moundville Incised	5d			1	.12
McKee Island Incised	5dd				
McKee Island Punctated	5e				
Cox Complicated Stamped	5f				
McKee Island Brushed	5g				
Moundville Red Filmed	5h				
Cox Red on Buff	5i				
Moundville Black Filmed	5j				
Henry Island Applique	5k			4	.47
	5l				
	5p				
	Total	84	100.00	850	100.00
	Total for Site	12735		4132	

[1]Unclassified sherds omitted from this tabulation

TABLE 1—(Continued)
GUNTERSVILLE BASIN POTTERY TYPES[1]

Ms°121		Ja°9A		Jav27		Jav28		Jav28A	
No.	Per.	No.	Per.	No.	Per.	No.	Per.	No.	Per.
						1	100.00	10	90.91
								1	9.09
						1	100.00	11	100.00
102	83.70	4	57.14	4	100.00	10	62.50	12	41.37
								2	6.90
1	.82							2	6.90
3	2.44							1	3.45
1	.82								
9	7.30	3	42.86					1	3.45
1	.82							2	6.90
4	3.28					6	37.50	8	27.58
1	.82								
								1	3.45
122	100.00	7	100.00	4	100.00	16	100.00	29	100.00
16645	71.00	204	84.65	695	28.09	5320	70.45	2303	43.98
901	3.84					340	4.50	569	10.86
589	2.50	2	.83			185	2.45	184	3.51
30	.13	2	.83			16	.21	5	.10
145	.62					1	.01	3	.06
32	.14					11	.15		
61	.26	1	.41						
5	.02			4	.16				
7	.03							1	.02
5	.02							2172	41.47
5126	21.44	32	13.28	1775	71.75	1679	22.23		
23546	100.00	241	100.00	2479	100.00	7552	100.00	5237	100.00
1	100.00	11	25.00						
		32	72.73						
		1	2.27						
1	100.00	44	100.00						
2908	95.39	1241	98.18	92	100.00	365	92.15	2535	94.53
31	1.00							1	.04
46	1.50	23	1.82			31	7.85	142	5.29
37	1.20							1	.04
1	.03								
7	.23								
5	.16								
3	.10								
7	.23							3	.11
4	.13								
1	.03								
3050	100.00	1264	100.00	92	100.00	396	100.00	2682	100.00
26719		1556		2575		7965		7959	

[1]Unclassified sherds omitted from this tabulation

TABLE 1—(Continued)
GUNTERSVILLE BASIN POTTERY TYPES[1]

Type		Jav42 No.	Jav42 Per.	Ja°101 No.	Ja°101 Per.
Wheeler Plain	1a				
Pickwick Simple Stamp	1e				
	Total				
O'Neal Plain	2a	21	38.17	15	55.56
Alexander Incised	2b				
Smithsonia Zone Stamp	2c	1	1.82		
Alexander Pinched	2f	1	1.82		
Columbus Punctate	2g			1	3.70
Rudder Cord Marked	2h				
Sauty Cord Impressed	2i				
Kirby Complicated Stamp	2j				
Hardin Complicated Stamp	2jj			8	29.63
Benson Fabric Marked	2l	13	23.64		
Sauty Check Stamp	2o	1	1.82	1	3.70
Laws Red Filmed	2p				
Benson Simple Stamp	2q	18	32.73	2	7.41
Rudder Comb. Incised	2s				
	Total	55	100.00	27	100.00
Mulberry Creek Plain	3a	1513	61.79	103	78.63
Long Branch Fabric Marked	3b	736	30.05		
Wright Check Stamped	3c&d	68	2.77		
Bluff Creek Simple Stamp	3e	8	.33	1	.76
Pickwick Complicated Stamp	3f	6	.24	2	1.53
Sauty Incised	3g	17	.69		
Flint River Cord Marked	3h	2	.08		
Cox Punctated	3i				
Flint River Incised	3k	5	.20		
Prospect Red Filmed	3l				
Flint River Pinched	3m	94	3.84	25	19.08
Flint River Brushed	3n				
Harris Rocker Stamped	3o				
	Total	2449	100.00	131	100.00
McKelucy	4a			1	100.00
Mulberry Creek Cord Marker	4b				
Benson Punctated	4c	3	75.00		
Wheeler Check Stamp	4d&e				
Gunter's Cord Impressed	4f				
Kirby Incised	4h	1	25.00		
	4i				
	Total	4	100.00	1	100.00
Plain Shell	5a	3	75.00	2466	92.71
McKee Island Cord Marked	5b			4	.15
Langston Fabric Marked	5c			33	1.24
Moundville Incised	5d			72	2.71
McKee Island Incised	5dd				
McKee Island Punctated	5e				
Cox Complicated Stamped	5f			37	1.39
McKee Island Brushed	5g	1	25.00	17	.64
Moundville Red Filmed	5h			15	.56
Cox Red on Buff	5i			5	.19
Moundville Black Filmed	5j			11	.41
Henry Island Applique	5k				
	5l				
	5p				
	Total	4	100.00	2660	100.00
	Total for Site	2512		2819	

[1]Unclassified sherds omitted from this tabulation

TABLE 1—(Continued)
GUNTERSVILLE BASIN POTTERY TYPES[1]

Jav102		Jav155		Jav155A		Ja°176		Ja°176A	
No.	Per.	No.	Per.	No.	Per.	No.	Per.	No.	Per.
4	100.00					1	100.00	1	100.00
4	100.00					1	100.00	1	100.00
14	100.00	8	88.89	8	72.73	3	50.02	33	38.83
		1	11.11	1	9.09	1	16,66	1	1.18
								2	2.35
								1	1.18
								8	9.41
						1	16.66		
						1	16.66	2	2.35
								1	1.18
				1	9.09			13	15.29
				1	9.09			3	3.53
								19	22.35
								2	2.35
14	100.00	9	100.00	11	100.00	6	100.00	85	100.00
3788	27.66	6281	74.98	2455	59.24	796	11.14	2507	38.40
		11	.13	987	23.82	64	.90	2413	36.96
1	.01	102	1.22	34	.82	65	.91	293	4.48
		4	.04	43	1.04	8	.11	20	.31
15	.11	126	1.50	35	.84	6	.08	20	.31
9	.06	71	.85	43	1.04	9	.13	1	.02
7	.05	55	.65	11	.26	22	.31	86	1.32
2	.02	5	.06			2	.03	4	.06
1	.01	11	.14	27	.65	4	.06	5	.08
9874	72.08	1712	20.43	509	12.29	6168	86.33		
								1179	18.06
13697	100.00	8378	100.00	4144	100.00	7144	100.00	6528	100.00
3	50.00	5	100.00	2	100.00	6	85.71	10	21.28
								4	8.51
						1	14.29		
								1	2.13
3	50.00								
								32	68.08
6	100.00	5	100.00	2	100.00	7	100.00	47	100.00
433	96.02	917	80.09	20	76.92	2142	84.63	3437	92.52
2	.44	126	11.00	4	15.38	31	1.23	5	.13
8	1.77	14	1.22	1	3.85	228	9.01	137	3.69
8	1.77	59	5.15			16	.63	15	.40
		23	2.01			1	.04	56	1.51
		1	.09			1	.04	1	.03
		3	.26	1	3.85	45	1.77	37	.99
		1	.09			33	1.31	9	.24
						9	.36	7	.19
						15	.59		
		1	.09			10	.39	11	.30
451	100.00	1145	100.00	26	100.00	2531	100.00	3715	100.00
14172		9537		4183		9689		10376	

[1]Unclassified sherds omitted from this tabulation

TABLE 2—RELATIVE PROPERTIES OF WARES IN THE GUNTERSVILLE BASIN SITES

Site	Fiber		Sand		Limestone		Clay and Grit		Shell		Totals	
	Number of Sherds	Percentage	Number of Sherds	Percentage	Number of Sherds	Percentage	Number of Sherds	Percentage	Number of Sherds	Percentage	Number of Sherds	Percentage
Msv14	----	------	3	.03	8479	95.79	27	.31	343	.387	8852	100.00
Msv32	4	.03	35	.23	8449	56.70	31	.21	6381	42.83	14900	100.00
Msv39	----	------	36	2.22	1107	68.12	26	1.60	456	28.06	1625	100.00
Msv43	----	------	46	1.20	3702	97.32	1	.03	55	1.45	3804	100.00
Mso48	----	------	1	3.33	29	96.67	----	------	------	------	30	100.00
Ms°49	----	------	----	------	805	100.00	----	------	------	------	805	100.00
Ms°51	----	------	----	------	531	99.99	----	------	1	.01	532	100.00
Ms°53	----	------	----	------	22	100.00	----	------	------	------	22	100.00
Ms°53A	----	------	----	------	26	100.00	----	------	------	------	26	100.00
Msv55	----	------	168	.41	29045	70.68	78	.19	11801	28.72	41092	100.00
Ms°80	----	------	14	.09	15784	99.67	9	.06	28	.18	15835	100.00
Ms°91	----	------	31	.36	6932	81.26	27	.32	1541	18.06	8531	100.00
Msv100	----	------	117	.29	24775	61.45	15	.04	15408	38.22	40315	100.00
Ms°107	----	------	----	------	926	97.99	----	------	19	2.01	945	100.00
Ms°109	----	------	14	.11	12637	99.23	----	------	84	.66	12735	100.00
Msv111	----	------	15	.36	3267	79.07	----	------	850	20.57	4132	100.00
Ms°121	----	------	122	.46	23546	88.11	1	.01	3050	11.42	26719	100.00
Msv121A	----	------	5	.44	682	60.41	----	------	442	39.15	1129	100.00
Ms°142	----	------	----	------	217	78.62	5	1.81	54	19.57	276	100.00
Ms°143	----	------	----	------	4	66.67	----	------	2	33.33	6	100.00
Ms°144	----	------	----	------	36	87.80	----	------	5	12.20	41	100.00
Ms°146	----	------	----	------	10	100.00	----	------	------	------	10	100.00
Ja°9A	----	------	7	.44	241	15.50	44	2.83	1264	81.23	1556	100.00
Jav27	----	------	4	.16	2479	96.27	----	------	92	3.57	2575	100.00
Jav27A	----	------	----	------	651	97.31	----	------	18	2.69	669	100.00
Jav28	1	.01	16	.20	7552	94.82	----	------	396	4.97	7965	100.00
Jav28A	11	.14	29	.36	5237	65.80	----	------	2682	33.70	7959	100.00
Jav42	----	------	55	2.19	2449	97.49	4	.16	4	.16	2512	100.00
Ja°101	----	------	27	.96	131	4.64	1	.04	2660	94.36	2819	100.00
Jav102	4	.03	14	.10	13697	96.65	6	.04	451	3.18	14172	100.00
Jav155	----	------	9	.10	8378	87.85	5	.05	1145	12.01	9537	100.00
Jav155A	----	------	11	.26	4144	99.07	2	.05	26	.62	4183	100.00
Ja°176	1	.01	6	.06	7144	73.74	7	.07	2531	26.12	9689	100.00
Jav176A	1	.01	85	.81	6528	62.92	47	.46	3715	35.80	10376	100.00
Ja°180	----	------	1	.30	2	.60	----	------	328	99.10	331	100.00
Ja°180A	----	------	4	.96	----	------	2	.48	411	98.56	417	100.00
Total	22		875		199644		338		56243		257122	

Jav176A	1	.01	85	.81	6528	62.92	47	.46	3715	35.80	10376	100.00
Ja°180			.1	.30	2	.60			328	99.10	331	100.00
Ja°180A			4	.96			2	.48	411	98.56	417	100.00
Total	22		875		199644		338		56243		257122	

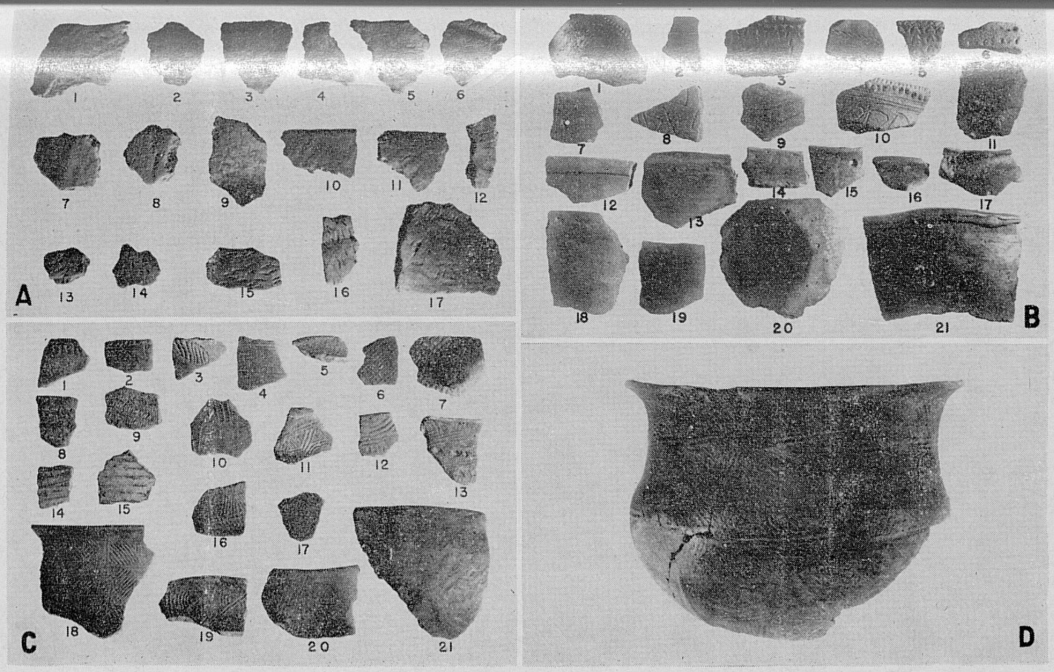

Plate 1 Guntersville Basin type sherds

A. 1-12, 1a-Wheeler Plain; 13-17, 1e-Pickwick Simple Stamped.

B. 1-2, 2c-Smithsonia Zone Stamped; 3-6, 2f-Alexander Pinched; 7-11, 2b-Alexander Incised; 12-21, 2a-O'Neal Plain.

C. 1-3, 2i-Sauty Cord Impressed; 4-7, 2o-Sauty Check Stamped; 8, 2g-Columbus Punctated; 9, 21-Benson Fabric Marked, 10-13, 2j-Kirby Complicated Stamped; 14-15, 2q-Benson Simple Stamped; 16-19, 2jj-Hardin Complicated Stamped; 20-21, 2p-Laws Red Filmed.

D. Section of vessel, type 2jj-Hardin Complicated Stamped

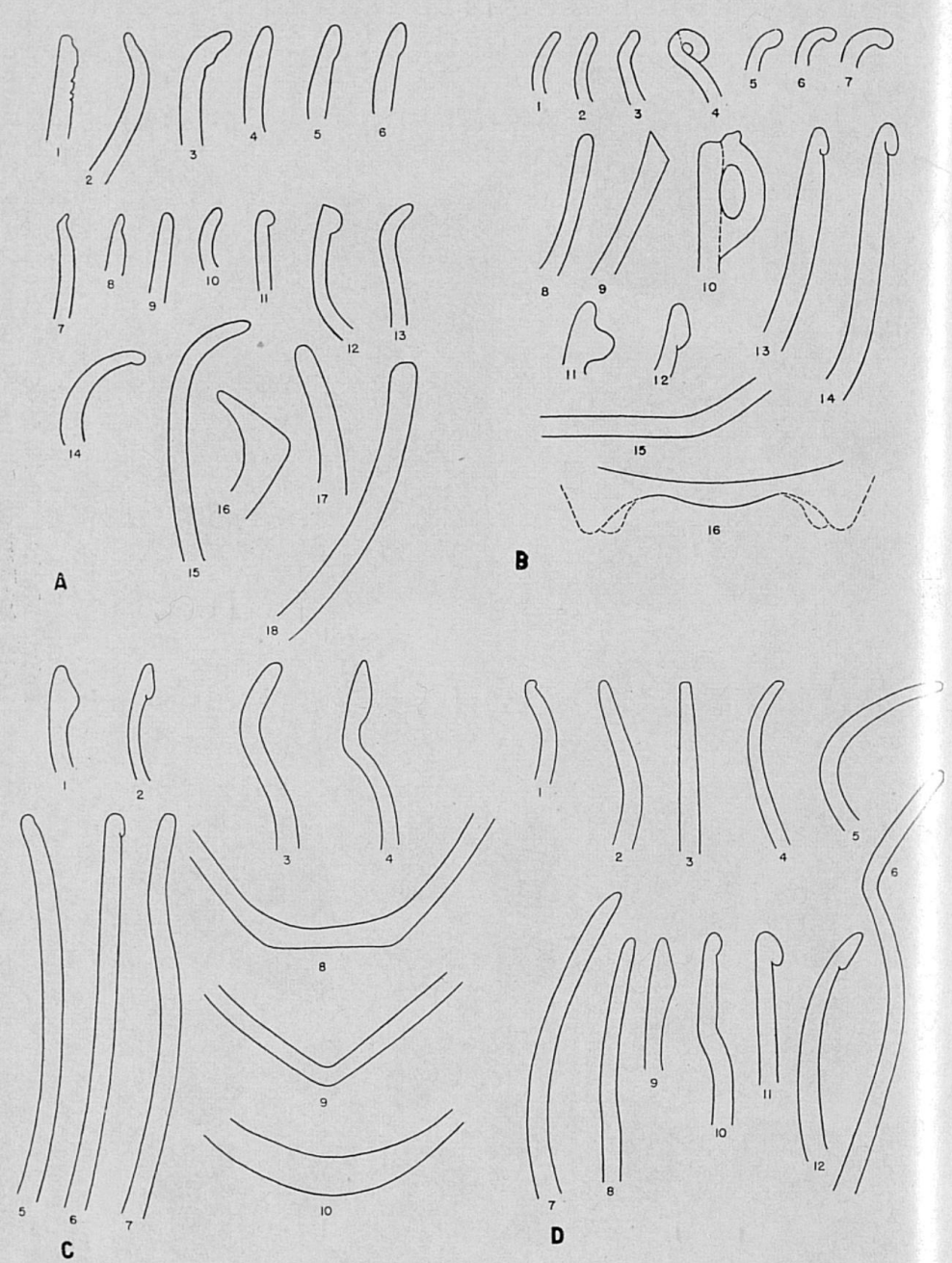

Plate 2

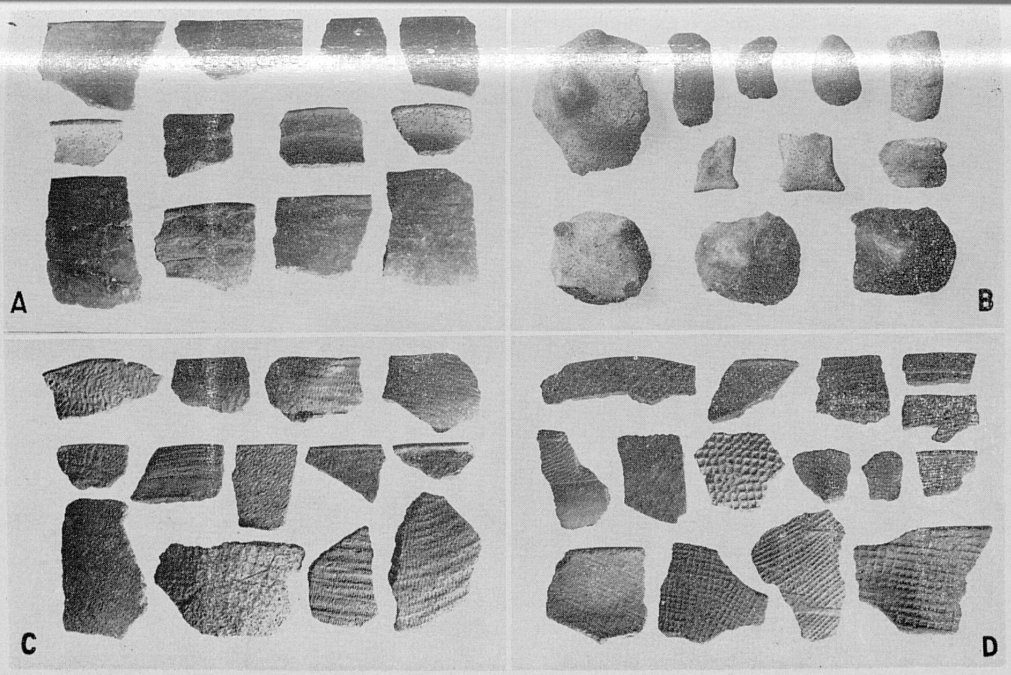

Plate 3 Guntersville Basin type sherds

A. 3a-Mulberry Creek Plain.
B. 3a-Mulberry Creek Plain bases and appendages.
C. 3b-Long Branch Fabric Marked.
D. 3c&d-Wright Check Stamped.

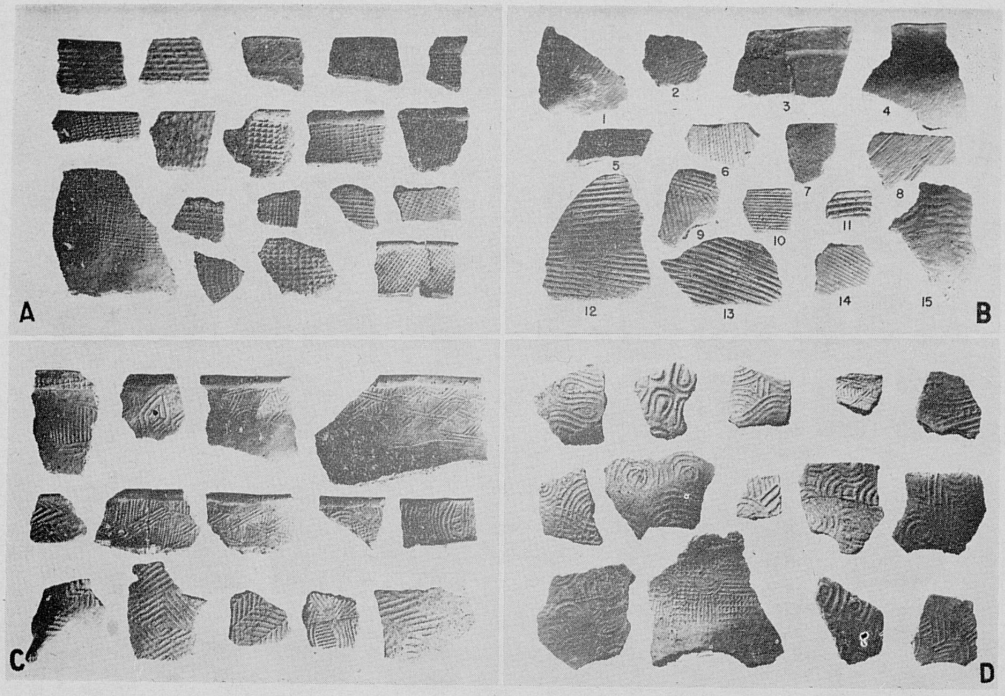

Plate 4 Guntersville Basin type sherds

A. 3e&d-Wright Creek Stamped, showing variation ingrid within a single site.
B. 1-8, 3h-Flint River Cord Marked; 9-15, 3e-Bluff Creek Simple Stamped.
C. 3f-Pickwick Complicated Stamped.
D. 3f-Pickwick Complicated Stamped.

A. Bell-Wright Check Stamped, showing variation ingrid within a single site.
B. 1-8, 3h-Flint River Cord Marked; 9-15, 3e-Bluff Creek Simple Stamped.
C. 3f-Pickwick Complicated Stamped.
D. 3f-Pickwick Complicated Stamped.

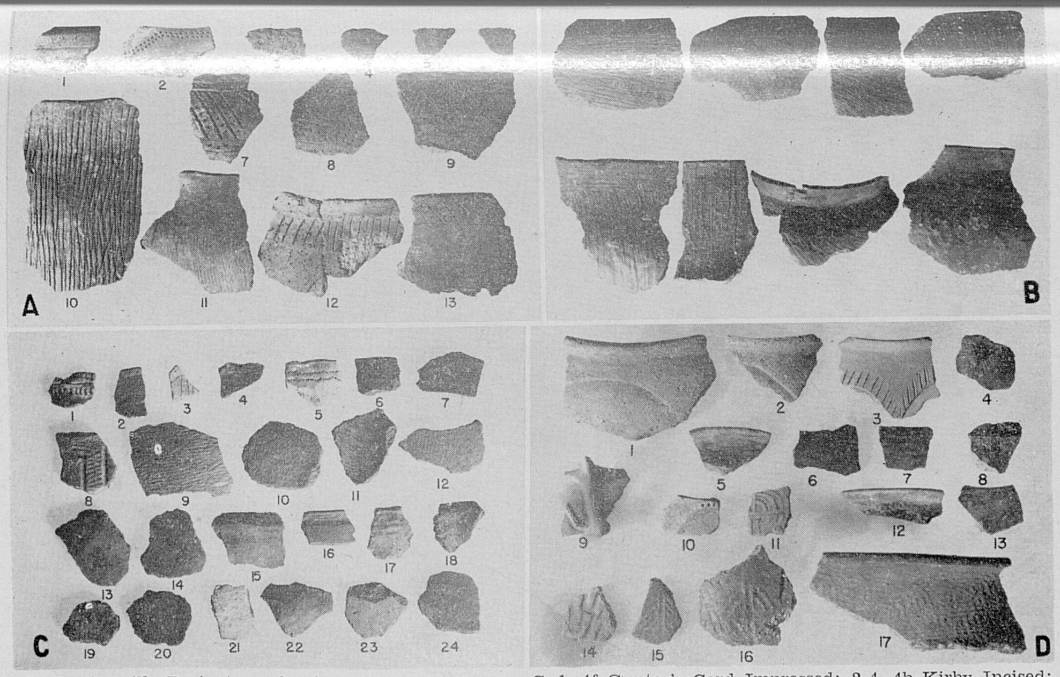

Plate 5 Guntersville Basin type sherds

A. sherd 1, 31-Prospect Red Filmed; 2-3, 3i-Cox Punctated; 4-6, 3o-Harris Rocker Stamped; 7-8, 3k-Flint River Incised; 9, 12 and 13, 3g-Sauty Incised; 10-11, 3h-Flint River Cord Marked.
B. 3n-Flint River Brushed.
C. 1, 4f-Gunter's Cord Impressed; 2-4, 4h-Kirby Incised; 5-7, 4c-Benson Punctated; 8, zone stamped; 9-12, 4b-Mulberry Creek Cord Marked; 13-24, 4a-McKelvey Plain.
D. 1-4, 5d-Moundville Incised; 5-6, 5j-Moundville Black Filmed; 7, 5l-Moundville Incised Filmed; 8, 5p-Moundville Filmed Engraved; 9-10, 5k-Henry Island Applique; 12-13, 5h-Moundville Red Filmed; 11 and 14-17, 5f-Cox Complicated Stamped.

Plate 6 Guntersville Basin type sherds

A. 5c-Langston Fabric Marked.
B. 3b-Long Branch Fabric Marked.
C. 3c&d-Wright Checked Stamped.
D. 5dd-McKee Island Incised, deep plate.
E. 5k-Henry Island Applique.
F. Lug handle attached to problematical pottery form, type 3c&d-Wright Check Stamped.
G. Unclassified grit tempered ware.
H. 5dd-McKee Island Incised rim combined with 5g-McKee Island Brushed on body.
I. Obverse and reversed of engraved steatite fragment with check stamped and parallel line impressions in modelling clay.

B. 35-Long Branch Fabric Marked.
C. 3c&d-Wright Checked Stamped.
D. 5dd-McKee Island Incised, deep plate.
F. Loop handle attached to problematical pottery form, type 3c&d-Wright Check Stamped.
G. Unclassified grit tempered ware.
with 5g-McKee Island Brushed on body.
I. Obverse and reversed of engraved steatite fragment with check stamped and parallel line impressions in modelling clay.

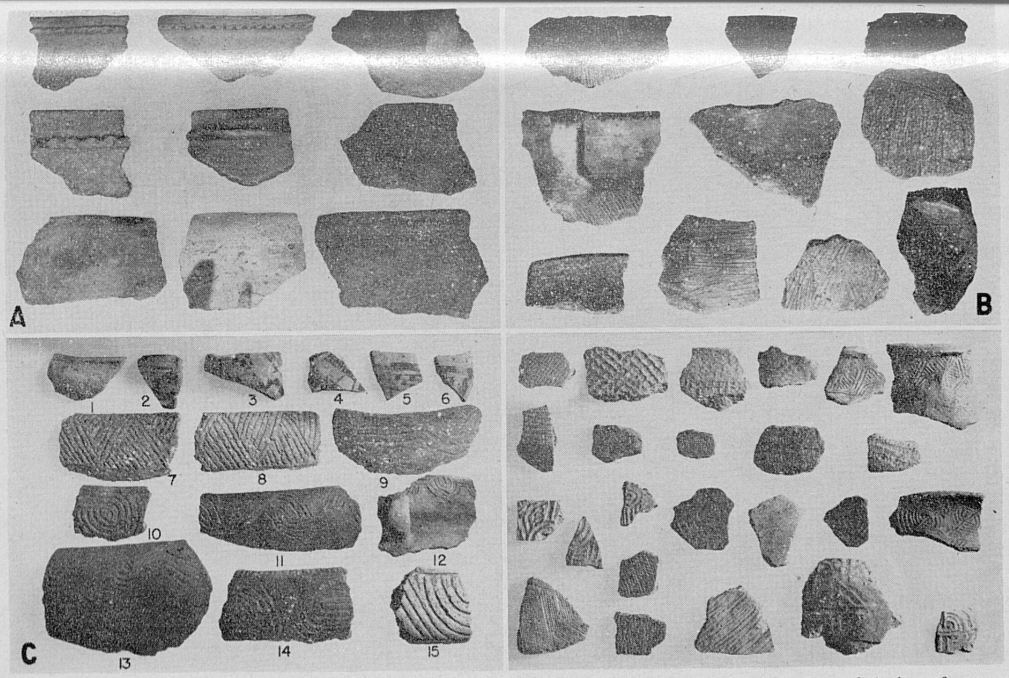

Plate 7 Guntersville Basin type sherds

A. chronologically late variety of ta-Plain Shell.
B. 1st and 2nd rows, 5b-McKee Island Cord Marked; 3rd row, 5g-McKee Island Brushed.
C. 1-6, 5i-Cox Red on Buff, 7-15, 5dd-McKee Island Incised.
D. A Composite plate illustrating the crossover of designs from one temper to another. Upper row, check stamp 1st on sand, then on limestone tempered sherds, complicate stamp on sand and limestone indicating the use of the same paddle. 2nd row, fabric marking on sand, clay-grit and limestone tempering. 3rd row, complicated stamped on limestone (3 sherds) and on sand. The concentric diamond stamp on sand compared with similar designs on shell shown directly below.

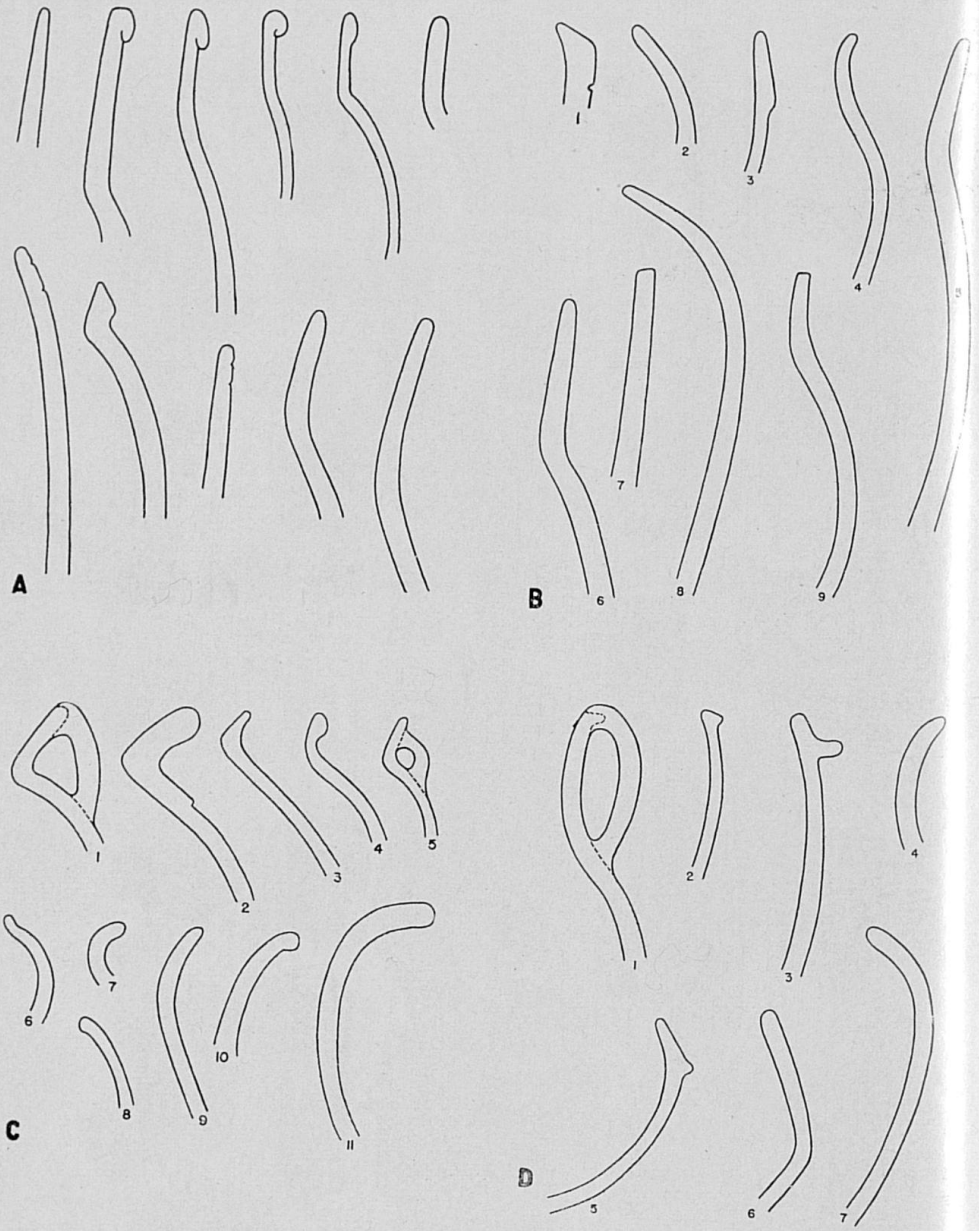

Plate 8

CORRELATION OF STRATIGRAHIC DATA FROM SITES Ms^{V}100, Ja^{O}9A, Ms^{V}111 AND Ms^{V}10

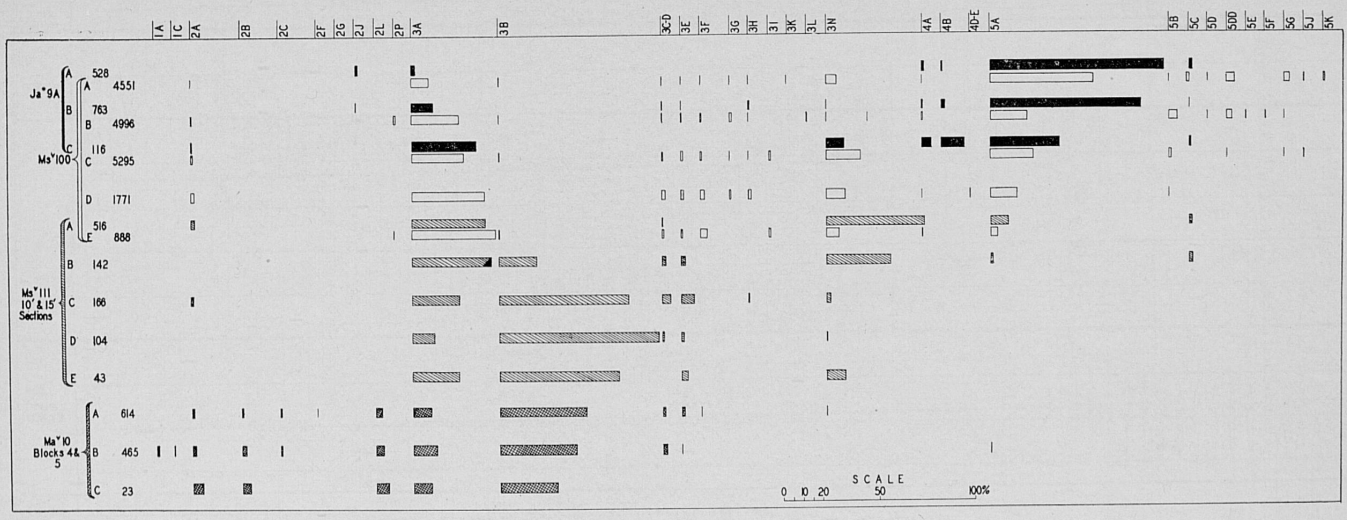

Plate 9

TENTATIVE SEQUENCE OF POTTERY TYPES IN THE GUNTERSVILLE BASIN

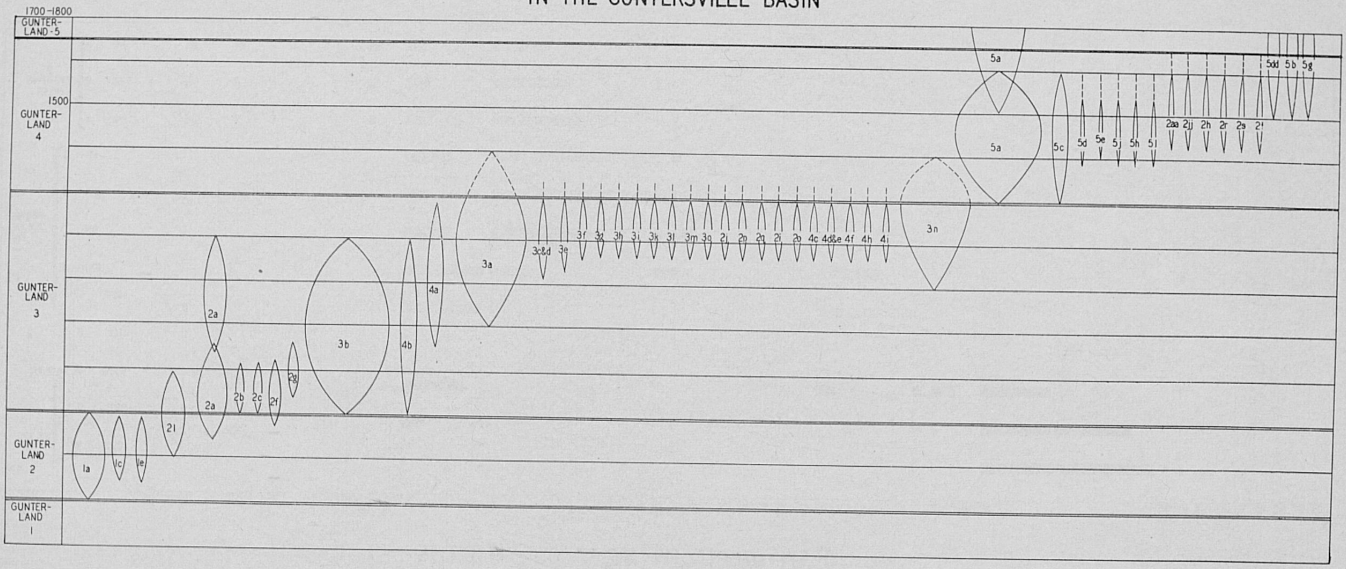

Plate 10

OCCUPATION OF POTTERY HORIZONS OF GUNTERSVILLE BASIN SITES ACCORDING TO POTTERY TYPE SEQUENCE

Plate 11