NEWSLETTER

of the

SOUTHEASTERN ARCHAEOLOGICAL CONFERENCE

Vol. 8 (Whole Volume) Cambridge, Mass. May, 1962

EDITOR'S NOTE

The Sixteenth Southeastern Archaeological Conference was held at Ocmulgee National Monument, Macon, Georgia, on November 13 and 14, 1959. The Proceedings are at long last published in this volume of the Newsletter. Following the practice utilized at the Chapel Hill meetings the previous year (SAC-NL, vol. 6), the proceedings of the Conference were tape recorded. The full transcript, or as much as could be taken off the tapes, has been rather vigorously edited, some rather lengthy discussions have been condensed and are presented in paragraph form with the discussants' names included. The contributors of the major papers unfortunately have not had an opportunity to edit and make corrections on their performances. While not wanting to impart a more formal aspect to the proceedings than they actually had, the Editor has excised a number of witticisms and ribald comments which were amusing at the time but which have not aged too well on the tapes. Anyone desiring to check the full transcript may do so at their leisure by application to the Editor.

A list of the Conference Members who attended will be found in the forward section of this volume. A bibliography of selected references has been appended. Illustrations and the cover design are the work of Patricia A. Jones.

Stephen Williams
Peabody Museum
Harvard University
Cambridge, Mass.

Sixteenth Meeting of the

SOUTHEASTERN ARCHAEOLOGICAL CONFERENCE

Members that Attended

Emily J. Blasingham

Bettye Broyles

Ripley P. Bullen

Douglas S. Byers

Louis R. Caywood

David W. Chase

Joffre L. Coe

David L. DeJarnette

Charles H. Fairbanks

Fred W. Fischer

James A. Ford

John M. Goggin

James B. Griffin

John W. Griffin

William G. Haag

Paul G. Hahn

Lee H. Hanson, Jr.

J. C. Harrington

Carol Hart

Harold A. Huscher

James H. Kellar

Arthur R. Kelly

Madeline Kneberg

William C. Lazarus

Edward V. McMichael

Richard A. Marshall

William C. Massey

Carl F. Miller

Dan F. Morse

R. Stuart Neitzel

Mrs. T. S. Olds

John T. Pellew

Frank T. Schnell, Jr.

William H. Sears

Hale G. Smith

Stanley A. South

E. Bruce Trickey

John W. Walker

Antonio J. Waring

Stephen Williams

John Witthoft

PROCEEDINGS
OF
THE SIXTEENTH SOUTHEASTERN ARCHAEOLOGICAL CONFERENCE

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SESSION I

SOME SOUTHEASTERN POTTERY TYPES
Chairman James A. Ford

St. John Incised, Pasco Incised, etc.
by Ripley P. Bullen

BULLEN: In thinking about what I might say about these various pottery types I thought it best to bring them. However, the Southeastern Conference used to be so much smaller, more intimate, that I am afraid I did not think about the problem of visibility. When I added a few sherds to this sherd-board which Bill Sears made up about four years ago, I figured you could all see it. I will, of course put the board in the rear of the room after this talk where you can all examine it to your heart's content.

I will very briefly call your attention to what we have on the board: The lower part represents various pottery in the Orange area-- Orange Incised, Orange Plain, and the Tick Island Incised. That is part of the EPC [Early Pottery Complex]. The St. John's Incised, Pasco Incised, and similar wares, of course, represent the transferral of some of the Orange Incised designs upon different paste, upon succeeding paste. We have here some St. John's Incised which is, as most of you know, a soft paste ware which occurs chiefly in the St. John's River in Florida, but covers most of the state--certainly a considerable percentage of the state north of the Okeefen-okee and the Everglades area.

Here is some semi-fibre tempered pottery of roughly the same time period; you can see the incision, which is similar to the Orange incision and to the St. John's incision. These two are stamped, simple stamped, and this one is sand tempered, with a similar design. The Pasco series represents a similar development with limestone tempering. I call your attention to these two Pasco Incised sherds: compare the decoration to that on the St. John's sherds. I have three sherds of Perico Linear Punctated. Very few of you have seen any of that. Willey described it in his West Coast Florida volume, but only two or three sites in Florida have produced it.

For ease in comparison, I have included Tchefuncte Incised. Also, I wish to point out that some of the designs of the Orange Incised appear on the St. John's Incised, Pasco Incised and the semi-fibre tempered variety, and, as Jimmy Griffin pointed out five or six years ago, very similar designs are also found on the Tchefuncte Incised.

Unless there is something else about the EP II, that's it.

DISCUSSION

A brief discussion followed in which BULLEN and GOGGIN mentioned the geographic distribution of Perico Incised. BULLEN gave the dates of the plain fiber-tempered pottery in Florida as 1200 B. C. and 1060 B. C. with plain fiber-tempered wares on the Georgia Coast dated at 1750 B. C. GOGGIN suggested that Perico Incised might be coeval with Deptford Stamped.

Cord Marked Pottery of Eastern United States
by William G. Haag

HAAG: It did seem likely to me that if we could work out certain kinds of systems in pottery types in southern United States, surely cord-marking ought to lend itself to such an analysis. And I have tried, perhaps wholly cursorily, to do this. After all, cord-marking does have only a limited number of ways of application; there are two main varieties, as we still call them, --we still (don't?) think of them as traditional. Also, cord-marking does have widespread geographic distribution. There are strong suggestions, as well, that cord-marking is chronologically restricted. It does not just range all over the entire sequence that we have, but seems everywhere to follow (more or less) Northern people. I do not know what they mean by it, but they call it the M ddle Period. Of course, there are a lot of variations that arise that have some sort of significance.

In its general pattern of geographic distribution, cord-marking is Northeastern. That is, if you work out from a center--if there is such a thing as a center of distribution--it does more or less spreadout at the top of the northeastern part of the United States.

Insofar as I can tell, there is no known cord-marking in the Artic. I was under the impression that in some Eskimo sites cord-marking had been found, but I was unable to find this in literature. But in Manitoba, in southern Canada, all across the alluvial valleys of the Great Lakes area and the Ohio Valley, it is a very common type. As you move south and west it is uncommon, until it is totally absent in the Louisiana coastal area, totally absent as far as I know in the Caddo area, not very plentiful in northwest Florida, and I presume that it is absent in peninsular Florida, or virtually so. In central and northern Louisiana it is a minority type. In lower Mississippi, around Vicksburg, it has just about disappeared, and to the south, it is virtually absent. A student who is working on a dissertation has, I think, some 260 sites around Lake Pontchartrain, and has found not one single cord-marked potsherd. Bill McIntyre, who is working on approximately a thousand sites on the Gulf Coast has five cord-marked potsherds.

There are many references in the literature, most of them without any

empirical basis, to the Old World origin of cord-marking. I think most of us are convinced that this is logical. Now that we are beginning to know a little more about central Asia, however, we will have to begin to use Central Asia, however, we will have to begin to use Central Africa--that is the unknown place now. We can derive most things from there, simply on the basis of not knowing anything about it. Generally speaking, the so-called limited number of vessel shapes and the limited number of techniques of application, render cord-marking a subject to deal with separately.

However, there are certain non-morphological factors such as distribution and chronological position that suggest that cord-marking is probably ultimately of Old World origin. Virtually everywhere its chronological position is Middle Period pottery. It is probably earlier in the Northeast than anywhere else in North America--at least where we can tie it to something significant. Ritchie, of course, has a date of 2500 B. C. for Vinette, and that seems to me remarkably early for any kind of pottery. (Not that I suspect its age or anything of the kind). He does have a considerable number of dates; at least cord-marking is a fairly common Early Woodland pottery type.

It is important to make the point that cord-marking is a minority type, except in a few rare situations where it is the dominant type on the site. For example, cord-marking is generally in the vicinity of 10 percent, 3 percent, or 5 percent. It does not constitute 75 percent of the pottery on a site. Virtually everywhere in any part of the United States at least, its usual association is with a fairly Early Woodland. Along the entire Middle and South Atlantic Coast it follows this pattern. The few exceptions I will mention in a moment.

Recently I had the notion that cord-marking might be sufficiently confined in time to comprise some kind of system, but it did not take me long to abandon that idea completely. As an example, I attempted to plot all the sites that I had surveyed from Virginia to Florida. Using the percentage of cord-marking on a given site, along with isographs and other "statistical" methods, I tried to hit the center of maximum occurrence. This simply revealed that there is no pattern of distribution; there is no single center from which all of the pottery in the eastern United States might have radiated. There are centers of very high occurrence of cord-marking. However, within a hundred yards, within a mile, or at another near-by site, obviously there is no cord marking.

In other words, we simply have to consider this in some sort of a time context before the percentages of occurrence have any significance whatsoever. Thus, in setting up coeval types, you must always make some basic assumptions that are more or less rigged or load your data before you ever use it. There are some generalities that can be made from studying these percentage distributions. From my own collections on the

Carolina coast, cord-marking in this so-called "Middle Period" is quite high, often approximating sixty to sixty-seven, even seventy-one per cent of all pottery of certain sites. Thirty per cent is a rather general feature for all of the coastal area from Virginia south. As one moves further south, this percentage figure declines; it falls off to practically nothing in Northeastern Florida.

Only in the historic level does cord-marking reappear. There is a hiatus, a break in the middle Period cord-marking in these historic types. In Savannah Fine Cord-marked the occurrence is not on a historic level, but it is quite late in the sequence. It is always associated with Irene. In the Irene site itself the final mound fill was of two predominating types: Irene Complicated Stamped and Savannah Fine Cord-marked (this obviously is all on one level). In some of John Goggin's Timucuan sites, cord-marking approximates three per cent of the total of the sherds found.

In the Dan River series, again on the historic level, cord-marking constitutes about three per cent. At Irene, cord-marking is thirty-four per cent of the total of that last mound fill. All of these are Savannah Fine Cord-marked, except for three Wilmington sherds, which, of course, are of earlier vintage. Unless I read the reports incorrectly, Wilmington Heavy Cord-marked pottery is the only artifact known for the "Wilmington period," or culture. If there is such a period, Wilmington Heavy Cord-marked is it. There is obviously not much basis for using that in that context. Wilmington is not a common type anywhere; even on Wilmington Island, from which it takes its name, Wilmington Heavy Cord-marked is not the commonest pottery type found. As it is usually described,it is likened to Deasonville pottery. There is, I think, pretty obviously a broad gap between these two pottery types. I think that Deasonville was the only cord-marking known at the time Wilmington was setup.

Needless to say, cord-marking is absent on all early sites; there is none at fiber-tempered sites, such as Tono's Double Shell Ring at Hilton Head. Sites up and down the Carolina and Georgia coast that have fiber-tempered sherds have no cord-mark ing at all. In sites like Bilbo, for instance, such cord-marking as does appear -- appears in the top eighteen inches. There is none below eighteen inches. In fact, in Tono's 1937 excavations, he found nineteen Wilmington Cord-marked out of the several hundred sherds that were recovered. My own excavations there in 1957 produced seven cord-marked sherds, out of some nine hundred sherds, so it is obviously not very common. Also, cord-marking is entirely absent at the Green Mound, in Florida, where there is fairly good stratigraphy.

If we take the Carolina coast as a whole, using something on the order of two hundred sites, cord-marking constitutes nine per cent of the total, but fabric-impressed pottery is twenty per cent of the total pottery from those sites. On the Carolina Coast little is found -- and around northwestern Florida, cord-marking is nowhere prevalent. In southwest Georgia,

another variety of cord-marking that Willey called West Florida Cord-marked is found only in very small numbers; he relates that, to the Santa Rosa period.

In later Weeden Island there is a modified form of this cord-marking, with incised lines, just like that under the rim strip. Not until the Leon-Jeffersons time, then, do you get a cord-marked type. That is an historic cord-marked type which is probably a variant of Savannah Fine Cord-marked.

A relationship between these two major clusterings of cord-marking seems probable. One is this Mulberry Creek-Deasonville etc. type, and the other is a sort of sand and or grit-tempered variety. When I was making a survey of sites in the Grenada reservoir in 1951, I could regularly and readily separate Mulberry Creek Cord-marked from two sand grit-tempered cord-marked varieties that Jennings had called Tshimingo and Furrs. These were very distinctive pottery types, locally, but they fall within this same broad clasification: same kind of application of cordmarking, the difference being a matter of paste only. As I said, they are readily separated locally but, insofar as I could determine, not chronologically separate.

In Jenning's (1941) report of Northeastern Mississippi Tashimingo Cord-marked constituted twenty-six per cent of thirty-six thousand sherds. That was the only cord-marking that he recognized, except where he found a finer, sand-tempered variety that he called Furrs, which constituted eleven per cent. All in all, thirty-seven per cent of the pottery found in northeastern Mississippi fell into the cord-marked variety.

On the Dulamar [?] site, Union County, Mississippi, there is a great big truncated, pyramidal mound with a nice ramp. John Cotter and I both collected on this site off and on, and pooled the sherds that we got from around the big part of the mound. Forty-one per cent of all sherds recovered were classified as Furrs and forty per cent as Mulberry Creek. In other words, eighty-one per cent of the pottery associated with this truncated mound were cord-marked sherds. In Grenada Reservoir, Mulberry Creek is eleven per cent, Tishomingo seventeen per cent and Furrs, nine per cent.

At the Batesville mounds, just north of Batesville, Mississippi, again a cluster of truncated pyramids: Tishomingo, seventy-one per cent, Mulberry Creek, fourteen per cent, and Furrs cord-marking four per cent. The total here is eighty-nine per cent.

In the Survey volume, the maximum for Mulberry Creek Cord-marked was noted in Marksville-Troyville times. Cord-marking ranges from eighty per cent in sites in the northeastern delta region (that big agricul-

tural area of central Mississippi from Memphis down to Vicksburg) to less than ten per cent in the Vicksburg area. South of that it is absent.

Blue Lake Cord-marked is a fine sand, plus clay, tempered type that obviously is not Mulberry Creek Cord-marked. Deasonville has been incorporated into Mulberry Creek; there was hardly a dissenting voice. Korando Cord-marked of southeastern Missouri and Harmons Creek Cord-marked in central Tennessee are all variants, if that, of Mulberry Creek Cord-marked. There are no other cord-marked types in all of the whole Mississippi Valley.

It is probable, as they stated in the Survey volume, that cord-marking entered Mississippi from Alabama. There is not much evidence that it floated down the river by traders or by any other means. It appears to have moved into northeastern Mississippi from northern Alabama. In north Alabama, where it was first described, Mulberry Creek Cord-marked totalled only forty-two sherds out of 257,122 sherds in the Guntersville Basin. There were two or three other cord-marked types but they did not total fifty more sherds. One of these is the sand-tempered type, Rudder Cord-marked, and it is based on one vessel only. Swift River Cord-marked is a limestone type that numbers 362 sherds in all the Guntersville Basin.

In Pickwick Basin the only cord-marked type that I described was Mulberry Creek Cord-marked. I would not change that if I had to do it again. This was on the order of ten per cent: 4,672 out of 47,000 sherds.

In East Tennessee, the Hamilton Focus, Late Woodland, cord-marking was sixty-nine per cent. Cord-marking at Hiwassee Island exhibited two varieties, one the so-called Candy Creek Cord-marked, which, I would say, is a variant of Mulberry Creek. It is about thirty per cent. Hamilton Cord-marked constitutes about thirty-nine per cent of about ten thousand sherds here. Dallas focus cord-marked constitutes between twenty and thirty per cent, and the Rocky focus three per cent.

As you can see, I think that there is one thing that might be concluded from this: we ought to have some kind of pottery conference. We ought to organize some group in the southeastern United States to study these pottery types and make some reality stem from them, or something useful.

DISCUSSION

FORD: Well, I am afraid there are still a few puzzles left as far as cord-marking goes. Any comment?

WARING: Yes, one thing about the Wilmington period. Haag makes it sound sort of ghost-like. It is a pretty good period, with palisaded villages, a very curious type of projectile point made out of the cannon bone of a deer which is tangentially cut, and then bevelled at the bottom. There is red ocher with the village site burials, also small mounds, and a kind of platform pipe in which the end does not extend very far past the bowl. But there are quite a few traits and it is a very definite period in time. It is not an ephemeral thing. It probably was brought by intrusive groups from the north.

GOGGIN: I would like to say something about peninsular Florida--Sears can say something about west Florida. As far as peninsular Florida is concerned, at a Deptford time level you get a very sloppy, coarse, cord-marked pottery fairly often. Now this, of course, is Wilmington. In peninsular Florida you get a few sherds; as you move towards northwest peninsular Florida the sherds become more and more common. Furthermore, when you jump to the protohistoric, you have a wide and rich concentration of cord-marked types in central Florida; this material which you mentioned thins off a bit at the very end. The three per cent in Timucua extends from what was once in protohistoric times a much broader base. It is interesting to see that the Savannah Fine cord-marked pottery, probably the most distinctive cord-marked pottery in the far Southeast, has even turned up in a new collection we have just received from Weeden Island. It is very clear, and very distinctive.

GRIFFIN: What is this Middle Period? Where have you heard the term Middle Period? There is the Middle Horizon in California and the Middle Cultures in Mexico, but I think it ought to be dropped real quick. That Middle Period is, I think, muddled thinking. Now, Bill, the date at Ritchie's site with Vinette I is suspect, I think. On the basis of dates that we have, 2500 is probably early for the appearance of cord-marked pottery. I would guess, since we do not know, that somewhere around 1500 to 1000 B. C. is the period of the first introduction of pottery into the Northeast. MacNeish has written and has shown me these sherds from his site in northwest Canada, which he calls cord-marked. And he has also shown me these sherds which he calls fabric-marked. It is not the stuff we have in the Southeast. But as yet I have not seen the cord clearly or the fabric clearly. I have looked valiantly, I have even taken plastic impressions of it. MacNeish can see it, but I cannot.

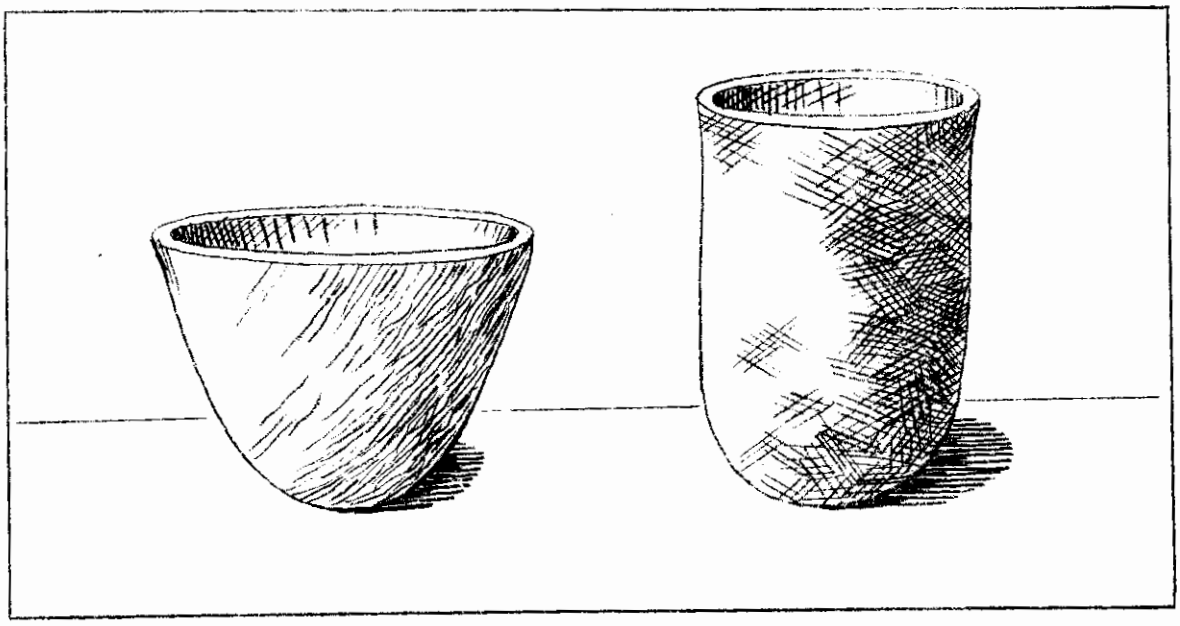
VOICE: He has got much better eyesight.

GRIFFIN: Yes, but the pottery that MacNeish does have from northwest Canada is related to the Norton complex from the Steward area in Alaska,

and this dates somewhere around 300 or 400 B. C. Giddings has earlier material which is net and fabric impressed--again, not like what we have here. This material has ceratinly come into Alaska from the Lena Valley, down the Arctic coast. And cord-marking comes up into the Lena Valley around 2000 to 1500 B. C. -- it comes up out of China. In China, there is the great hearth of cord-marked pottery in the Eurasia area, as far as I know, and it spreads, I am sure, from there into Russia. It comes in with checked stamp, about 1000 B. C. or so, going as far as northern Norway. The theoretical push into North America is one problem of diffusion out from the east ern Asia area.

Now, as for the time period of cord-marked pottery. Dick Beardsley let us have some material from an early Jomon site in Japan. This dated 7000 to 8000 years ago, so it is not the earliest. When I met the Japanese archaeologist, Sugahara, he told me that he had just dug an "earliest Jomon site" and that he had some charcoal from there which he would let us have to date. He also had some modern shell of the same species from Tokyo Bay. So, he sent his sample along with his colored diagrams of the site, the stratigraphy, and the exact place where the stuff had come from. The shell dated around 9000 years ago, and the shell from Tokyo Bay dated zero. Then the charcoal dated 9200 years ago, so this is the earliest Jomon pottery. So, the earliest pottery in the world is from the Tokyo Bay area and it is earliest Jomon. It is cord-marked and incised, like left-hand incised and right-hand cord-marked.

FORD: Of course, the first cord-marking has got to be considered along with all the other varieties of stamping. It is just one method of treating the surface.



Wilmington Heavy Cord Marked. Savannah Fine Cord Marked.
(after Griffin, 1952, Arch of E. U. S.)

The Check Stamped Series
by Charles H. Fairbanks

FAIRBANKS: There are an indefinite number of checked stamp types in the Southeast, and I have not considered the checked stamps from the Alaska area, or Siberia either, though these may be involved in the question of checked stamps in the southeast in some fashion. I am convinced that check stamping, along with complicated stamping are involved in the technical pot-making process; it is not purely decorative, or it is only secondarily decorative. Pots were coiled, and then shaped by stamping. I think this is the only way you can explain the smoothing of stamping after stamping had been done, which is found both in the complicated stamping and in the check stamping; and this coil and paddle technique is widely distributed. Paddling pots to shape is quite widely distributed in southeast Asia and so on; it's not unique to North America or the southeastern part of North America.

There are baffling aspects to the rise and fall and resurrection of check stamping in the Southeast. In the early period which evidently dates from somewhere around 500 B.C. down to A D. 200 with a standard deviation of unknown size. There are a series of checked stamped types of which the earliest described were Deptford Check Stamped, or Deptford Bold Check stamped -- it's been called both -- and Deptford Linear Check Stamped. These early types are characterized by a deep jar, or deep cup or pointed-bottom beaker type (a rather small jar), and quite significantly deeper than they are wide in their proportions. They are generally characterized by tetrapods on the base of varying size -- good sized tetrapods or small tetrapods. In much of the material there seems to be a strong tendency towards linerality; that is the lines in one direction will be markedly, or maybe only minutely, more definite than those in the other direction. So that actually we can take a range from material that's called clearly check stamped over to material that's called very clearly linear check stamped, and then in the middle you've got some that depends on the judgment of the individual sherd manipulator as to what he's going to call it.

Associated types, which seem to me to be on about the same level as Deptford, are Cartersville Check Stamped and Cartersville Linear Check Stamped, which seem to be North Georgia, or north central Georgia varieties of Deptford Bold Check Stamped and Deptford Linear Check Stamped. And I believe that the Cartersville type has not yet been formally described in a publication, though it is described by Joe Caldwell in a preliminary report. But one that has been formally described is one that Joe and Sheila and Thompson described in the Buger Bottom report in American Antiquity. This seems to be very similar to Cartersville Check Stamped, and Joe has suggested that it is only on the basis of subjective qualities that he is able to distinguish Cartersville from Buger Bottom. I've already expressed my opinion of this second name; I think perhaps it might be best to stick to Cartersville type and then, regard this as a variety of the early check stamped, in Phillips

and Gifford, and keep Deptford as the central type here.

Then, we get Wright Check Stamped differing from these others in that it is tempered with crushed limestone, whereas the others are sand, though it has occasionally been described as grit. But Deptford, Cartersville, Buger Bottom, all seem to be sand tempered and rather abundantly sand tempered. Wright Check Stamped occurs over in northern Alabama and northern Georgia but I don't know actually how many sherds are involved in this Wright Check Stamped type.

HAAG: Several thousand.

FAIRBANKS: There are some sites over in that area and up into eastern Tennessee where it's fairly common, and it seems also to have a nice broad distribution upward into the Adena area where it is associated with Adena -- middle or early Adena, I'm not quite sure --

GRIFFIN: Must be late Adena (laughter).

HAAG: There isn't anything but late Adena (laughter).

FAIRBANKS: Depends on which of the Adena reports you might read.

Wright Check Stamped, at least on the basis of its temper, which would seem to indicate regional techniques, regional populations, etc. and on the basis of its general northward distribution, I would say that this might well enough be kept as another central type. Here again we're getting into the problem: How do we distinguish between varieties of the first rank and varieties of the second rank? I'd put Wright Check Stamped in as a variety of the first rank and still keep Deptford as the central type, and then Cartersville as a variety of the second rank; (it's getting more complicated as we go on), and drop Buger Bottom into synonymy or something worse.

GOGGIN: These are, or should be on the same time level, but physically are rather different.

FAIRBANKS: Physically, I can't distinguish them, and apparently Joe Caldwell can only distinguish Buger Bottom from Cartersville Check Stamped as he says subjectively.

GOGGIN: No, I mean between those varieties and Deptford.

FAIRBANKS: Deptford, I think, would fall in the same range. As you handle the sherds, I don't believe there are any overall distinctive characteristics. Now there are differences probably due to local differences in clay and so on, and the color will be a little bit different in many cases. Deptford will quite often have a buffish or reddish-orangish tinges, but it's still in the grays,

where Cartersville and the others up in upstate Georgia are generally quite gray to dark gray to almost black in color. But other than this, I don't notice any difference.

GOGGIN: I don't agree. What about the plain rim design; that's never been reported for Deptford, has it?

FAIRBANKS: It apparently is present in some of the sherds from the Deptford site.

KELLY: Well, you know, don't you think that in a situation like this where a reasonable archaeology develops, and it so happens that one archaeologist has a tremendous amount of experience over a wide area over a number of years with a lot of material, more than anyone else has -- and Joe has undoubtedly seen more of this Cartersville Check and Simple Stamp which -- and after all when Wauchope worked there first, he called it Deptford, because at that time we knew we had Deptford, and we didn't have Cartersville. And I thought that I could establish it too, I don't think there was any doubt that it might be the same time period. Joe would say, quite vigorously that he thinks he can separate Cartersville from Deptford, and maybe Joe can.

FAIRBANKS: This, I think, would be taken care of in the concept of the type and a variety, in the sense that Phillips modified Gifford, and Wheat. We have a normal range and I don't believe that there's more than one, or perhaps two, modes that would differ between Cartersville and Deptford. Therefore - if we're recognizing it as a variety, then we're taking into account this modal variation. And also, in each of these cases, and on any two sites, you're going to get some rather indefinite modes that will vary from site to site, or from level to level. You're going to have to count those by some method. Perhaps we need to discuss this later; but what I' m pointing out is that Deptford, Cartersville, Buger Bottom, Wright Check Stamped, and McLeod Check Stamped, which Steve Wimberly and Trickey have, go together. They clearly recognize McLeod Bold Check Stamped and Linear Check Stamped down in the Mobile area. Now these, I think, are sherd collections. When you handle them you can tell the difference certainly. There are differences in clay, plus differences in temper, but all of the modes of rim treatments, tetrapods, vessel form, and so on, are so much like Cartersville, that except for possible local differences in clay, I don't believe McLeod can be distinguished from Cartersville; the same folded rim, smooth rim, and so on. So, I would suspect that Wimberly is right when he called McLeod a variety of Deptford. This was before this variety business came up.

I think this is quite valid. I think we have a constellation here of early check stamped types, generally involving a deep jar, rather small size, generally involving a strong tendency towards linerality, always associated with a granular temper, and almost always with sand temper, with the ex-

ception of Wright Check Stamped, which still seems to fall in the group. And, in the interior, and westward sites -- this would include the sites in the Mobile area, hop-skipping and jumping across to northern Alabama, northern Georgia, and eastern Tennessee, we have folded rims, and quite a heavy increment of smooth bands below the rims, or the fold itself may be smoothed, or even polished. Then, jumping to the Georgia coast, where the only modes that are dropped are the folded and smoothed rims. Other characteristics remain so close that they obviously form a constellation of pottery types. I would suggest, that a valid way to look at these is with Deptford as a central type perhaps based only on its priority. I think we ought to follow some sort of priority system here. Cartersville, Wright, and McLeod seem clearly strongly related, and I would put them in a variety status and I have suggested that Buger Bottom, I think for obvious reasons, should be dropped.

Then we have what I would call an early intermediate stamp here. This is the Gulf Check Stamped described by Willey, and he admits that all he can recognize this by is the fact that it is a granular tempered, fine sand with mica rather abundant, and that it has a scalloped rim. This is a scalloped and often slightly extruded rim that looks much like the early Swift Creek rims. Other than this, Gulf Check Stamped body sherds can not be distinguished from either Cartersville or Deptford, or it would fall within the ranges of both. It seems to me again quite clear that if we have such a minority ware that we are only identifying it by rim sherds that perhaps the best thing to do is recognize it as a rim mode rather than anything else. It does seem to have an intermediate position here, so we get a suggestion that this is on a very late Deptford level or a Santa Rosa-Swift Creek level immediately following Deptford. It seems to be a somewhat later variety of these early check stamps.

Then, we have an intermediate group which clusters around Wakulla Check Stamped We have a series of them here, all at about the same time level. Wakulla Check Stamped, Wheeler Check Stamped, Pasco Check Stamped, Biscayane Check Stamped possibly, and Ponchartrain Check Stamped, if we can move that far out of the metropolitan southeastern area - out into the sticks.

These are characterized generally by sand, or in the case of Wheeler, clay, and in the case of Pasco, limestone temper. Biscayane is a chalky ware -- is this really temperless? Yes. Well, whatever it is, it certainly is a very different pottery tradition than anything else, though it may be environmentally conditioned Then Ponchartrain, again, clay tempered. In some of the areas - the clay temper is sherd fragments; in other areas this may not be, it may be something else.

They are characterized as a whole, by a great variety; Biscayne, on the one hand, is certainly way off here in left field somewhere; and Wheeler Check Stamped possibly is related to Ponchartrain, or the western types. Pasco -- I don't understand what's going on here -- here we've got a limestone tempered

thing sitting more or less all by itself.

Wakulla Check Stamped has a number of specializations in vessel form--a Wakulla, or Weeden Island vessel shape very often is a slabsided bowl, and it has rim forms that are not present in other types. It has a thickened rim, incised line below rim, and by and large has a greater variation than the early check stamps. Frankly, the only thing that I can see to do about these check stamps is to leave them as types--they certainly have distinctive enough characteristics. They are widely enough divided in space or in time or in both space and time so that they do not seem to be directly related in a technological way to the other, earlier, checked stamps.

Then, in what I am almost tempted to call late intermediate position we have St. Johns Checked Stamped, and Savannah Check Stamped, in what seem to be anomalous positions. In most of the St. Johns area, check stamps have been absent from Deptford times. Deptford is sparsely represented in the area. Pasco had been in the central part of the northern peninsular Florida area in the intermediate time, but I don't think (perhaps I should defer to John Goggin here) that St. Johns Check Stamped grows out of Wakulla Check Stamped which would have been in time its immediate progenitor. There are too many differences.

St. Johns is related, certainly, to Biscayne Check Stamped and is of the temperless ware of the Florida peninsula. Whether it is related in time is a question to which I don't know the answer. Savannah Check Stamped, again, seems to be a revival after a fairly extended period in which check stamping was absent on the Georgia coast. It is significantly different from Deptford in the size of the check and neatness of application. It is again described as grit or gravel tempered; I'm not sure whether this is intended to mean a prepared grit or whether at least some of it is sand. Again we have an elaboration of vessel form, with flaring jars, globular, conoidal-based jars, open bowls, deep bowls. The rims quite often are flaring--rarely straight. Rim folds are sporadic, and there usually is polishing in the rim fold or lip area.

Again, another jump upward in time and we get at least one check stamp on a proto-historic but not fully historic level. This is Mercier Check Stamped described by Sears at Kolomoki, where it formed a regular part of the Lamar period there.

It's temper is crushed quartz or very coarse sand. I think in some cases perhaps it may be sand. Sears described it as crushed quartz. This probably is related to a type that apparently has already dropped into synonymy: Irene Diamond Check. We have known for a number of years that there was a check stamp in this Lamar period.

Again, we get quite a range in developments here that have not been

present in the very earlier periods; flaring rims, the folded applique rim strip often pinched, and so on. It partakes of many of the modes of the Lamar complex as we know it in central Georgia. Then, with the fully historic period, we get a series of check stamps over quite a wide area in the Southeast. Beginning in the south, we get Leon Check Stamped on the Mission horizon in Florida; here in central Georgia we get Ocmulgee Check Stamped, which is stamped and then smoothed over in the historic Creek manner. Once in a while, they didn't do a good job of smoothing and you can still see the checks under the smoothing.

Then, in north central Georgia, Gulf Check Stamped and Boyd Check Stamped. Here again on the basis of published descriptions there doesn't seem to be a great deal of difference between Boyd and Gulf. Boyd has been published in American Antiquity, so it would seem to have priority. Thus, at present, we know that there is a wide range of check stamped materials on the historic level in north Georgia in Cherokee areas. It seems probable that we will have some local chronologically significant modes that will need to be recognized, but they haven't been identified so far.

Then, a little farther out on left field, again, is Hillsboro Check Stamped, and I have not been able to find a description of it. This is in the Hillsboro focus, from historic groups in North Carolina-Piedmont area.

Now, Overhill Check Stamp, way out in center field, I guess, up in the Overhill Cherokee country, described by Lewis and Kneberg. This is coarse shell temper, but in all of its other modes seems to correspond to Boyd Check Stamped. Now here, quite obviously, I think, is a case where we have a central type and peripheral varieties. Now this may be a sticky problem to choose which we would select as a variety and which as a major type, but we have here an early appearance as early as we have sand or grit tempered pottery in the southeast of a wide-spread introduction of check stamping and in many of the sites this is up to 100 or right under 100% of the sherds. This isn't like some of your cord-marked types. It seems to develop local varieties in the Mobile area, on the eastern part of the Gulf coast. It has slightly different modes in the interior than it does on the Georgia coastal area, but there are similarities between the Gulf coastal early varieties and the north Georgia early varieties.

Then in a slightly later period, it almost disappears. And here, I think, is the conclusion we must draw from the Gulf Check Stamped, that in early Santa-Rosa-Swift Creek times check stamping virtually disappears from the Southeast. When it reappears, it reappears in a series of types which have lost to a large extent their unity and have become more localized varieties. It apparently struggles on for some time - I would include the St. Johns and Savannah Check Stamps under this terminology. Within the two areas, the Savannah area and the St. Johns basin, developing a local vigorous representation again.

Then, mostly in the interior of the Southeast, we find again, on the fully historic level, a reemphasis on check stamping. Again it shows a number of local varieties in the Creek area of central and southern Georgia; it has a strong tendency to be smoothed after stamping, and in the north Georgia Cherokee area it has, perhaps, a strong tendency to retain a number of Lamar type vessel forms, rim treatment, and perhaps manufacturing techniques. Wherever it occurs, I believe it is a technological feature and indentifies a coil and paddle technique, with or without further polishing at the end.

I think that if we didn't have this Wakulla-Wheeler-Pasco-Biscayne-Ponchartrain group we could do fairly well in dropping some of these terms into synonymy and getting constellations of types and type-varieties out of the stamping. This seems to me quite possible on the early level, perhaps less possible on the historic level.

DISCUSSION

GRIFFIN: I'm wondering about your placement of Wright Check Stamped with the early group, because I've always wondered how early check stamping appears on limestone tempered pottery in northern Alabama.

It's the vessel form, the added rim strip that appears on the Wright Check Stamped, and the flaring rim, I'm speaking about, and it's presumed association with Copena would make it significantly later than belonging in with Deptford-Cartersville, I think. At least some portion of Wright Check Stamped is going to be up on a later level than you have it placed.

FAIRBANKS: But at least some portions of it I have concluded from the Wright mound, and so on, this was Adena wasn't it, that is Copena.

[Further discussion of the dating of Wright Checked Stamped by GRIFFIN and KELLY was unintelligible on the tapes]

At this Buger Bottom site, we got very few sherds of Swift Creek complicated stamp early, and Caldwell used the Buger Bottom date for dating Early Swift Creek, which I don't think it quite kosher, because 99. 999% of the sherds were Cartersville check stamp.

KNEBERG: How do you think the paddle was used?

FAIRBANKS: Both in the welding of the coils together, after their preliminary attaching, and then in the trimming and shaping of the pot. This is the technique that's used down in southeast Asia; but they don't start with a coiled base. They start with a blunt cone, and hit it, and set a thick heavy pot form, and then paddle it out into shape. It's been well described.

KNEBERG: I've seen a lot of these sherds (a cross section of them) and you get evidence of what you've used to make them smooth, because you get the particle of the temper forced inward - you get the appearance of almost a split, which you get with smoothing with a flat paddle edge.

FAIRBANKS: On interior surfaces.

KNEBERG: No, both. Exterior and interior. You get it on limestone temper, and on sand temper which I assume are Swift Creek Sherds. You get it again on fiber tempered pots.

FAIRBANKS: Particularly on this Deptford group, you get interior generally almost polished, a low polish with the polishing stone, presumably some quite hard dense smooth polishing instrument. But I think even so you would get with diagonal blows of some force inward compaction of particles.

KNEBERG: The particles get forced in, that is apparent on cross sections of a good many of these sherds, and I don't see how you get this with a paddle.

GOGGIN: Well, I have something I wanted to say because I think at this collection of Seminole pottery in the middle of the table there, that came from the Suwannee River, you will see that it falls into two types, Brushed and Smoothed. Well, in getting these back from pieces to the whole vessel, we suddenly discovered something, practically all of this smoothed stuff was brushed.

FAIRBANKS: And then subsequently smoothed.

GOGGIN: Smoothed. If you have enough of it, you can see that the drag lines have been smoothed over.

FAIRBANKS: I think this is characteristic of the Ocmulgee Fields group as a whole. Most of the Ocmulgee Fields Incised, quite definitely had been incised, and then smoothed. The last operation before drying and firing was a smoothing operation, and in some cases pretty thorough because it produces a little polish even over incised areas. And secondly, much of this Ocmulgee Fields stuff, out of which Seminole pottery is developed, had a dimpled surface under the smoothing, as though it had been malleated. And I can only think that this is a manufacturing technique.

KNEBERG: From what I've seen, there seem to be two periods of smoothing: First in coiling there is the period in which you get the particles forced in, and second lots of times you get a smoothing when the pot is nearly dry, which will give you your slight burnish.

FAIRBANKS: I'm way out on the left field bleachers now, but I think, possibly, they formed a pot by paddling, and then perhaps smoothed the whole

thing, and then went over it again applying the paddle as a decorative item. This would allow your floatation process to take place; that is, to have paddles used there, and then sort of use them later as decorative. I think the carved side of the paddle has a function, because if you use the slick side of the paddle it sticks to wet clay.

VOICE: I want to refocus our attention back to the point of the discussion where we were talking about McLeod. It's not clear in my mind, and I know that some other people have a puzzle on it. In the pottery description (the pottery of the Eastern U.S.), the McLeod-Deptford, as I recollect particularly from the description, seemed to be more variant of Wakulla than the earlier Woodland type of check stamp. If this is the case, then how can we make some sort of association between this, and, let's say, Cartersville and Deptford.

FAIRBANKS: Oh, I wouldn't agree in that - It seemed to me that the folded rims, and so on, the smoothing of rim areas - the vessel shapes, the tetrapods, and so on--are much closer to Cartersville than they were to Wakulla with the very sandy appearance of Wakulla--these rims, and the incised line--underline--you get these occasionally in the earlier type, but they don't have the percentage appearance of the other.

It's quite common in Buger Bottom, Cartersville, and so on. McLeod is much closer to those than it is to Wakulla, in vessel shape. There's a sloppiness about Wakulla very often that doesn't seem to me to be present in McLeod, although certainly in Cartersville.

[A long discussion followed in which SEARS, TRICKEY, GOGGIN, and others went into the problems at Wakulla and Deptford types. However, most of this discussion from the floor could not be adequately transcribed from the tapes due to technical difficulties]

[Due to recording problems beyond the Editor's control the two following papers could not be transcribed.]

SWIFT CREEK POTTERY, EARLY AND LATE

By Arthur R. Kelly

[A discussion of Swift Creek pottery found at the Mandeville site, Georgia, with illustrations by Bettye Broyles. Some of the designs are published in American Antiquity, vol. 27, no 3, pp 336-355, Fig. 5.]

COMPLICATED STAMPED POTTERY IN SOUTHWESTERN INDIANA

By Edward V. McMichael

[A discussion of connections in southern Indiana during Hopewellian times with materials recently found in southern Georgia.]

WEEDEN ISLAND PUNCTATED AND PAPYS BAYOU PUNCTATED

by John M. Goggin

GOGGIN: The object of this study is to look at the pottery types defined as "Weeden Island Punctated" and "Papys Bayou Punctated" in terms of their nature and variations which might show enough consistency to be considered significant in defining subtypes or varieties. Furthermore, the relationship of these types to others will be examined.

Definition of Type. Weeden Island Punctated was defined by Willey (1949:419-422). It was set apart primarily by the nature and technique of its decoration. Papys Bayou Punctated was defined by Willey (1949-443) primarily on the nature of its paste.

Paste of the Types. The two types are essentially identical except for their paste. Actually, there exists two other paste varieties which deserve equal taxonomic status.

Paste of Weeden Island Punctated is defined as being the same as Weeden Island Plain which is described as having tempering of "Fine sand with only rare coarse particles in the form of grit or lumps of clay. Mica is observed in most sherds" (Willey, 1949:409). Gordon Willey did most of his field work in West Florida where micaceous clays are found, but when one moves into the peninsula these clays are absent and micaceous paste examples can be presumed to be trade items. Thus gritty and micaceous gritty pastes represent two different regions. Papys Bayou Punctated has a chalky paste while an unnamed form is found on limestone tempered Pasco paste.

Giving precedence to the type name Weeden Island Punctate we would drop the name Papys Bayou Punctated and on the basis of paste and temper set up four varieties as follows:

Weeden Island Punctated

var. gritty paste

var. micaceous paste

var. chalky paste

var. limestone tempered paste

Such a usage would have cultural value since each variety of paste has fairly well defined ranges. So when you find a micaceous paste in peninsular Florida you can be satisfied you're dealing with a trade item; and when you find chalky or limestone tempered paste in west Florida you can be

satisfied you're dealing with a trade item. Now I don't have adequate samples, so the figures I give you are admittedly specifically not too good. But even at the Weeden Island burial mound we have in the laboratory at Florida 38 sherds of Weeden Island Punctated. 71% of these are chalky paste, 13.7% are limestone paste, 13.4% are gritty, and there are no micaceous. The Weeden Island type just is on the northwest shore Tampa bay about the Southern limit(???) of any reasonable concentration of Weeden Island Pottery. A few miles to the north, at the Mound at Tarpon Springs, we have a much better sample: 892 sherds, that fall into Weeden Island Punctated, as I have defined it here. Of these 53% are chalky, 21% gritty, 16.2% limestone; there are no micaceous. I see that chalky is beginning to drop out as we move this far north.

By the time we get up to the beginning of west Florida, that is, to the Wakulla Site which is directly south of Tallahassee we have no limestone, and no chalky out of a series of only 13 sherds. And we get 57.1% gritty, and 32.8% micaceous, so these figures are indicative. I think that Sears would agree with me that these indicate a distribution that is much more real than the statistics would show.

Decoration. Both types (Weeden Island Punctate and Papys Bayou) have similar curvilinear designs formed by punctates. Most commonly these are neat triangular impressions but fine dot impressions are found. No cultural or historical significance is known for these variations, but eventually varieties could be set upon the basis of these variations.

Another area of decoration is the relationship of this type to Weeden Island Punctated made in some cases by hatching or crosshatching or a combination of these techniques with punctation. In a decorative sense both types are closely related forming a continum from pure punctated designs through punctated and incised design to pure incised decoration. As the types are defined now they do not express this very well. The punctated forms fall in Weeden Island Punctated (and Papys Bayou Punctated) and the incised in Weeden Island Incised. Unfortunately combination punctated and incised designs are also placed in the latter type. The exact nature of these could be preserved by setting up a type and varieties as follows:

Weeden Island Decorated

var. punctated

var. incised

var. punctated and incised.

As yet, though, we have no evidence that such a system would yield any useful cultural or historical data, though it might be useful experimentally.

Relationship to other types. A comparison of Weeden Island Incised, Incised-Punctated, and Punctated, and Papys Bayou Punctated, indicates their distinctness, but at the same time shows they are not isolated forms. Basically they are in context with a number of other types which share a number of similar modes. Some of these modes are found, to a greater or lesser degree, on every pottery type that is normally considered part of the Weeden Island series. These can be listed:

Folded or thickened rims

Large punctates terminating lines, filling open spaces in designs or on rim lugs

Triangular rim nodes or lugs

Using these and perhaps other modes we can set up a cultural ceramic unit: The Weeden Island Ceramic Tradition

A. Plain series

Example: Weeden Island Plain, var. chalky paste

B. Stamped series

Example: Wakulla Check Stamped var. limestone tempered paste

C. Incised, and/or Punctated Series

Example: Weeden Island Punctated var. micaceous paste

D. Miscellaneous

Example: Hare Hammock Surface Indented

Such a system would emphasize "togetherness" of Weeden Island pottery types in contrast to neighboring ones.

On the other hand it would also tend to play down the relationships that many of these types have with neighboring types such as that between Weeden Island Punctated and Weeden Island Incised and French Fork Incised of the lower Mississippi Valley.

Alternative Possibilities for Formation of Types. 1. Weeden Island Punctated and Papys Bayou Punctated can be lumped together as a single pottery type. Distinctions within this form can be made on the basis of several modes, but at present the only one useful as an archaeological

tool is paste. The type would be defined as follows:

Weeden Island Punctated

var. gritty paste

var. micaceous paste

var. chalky paste

var. limestone tempered paste

2. These two types can be combined with Weeden Island Incised and decoration distinctions be made as follows:

Weeden Island Decorated

var. punctated

var. incised

var. punctated and incised

3. The above two methods can be combined as in the following example

Weeden Island Decorated

var. punctated (chalky)

4. Weeden Island Incised and Punctated could be combined with French Fork Incised as a single type and varieties defined.

5. Weeden Island Incised and Punctated could be set up as a single type with varieties and placed in the system with French Fork Incised and its varieties comparable to that suggested by Phillips (1958:121) for Hopewell Zoned Types.

Of the above systems 1, 2, and 3 would be of most use to Florida workers while 4 and 5 would be more meaningful in a broader sense.

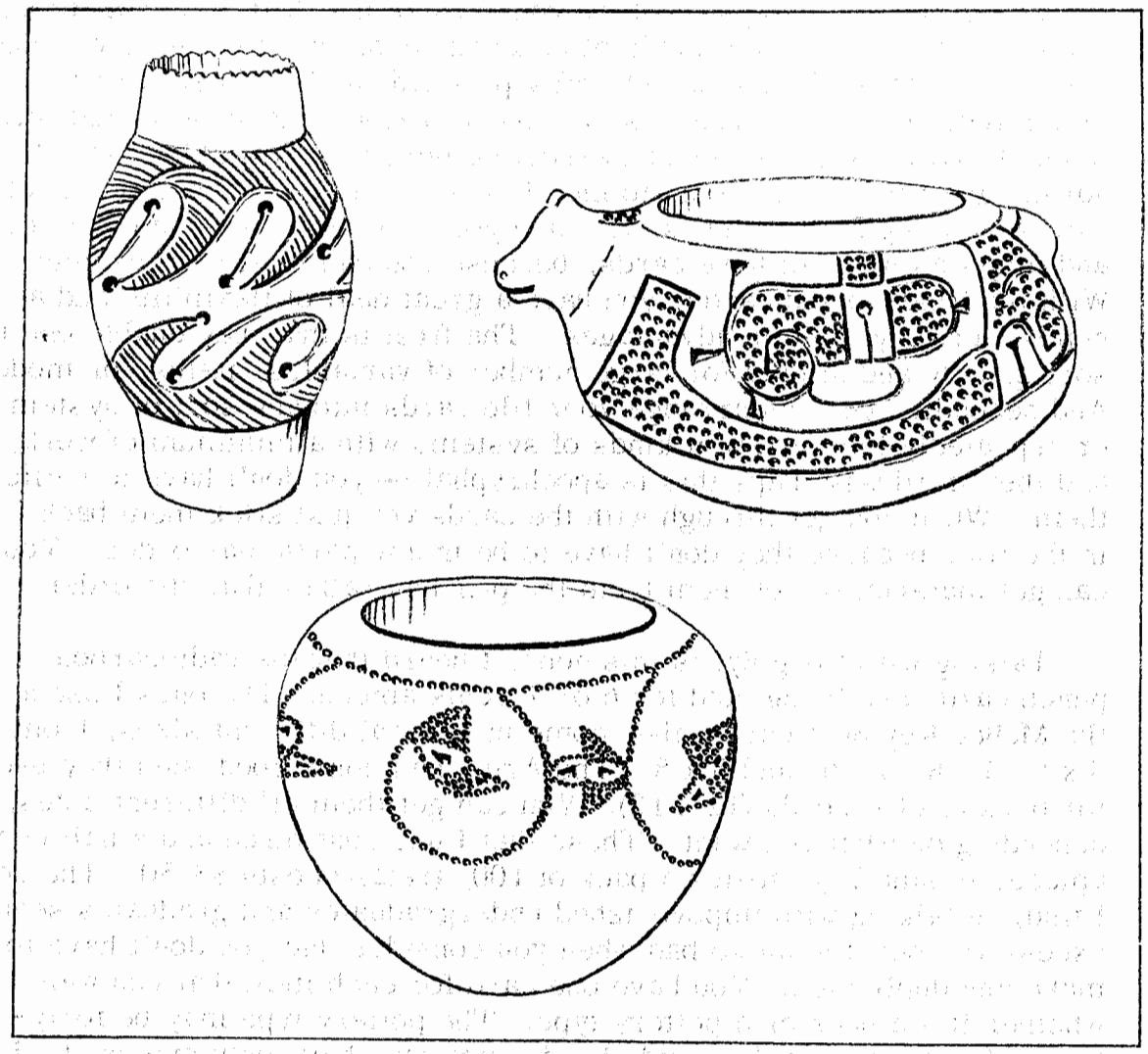
While number 3 is rather cumbersome it is most definitive and would probably be very useful for the internal examination of Weeden Island Culture. Placed in a system as suggested in 5, it would be useful to a wide group of students.

However, it must be kept in mind, that if we were to set up such a system as this, for Weeden Island Incised and Punctated and Papys Bayou Punctated, we would be morally obligated to do the whole French Fork Weeden Island series at the same time. The same objections to the system would probably hold, for all of these.

FORD: I think you've very clearly shown that this is the kind of system you need to answer the sort of questions you're asking. Many separate approaches are necessary to get the different answers required. No single one is going to be satisfactory for all the problems you're facing.

GOGGIN: I think the important thing is to avoid becoming a slave to any taxonomic system.

FORD: I see.



Weeden Island Incised and Punctated (after Willey, 1949)

SESSION II

CERAMIC CLASSIFICATION
Chairman, Stephen Williams

A PERIPHERALLY PUNCHED CARD SYSTEM FOR POTTERY TYPES
by Charles H. Fairbanks

FAIRBANKS: I'm going to talk about the use of punch cards in ceramic analysis. I began to use this method while working with a sherd or group of sherds or a pot, and trying to figure out where its relationships were, never knowing whether I had all the references. As Shepard says in her Ceramics for Archaeologists, the time has gone by when you can thumb through a few reports and assume that you have covered the relevant material.

There are many ways in which you can use punched cards, and there are a number of different kinds of punched cards that can be used. The ones I use are the 5 by 8 peripherally punched cards. There are two major types of cards: The first are those that are machine sorted; many of our Universities have machine-sorting facilities available. The disadvantage of these, it seems to me, is that you have to share the machine with a sociologist, or a physicist, and you wind up on the end of the line and might as well not have cards, because you can't get to a machine. With the hand-sorted cards, you have a great deal of flexibility and a number of very definite advantages. The first is that they enable one to sort quickly and simply for large number of variables, items, or modes. And secondly, you can arrange your file cards into any sort of system or repeatedly into different kinds of systems with a minimum of work; and then thirdly—perhaps this is apochryphal——you don't have to refile them. When you get through with the cards you just stick them back in the file, because they don't have to be in any particular order. You can get material out of them from the punches rather than the order.

Talking with Doug Byers this noon, I heard that the radiocarbon punch cards are being sold for 6 or 7 cents apiece. The ones I use are the McBee Key Sort cards; they come in several different sizes, from 3 x 5, 3 x 8, 3 x 6, and 5 x 8. The Army has some good ones they use for personnel records (12 x 12). You can get them all different sizes, depending on what you want. These that I use cost three and a half cents apiece, in small quantities a pack of 100, (retail) costs $3.50. The cost, I find, in talking with impoverished undergraduates and graduates seems excessive, but it's not so bad when you consider that you don't have to make any duplicates. You have one card for each item that you want, whether it's a book or a pottery type. The pottery type may be forty-three sherds or four thousand sherds, you still have only one card. If you want to file it under another order, you don't have to make a dupli-

cate card, and you soon recover the cost, in the time saved in typing duplicates.

Now, a little bit about the mechanics of it for those of you that haven't used the radiocarbon system yet. It works best if you don't use more than a scant inch of cards at one time. You punch your ice pick through one of the holes that you want according to the item that you're interested in. Then you flop them over, at an angle, letting the cards slide along, then you punch with the left hand and come back, and this spreads the cards so that they're loose.

When you let go, with the left hand, you get all the cards that have that item notched. The identifications then are just holes in the periphery. If you punch for check stamp, the cards that drop show check stamped types; or if you want a radiocarbon date from the Southeastern United States, that's the one that drops.

Again, a little bit about the mechanics of the thing. These are the punches that the McBee Key Sort puts out with a nice little thing so your desk doesn't get littered -- these I think cost $3.75 apiece. You can get them at Army surplus stores for a dime. They're not as fancy but they're equally satisfactory and they had a lot of them at Fort Blanding a little while ago. For a spindle, just use an ordinary ice pick. The cost I don't think is excessive in relation to the results.

There are two sorts of coding that may be used. You can use notches or dots. They are all numbered in a series of fields, with a light line between them. In each field there is one dot numbered one, two, four, and seven. You use any one of those -- one, two, one and two for three, four, four and one for five, and so on. I never can remember the number of notches you can get in the thing, but it is very large. If you use a numerical coding using four series of holes for units, four for tens, you can get 149 items in eight holes. I don't use a numerical coding, but you can when you have a numerical coding: number one stands for shell temper, number two for grit temper, number three for sand, and so on. You can get a fantastic number of items on one of these cards. The difficulty with a numerical coding is that to people who have a sub-normal mathematical ability like myself, it's hard to handle. I use the direct coding, where each dot stands for a particular item. You have two lines of dots at the top and bottom so if you punch with a shallow punch just the outer edge, a shallow punch is one item, a deep punch is a different item; and then you can get another pair of clippers that punches out the breaks between the two, and the card then drops a quarter of an inch, and that's the third item. All this for two holes, which is a remarkable economy of space. I've had no trouble with McBee on the cards not being accurately punched or not being of the same size. They all have come out the same.

I've used the cards for two things. First, I have used them for bibliography, which I think is quite useful to teaching faculty. You get all sorts of questions about where can I read about so and so, and you just grab your needle and make passes at your card file.

For example, someone comes up just after you've talked about the owner of a site or something, and they want to know more, and you can't remember Spencer and Gillen, but you've got a card on Australia. So you punch Australia, and you get all these cards on Australia, and you copy these down and find them in the library. This sort of thing. It's very handy.

QUESTION: How long have you been using this system?

FAIRBANKS: I've been using it about four years.

QUESTION: What's the size of your file by now?

FAIRBANKS: I've got about a foot.

QUESTION: How long does it take you to make up a card?

FAIRBANKS: This would depend on the subject. If it's just a bibliographic item -- author, title, publication, and one or two lines of summary or so -- ten minutes.

QUESTION: What if there are twenty-five items in that book which you want to include?

FAIRBANKS: Well, just typing time, punching is very minor.

QUESTION: Once you have the card, you type the information on the card?

FAIRBANKS: Yes, the information goes right on the card -- it can go over the back if you want it. You can put pictures on the back if you want to. You should use dry-mounting methods rather than any sort of rubber glue or something, because they tend to ooze out from under the picture and stick the cards together, which is bad. But dry-mounting will do very nicely.

QUESTION: This takes you roughly ten to twenty-five minutes per card, is that so?

FAIRBANKS: Using a card like this on a pottery type which includes a digest summary of the pottery type, I can eat my box lunch at my desk and make out two of these and punch them during the noon hour. If you

keep the punches in mind and do it right along, you don't forget them and it's not at all burdensome. This is certainly a lot quicker in time than making cards and then having to file them under three or four different categories, which means copying the thing all over again, with typographical errors, and all.

The ceramic use I've made of this is a card for each pottery type which contains a summary, and this summary is abstract. It's patterned after those that the Archaeological Federation of the Eastern United States started to distribute some years ago. It contains the original name of the described type, the source in which it's described, than a summary of the features. I haven't abbreviated too much -- T for temper, and so on, but this would be a matter of personal choice, I am sure. Then its type locality, its time horizon, any references that may be pertinent -- and ideally, of course, this should be kept up to date, so you know, but we don't do it; and then where type specimens may be seen, and to what series it belongs. Then in the margins, in this corner, we have a numerical coding for the half millennium in which it occurs. AD 1 to 500, or it will give you a rough idea of whether it's Early, Late, or Middle. Then for most of the top range, I include decorative types. This is the Southeastern pottery description thing here: incised, what kind of incising, stamped, what kind of stamping, and so on. Down this side are vessel shape -- base -- it goes on across here -- total vessel shape, modes, rims, salt pans, and so on, rim form and so on. Then in this area we have its cultural affiliation -- Late Mississippi, Early Mississippi, or so on; its kind of temper and so on, and then some odds, and ends of details over here, like castellations, what kind of paint may be applied, and so on, and the four upper ones are, again, a numerical code, the method of pottery manufacture: coiled, paddle, modelled, cast, molded, or whatever. This can be worked in quite satisfactorily with just the few holes you have available.

I think these are quite useful. I have found them so, both in actual research situations where you have a Tennessee group of sherds with which you want to associate all the regional and temporal distributions of the whole series of modes. You want to compare your incised types; you want to find out what similar kinds of incising are available as described types; or you want to find out what kind of temper goes with that kind of incising. You can spear these with your ice pick and get all possible combinations of incising with check-stamping or whatever. You can find any reasonable combination of features or modes from these cards.

It occurs to me that if a number of us in the Southeast wanted to set up a type like this, we could exchange cards. Perhaps one of us wanted to do northwest Florida and somebody else peninsular Florida, we could swap cards. Your summary has to be an archaeological summary but

then you could turn it over to a typist to type three or four duplicates. I don't know that we want to go into a printing proposition like radiocarbon dates, because there aren't enough people interested. But in this way you could build up a massive file for the whole eastern United States at relatively little expenditure of energy for each person. I'd be glad to cooperate with anybody who wants to exchange cards with me. I might say this -- if we just simply type the abstracts on this kind of card, then each guy could set up his own punching system. If he wanted to spend more time on lip form than I did, why he could expand, and use three quarters of the card for variations in lip form, whereas I'm not that interested.

QUESTION: Could this be expanded?

FAIRBANKS: It certainly could be expanded, yes. If you've read your Michigan series, there is Spaulding's Arzberger site where he used it for sherds; Byers has been talking about this with single sherds, or sherd lots. I think that the principal thing (I don't know whether we have to call this to attention anymore) that the time has passed when archaeological materials can be handled any longer by the conventional card file and cross-file system; there is just too much material; you wind up a file clerk instead of an archaeologist. Maybe I'll wind up a punching file.

QUESTION: Can you sort for more than one thing at a time?

FAIRBANKS: Theoretically, you get a gang together and use six or seven ice picks at once and get some fantastic things. You see, you can drop all of your incised pottery types, and turn it over and drop all your sherd temper out of that or all your shell temper. You can then find out how many of those that are incised are shell tempered, and have flat bases, or whatever item you're interested in. You keep doing these combinations, theoretically, till you get down to one card which has the only constellation of traits which you're interested in, without this constant resorting and rearranging that are necessary with conventional cards.

QUESTION: I wish we'd done the Site Survey on these things; it would be nice.

FAIRBANKS: I think for a thing like a Site Survey it would be very useful. Conventionally, we'd just file them by quantities and numerically, and we'd have to go through them by hand, reading each one to find out how many Weeden Island sites we had in a county. This method saves a lot of time in the long run.

THE APPLICATION OF THE TYPE SPECIMEN CONCEPT TO ARCHAEOLOGY

by William Sears

SEARS: There are a number of recurrent problems in the analysis of archaeological pottery collections which, I think, can best be handled by reference to type specimens. For our problems, I would define the type specimen as "a collection of pottery, made up by the person who defines a particular type from the total collection to which that person was referring when they wrote the type description." This type collection, covering a total range of forms, decorative variants, and finish, should, once isolated, serve as the physical standard of reference. The question of why this particular assortment of sherds is given type status in the first place is entirely separate. I might point out that I will be using the word "type" all the way through. If that defines varieties also it doesn't change this at all. There are a fair number of archaeological problems which arise from a confusion between the physical characteristics of the type and its more important historical significance. These are two things that you should consider separately.

One of these problems is the very simple one of identification, and I suspect others have missed out on the identification of important trade sherds, simply because the key characteristics were unknown to us. This is particularly true if the foreign sherd is a type which is related to your local one; you miss the minor differentiation which makes it a trade sherd, and which points to contact. With the large number of publication outlets utilized in the Southeast, ranging from the Journal of Mississippi History to the Peabody Museum Papers, it is difficult for an individual to have even seen, let alone to have remembered, all of the southeastern pottery types which are now in existence.

There is also the matter of pure uncertainty in larger collections. The relationship of new specimens to a written description supplemented by a few illustrations is a real problem. This becomes more difficult as an individual, for one reason or another, moves from one geographically restricted area, where he is familiar with the materials and the kinds of things that happen, to a new area.

The second problem is the one of type drift. Aside from the gradual changes encountered, which correlate space and time with which we're all familiar, there is also the matter of the archaeologist's own drift. This comes about through the range of approaches, particularly when the collections are typed rather than analyzed. Eventually, many workers may be using a concept of a given type with slight contacts - if that - with the real specimens in the original collection.

Theoretically all of these matters are handled adequately by the type description. But, to be honest and practical, type descriptions are necessary abstractions, subject to the vagaries of the individual's descriptive

powers, printers' errors, and perhaps most important, available budgets. Illustrations vary from excellent to hopeless, from a few drawings which are scarcely relevant to photographs which give a fair idea of texture and surface, finish, and things of that sort. Quite commonly we ask for a check by someone who knows this supposed type -- usually the person who described it. This won't work forever, obviously since even archeologists are mortal. Even now it is often true that the person who describes a type no longer has the collection available, hasn't thought about it for years, and has to rely on his memory. In some insitutions, due to the replacement of personnel and new policies, or reorganizations, the original type collections are lost, misplaced, or just not available. Always I hope any abstract type description was originally based on specific potsherds. I would hate to guarantee that, but that is the theory we operate under. These should be preserved and should be available as the type specimens.

The third problem is that of sheer semantic "noise." Such items are involved here as calling a specimen or a lot type E rather than B because you are more familiar with E, or calling it C because you don't really know either one. Or you may simply create a new type, because you are in a different area, or because the implied historical relationships seem improbable. Sometimes a third type or type name is introduced because the wording of the original type description is thought to be in error, or because one believes that there are minor differences, even if these cannot be adequately verbalized -- the subjective element. Such goings on are a tremendous amount of "noise," obscuring the real problems, relationships, and positions, and thereby wasting research time and effort.

For my own problems, in conjunction with a research program (I am now working on the Gulf Coastal Plain), I have devised a combination of collections and descriptions which have, for me, eliminated a lot of these troubles. Collections, which I will admit are stolen in many cases, are from those used in defining the type in most cases, and were sorted out by the person who defined the type. Whenever possible they were selected out of the lot of sherds by the person who wrote the type description. In just as many cases as possible, these are type specimens, by my definition. All of them are selected from the regional collections.

Correlated with these is a set of files which contains on cards copies of the original type descriptions, including photographic copies of the illustration. With these, it is possible in most cases to state surely that a particular specimen - or lot of specimens - belongs in a particular type or in a particular segment of the range of the type; it is always similar but varies in specific details. The collection now contains about 100 types, mostly from the area between North and East Texas and Oklahoma. Cards have been prepared for all the Florida West Coast types described by Willey, but specimens haven't been sorted out yet. This is because when we started some work recently, we didn't have the specimens at all. Willey's type collections are in New York; the original collections are here in the Monument.

We will as a continuing program, expand these files to cover the lower Southeast. This has become a necessity for our own program, since some of everything from this entire area seems to show up somewhere in Florida eventually.

I would like to invite you to make use of this facility and would like to reorganize it by your cooperation into a regional repository. I know this has been suggested many times, and I have heard all of the objections to a regional repository. I'm still not convinced. If you start out talking about a batch of potsherds, by golly you ought to be able to back up your talk by those potsherds, and not let it drift longer, get lost, and separated. The repository would be operated by using type collections, type specimens of the sort I described in my opening sentences; if enough of you do this for the collections of your types, certified as such by you, we should be able to eliminate a lot of duplication before it starts, and save a lot of hours attempting to run down the often significant odds and ends.

With such a set of physical standards, backed up by published descriptions, you can send in your problem sherds, or sherd lots, or bring them down. Then you would receive back with the specimens a statement of their physical resemblance or lack of it to the appropriate described types. This would have to be restricted to statement of fact, just a strictly physical reference. The specimens are the same as type so-and-so in all physical characteristics, or they're not. And if they're not, you specify the differences.

What an individual does with this information would continue to be his own problem. This would not be intended to be a type description right at the surface. A lot of sherds differ from any type description and type collection. The problem of deciding whether it is a new type, or a new variety, should remain with the individual who was responsible for digging up the sherds in the first place. A repository would not enter the picture again until after publication, at which time a type collection and copy of the description would be filed for permanent reference.

Nor, finally, should a repository become involved in unpublished types, or that weird intermediate stage of which I have been as guilty as anyone else, in which names are published in a general article but the descriptions never appear. Personally -- and this is a separate but related problem -- I see no alternative but to adhere to normal rules of priority in publication, leave our personal feelings out of this completely.

If the set of specimens fits the physical characteristics of a described type, or variety, or any other unit, they should be so classified. Interpretation as to their significance is a different, if considerably more important, matter. Only by adherence to such rules a physical relationship, regardless of apparent area, temporal position, or cultural relationship, and to priority of publication, can we avoid complicating still further the presently complex situation in Southeastern ceramic nomenclature.

To return to the proposed repository, as a growing interregional Museum which is tax supported, we can come reasonably close to guaranteeing continuity of such repository services. Major changes in policy or shifts in personnel should not create any disastrous problems. The responsibility should be accepted by the Museum and not by any single individual.

DISCUSSION

FAIRBANKS: The problem is that your type specimens may be established or may contain purely random accidental characteristics or modes that have nothing whatsoever to do with the type specimen concept of biology. If we try to do this in archaeology we assume that the types have concrete reality as we set them up. You've all probably read the chapter in Ceramics for the Archaeologist which has a lot to say on this stuff - very outspoken; I don't see much point in quoting. I might say I agree with this section of Shepard wholeheartedly. The type concept is constantly shifting, constantly changing, recombining, splitting, into varieties or perhaps even into new types, according to the culturally significant criteria at a particular time, and to attempt to crystallize these into a whole type specimen would be impossible.

SEARS: Chuck, I see absolutely no need, in fact no intent, to do anything at all like that. When one publishes a description, there is a set of physical records. Now if these are to be changed, there is no reason why the type collection can't be changed -- it could be continued, as far as I can see. Some of these boxes full of potsherds could be turned over every six months for fifteen years, but any time it's turned over there again something should happen to the physical records; it shouldn't be turned over in people's imaginations completely.

[Tape could not be understood here. Discussion revolved around semantic confusion in type concepts.]

GOGGIN: As you probably know, I've been working on a system of typing Spanish Colonial ceramics, and one of the first things I want to do is make this material - specimens - available to as many people as possible -- and I decided to send it to the Southeast and Southwest -- areas where Spanish ceramics are most important. It would be ideal to have a major repository in each are and a secondary repository in each area. I ran into some trouble in the Southwest. At the time I first tried this idea, the New Mexico State Museum and the Amerind Foundation were very enthusiastic. So I decided that since New Mexico was a little more available, I would send them the first and best samples and Amerind the second. But it turned out that things waned very quickly. I decided even before I had distributed all the samples that neither of these institutions were really interested. And now after correspondence it looks like Arizona has all the people who really want to get started.

WOODLAND FABRIC MARKED SYSTEM
by Madeline Kneberg

KNEBERG: I was intrigued, as many of you were, by the ceramic system proposal by Wheat, Gifford and Wasley, and then by Phillips' adaptation of that. I started playing around with it, and I am still playing with it. Maybe in the beginning I should warn you not to take it too seriously. I don't think it would make any difference if you disagree with all the details of it -- in fact, I would expect that, since our original concept of this Conference was to work out problems. First, I will explain my reason for the associations of the variants in these types and then I will go on to another topic which I think is pertinent. I might add that I have had no opportunity to see the material from outside the Tennessee Valley -- since we have few type collections -- so about 80% of the chart is based on written descriptions and illustrations and is subject to the errors which Bill so ably pointed out.

I will start out with the type Baumer Fabric Marked, in the lower right hand corner -- this happens to be one that I have seen. It occurs in Late Archaic components in Western Tennessee. Whether these people represent a Woodland occupation I wouldn't know; a handful of sherds, one pot, and a pit are no indication. I would guess this type to be the earliest of any of these fabric marked types -- that is, particularly the variant Baumer. I have added Fayette Thick to this because of the description which says that there are fabric imprints on the base of the pot. I do not know whether that is justifiable or not. But the shape characteristics of Fayette Thick, Baumer, and Crab Orchard, a later variant, do seem to hang together in what is a time horizon.

In the next type, Long Branch Fabric Marked, I have thrown together a number of variants of different temper groups. I do not think it makes much difference about temper. It has been brought out here several times that a lot of the temper is a regional variation. And, though it is important, typologically speaking, to discriminate temper groups, I think there may be other things more important than the temper differences which hold variants together in a type.

That certainly is true with the Watts Bar and Long Branch variants. Long Branch, which occurs all along the Tennessee Valley from Western Tennessee and Northern Alabama to Eastern Tennessee and on up into the headwater streams, is very often leached limestone. So people had a concept of Long Branch as being mostly full of holes -- you can always pick out a Long Branch potsherd because it is full of holes. Actually there is a great deal of Long Branch that has perfectly good chuncks of limestone in it, and some of this is crystalline limestone which doesn't leach very readily. At the Camp Creek site, I went along sorting out this stuff -- Watts Bar, Fabric Marked, with a nice sandy paste -- and

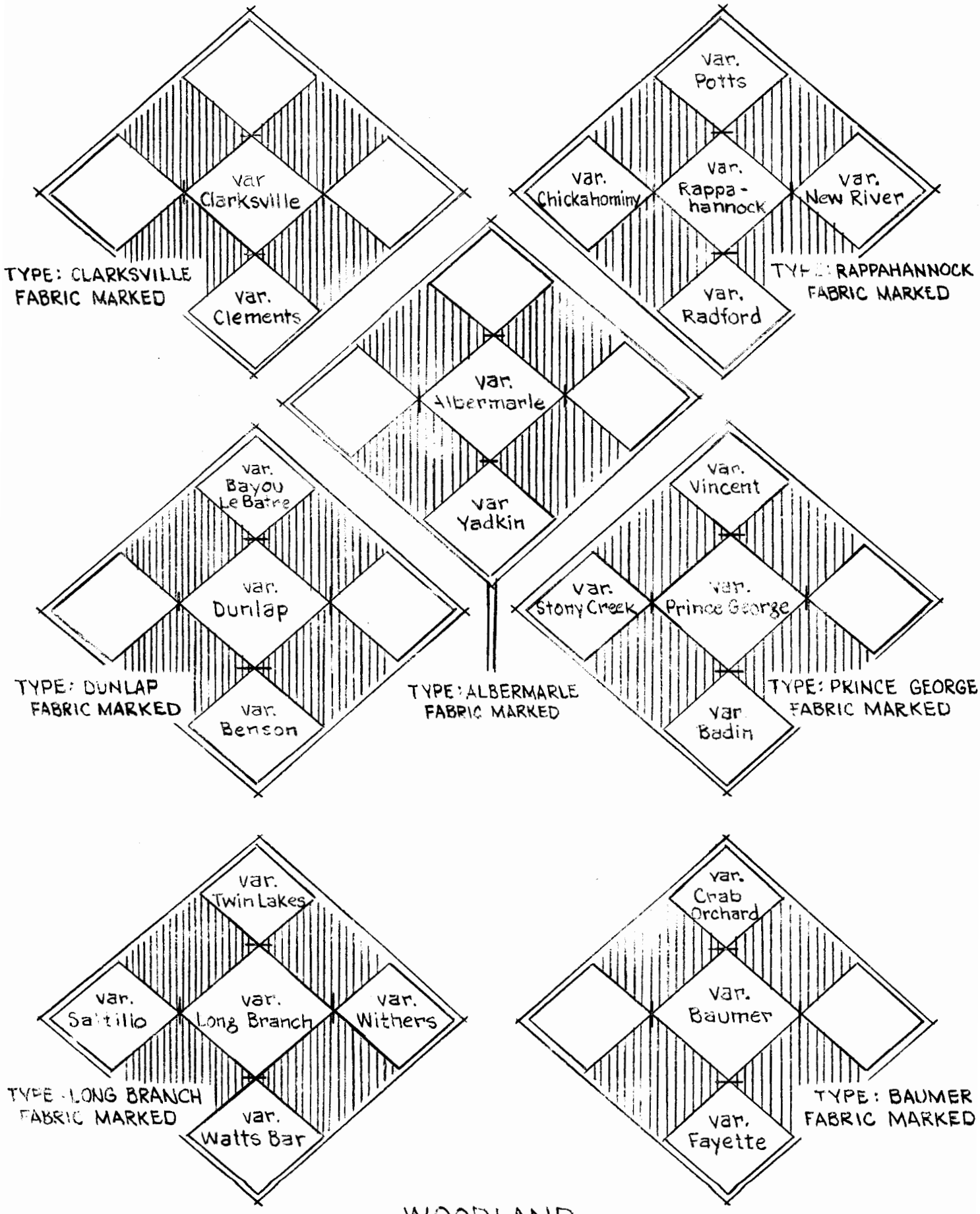
I saw quartzite in there. Then I looked at the piles again. I had Long Branch here, Watts Bar there. I took a handglass and looked at it, and a whole lot of this stuff I was classifying as Watts Bar was really limestone and not quartzite at all. Although I think the impressions on both are very close together, I would still keep them as variants. Saltillo seems to be both sand and clay tempered, according to the description. And, quoting the description of the text that went with it, it seems to be a Northeastern Mississippi variant of Long Branch.

Twin Lakes, I believe in the Mississippi Valley Survey, is described as a sand tempered variant from Western Mississippi which is supposed to be very close to Withers, a clay-tempered variant. Withers, as I understand without having handled the actual Withers material, is a clay tempered variety which also occurs in Western Tennessee on Late Archaic and Early Lithic sites. Now, not having seen a lot of this material, I believe that this hangs together as a type with variants, and is distinct from the Baumer group on the basis of shape. I think it is a little later in time.

The other Middle Southeastern type is Dunlap Fabric Marked, and I really think that Benson is Dunlap. I don't see any reason for having named another type (another fine sand tempered type). I believe that Benson and Dunlap are the same, but I have included both, because in my ignorance I may not know what Benson is. On the basis of the very small pictures in the Dunlevy report, and from the description, it seems to me to be Dunlap. I threw in Bayou Le Batre Cord Wrapped for a reason I am not going to go into right now. It is another sand tempered type from this region.

The Prince George Fabric Marked type seems to be one of the earliest of the sandy or sand tempered types from the Atlantic Coastal region. That is over the mountains and not necessarily confined to the coast. According to Evans -- quoting Joffre Coe via Jimmy Griffin (that's the way the footnote reads) -- Baden is very close to Prince George. So for that reason I have thrown Baden into that type as a variant. This also includes Stony Creek, which seems to be merely a later variant of Prince George, with some variation in the temper size. Through Jimmy's and Joffre's kindness, I had a chance to see Joffre's thesis, and he has a sand tempered type, Vincent, from the Halifax area. It seems to me to be distinct from Baden, but to belong in the same general type as a variant.

I will take Albermarle Fabric Marked next, the type published by Clifford Evans. Clifford Evans again equates it with Yadkin, and I certainly have no real opinion on this because I haven't seen either one. But I am taking Evans' word for it. On a time basis, I think they would come pretty close, and geographically they are not far apart.



WOODLAND
FABRIC MARKED SYSTEM

Figure 1.

Clarksville, a published type, and Clements, one that Joffre has typed, hang together as a late sand tempered type in which lip notching seems to be the common feature. I don't know which of these should be the type name. I will leave that up to somebody else, since this is purely experimental procedure.

GRIFFIN: Don't listen here; these pots are not fabric marked. What Evans called Fabric Marked is Net.

KNEBERG: Well, that could be. He shows some pictures. . .

GRIFFIN: It is NET.

KNEBERG: It could be. As I say, I haven't seen it. I have taken the name Rappahannock as a type for a kind of Late Woodland Fabric Marked pottery. The Rappahannock type was published prior to Cliff Evans' work and I think the publication probably should set up the type. Now, this was the Townsend site in Delaware which was reported by Baker. The Rappahannock type was described by Baker in the Eastern States Federation.

I have put a limestone tempered type in there called Radford. Because it is a very late type with loop handles, it actually shows a great deal of Mississippian influence in the shapes. It may be slightly earlier than the actual shell tempered types. Chickahominy and New River are also in this same group of shell tempered fabric marked types. Again, I added Potts Cord Wrapped Dowel for the same reason that I added Bayou Le Batre. I believe this system (assuming you want a system) might include such types as Snell Incised and Snell Interrupted Linear with cord wrapped dowel bodies, and perhaps some others that may exist in the Northeast. I was hoping to pick Doug Byers' mind last night to see if there were any that he knew of.

Figure 2 (p. 37) gives the geographical distribution of the types. It is a very crude thing, but it does give you the distribution. But Figure 3 (p. 38) is the one I want to call your attention to. It shows the fabric marked types and variants with what I believe are companion cord marked types. I gathered these from reading the material and by making some wild guesses.

I do not believe this material is fabric marked at all. I can't recall who first suggested that this Woodland fabric marked pottery is not fabric marked. Tom Lewis said he thought it was Fairbanks. If the fellow who first suggested it is here, he might put up his hand. Somebody suggested it was done with a paddle edge, instead of with a fabric. I have been playing around with this idea, and if you want to look at some of these later, you can duplicate this impression

	Baumer			Long Branch					Dunlap			Prince George				Albemarle		Clarksville		Rappahannock				
	Baumer	Crab Orchard	Fayette	Long Branch	Watts Bar	Withers	Saltillo	Twin Lakes	Dunlap	Benson	Bayou Le Batre	Prince George	Stony Creek	Badin	Vincent	Albemarle	Yadkin	Clarksville	Clements	Rappahannock	Radford	Chickahominy	New River	Potts
Illinois	X	X																						
Indiana	X		X																					
Ohio			X																					
Kentucky	X		X																					
W. Tennessee	X			X		X																		
E. Mississippi						X	X																	
W. Mississippi						?		X																
Louisiana						X																		
Arkansas						X																		
N. Alabama				X		?				X														
S. Alabama											X													
Georgia									X															
E. Tennessee				X	X				X															
W. North Carolina				X																				
E. North Carolina													X	X	X		X		X					
S. Cent. Virginia																		X						
S. E. Virginia												X	X									X		
Cent. & N.C. Virginia													X			X								
Coastal Virginia												X	X									X		X
Allegheny Virginia																					X		X	
Maryland																X						X	X	
Delaware																				X				

Figure 2. Geographic Distribution of Woodland Ceramic System

exactly and put in such things as some of our sherds where you have cross stamping with the edge of the paddle. You get very nice designs that look like fancy fabrics.

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FABRIC MARKED TYPES and VARIANTS	COMPANION CORD MARKED TYPES
Baumer	Baumer
Crab Orchard	Sugar Hill and Crab Orchard
Fayette Thick	Marion Thick
Long Branch	Candy Creek
Watts Bar	Watts Bar
Saltillo	Furrs and Tishomingo
Withers	Cormorant
Twin Lakes	Blue Lake
Benson	Sauty
Dunlap	?
Bayou Le Batre	?
Prince George	Prince George
Stony Creek	Stony Creek
Badin	Badin ?
Vincent	?
Albemarle	Albemarle
Yadkin	Yadkin ?
Clarksville	Clarksville
Clements	Clements ?
Rappahannock	?
Chickahominy	Chickahominy
Radford	Radford
New River	New River
Potts	Chickahominy

Figure 3.

- - - - -

QUESTION: Would the same design be produced if you put a fabric on there and then hit it with the edge of a naked paddle?

KNEBERG: No. I explained why I think this is so. I am excluding from this Fayette Thick and perhaps Marcey Creek Plain, both of which rested on definite fabrics when they were being made. Almost

all of these occur in complexes which include cord marked types or variants, especially the early ones. In the material I have seen, you can almost match the size of the cords with the cord marked with the size of the cord that is shown in these indentations. And by the way, this is not wickerwork, so far as I know. I have never seen any wickerwork; it is all twisted cord. Most of the sherds fail to show any type of weaving that has been identified, and I have been playing with rubber molds and every other kind of mold I could get.

You find matting, to be sure, and you find twined weaves. We have some plaited Mississippian stuff, but it does not look like this. It may be that in some dry caves they have found something that looks like this, but I assure you that you can make it just as well using the wrapped paddle. I believe that it is earlier than fabric marking. I think that what you get is the idea of using the edge of the paddle, for you can make perfectly good impressions with it. So you can use either one. It is the only way I can account for a weave, which nobody has really demonstrated as a woven weave.

QUESTION: Is this a substitute for the old so-called cord wrapped style?

KNEBERG: Yes. I have included Bayou Le Batre and Potts Cord Marked in here because you can still use a paddle and make the designs and a single mark just like a cord wrapped stick. If anybody wants to experiment, I brought some clay along and you can play with it. I do not think this is quite as trivial as it might sound. Nor am I suggesting that we rename anything on this basis at all. I think, though, that there is a connection between cord marking and this fabric marking, and I think the cord marking is earlier. Perhaps the edge paddle grew out of it, possibly by somebody's invention, it caught on and spread very widely.

There is an example of the stratigraphy of this on the Camp Creek site. There we have this early quartzite tempered material, as well as Long Branch. Also, we had a relatively small proportion of the fabric marking in the lowest level, and a higher proportion of ordinary cord marking. By the time we reached three feet, the percentages reversed, resulting in a high percentage of the paddle edge, and a decline in the cord marking.

DISCUSSION

VOICE: A person would have to be awfully careful in placing that paddle edge to produce some of that stuff you have there.

KNEBERG: You do not have to be careful. I was not careful.

GOGGIN: I think there is something to support your case in the fact

that these sherds can weather, and it is hard to tell if they are fabric or cord marked.

KNEBERG: Compare the two. You can duplicate that. Your cords do not go through, they do not go over and under, and they do not clip the other cords. And this is always a clipped cord.

VOICE: Well, I have got some communications from Mr. Bushnell at the Museum in Cambridge, and he insists that the sherds of Long Branch Fabric Marked that I sent to him are coiled basketry.

How many times do I have to show you?

THE SHENK'S FERRY POTTERY TRADITION

by John Witthoft

WITTHOFT: In the northern Piedmont we deal with a great many pottery types that are troublesome because they seem to fuse, with the result that we think of these as being more of a southern than a northern tradition. I am inclined to think in late times of three main groups of these types: the general Dan River-Clarksville tradition that we think of as being Siouan, which Coe has worked with; the Albemarle-Potomac Creek tradition; and finally the Shenk's Ferry tradition, of which I will speak this morning.

The Shenk's Ferry pottery types are extremely variable from site to site because they have gone through a great many acculturational stages. Thanks to alien pottery types nearby, they seem to change rapidly stylistically. However, the primitive types on the sites that show the least interbreeding of stylistic details with the other cultures seem to occupy most of the lower Susquehanna Valley down into the Chesapeake Bay. The fundamental types are both cord marked and incised, small pots with thickened rims and rounded bases. The closest relations to these primitive types are not in the immediate area to the south -- not in the Albemarle area -- but rather seem to belong to the Dan River-Roanoke-Clarksville series. The Shenk's Ferry pots in particular resemble the Siouan material farther down in the Piedmont in their vessel form, their rim shape, and some of the decorative motifs. This is especially noticeable in the little groups of inverted concentric V-shaped incisings, which can occur three or four times on a pot rim.

They differ markedly in many ways from the Siouan material. For example, in the Shenk's Ferry material we have only cord marked surfaces, whereas in the Piedmont-Siouan there is some variety of surface finishes. The types, the mortuary practice, and other details of the culture do not agree at all with the Siouan area. Nor do the pipe forms. Thus we seem to have a ceramic complex whose closest relationship is not to its neighbors, but to peoples further south. We cannot draw similar relationships in other parts of the culture complex. Thus in this case, the ceramic resemblances do not help at all in suggesting identification for an unknown people who disappeared before the frontier but who were around late enough to have had indirect contact with Europeans.

In the Susquehanna Valley the earlier Shenk's Ferry sites are certainly of no great antiquity. They probably lie no earlier than 1400 or 1300 A. D. They are not anything for which we can see local antecedents. There are small village sites scattered over the

countryside, apparently consisting of only a few small houses rarely occupying more than a half acre of ground, generally away from the main rivers. In historic times, during the sixteenth century, these communities were wiped out by movements of Iroquois and people from the north such as the Susquehannas, so we have no idea of what happened to them.

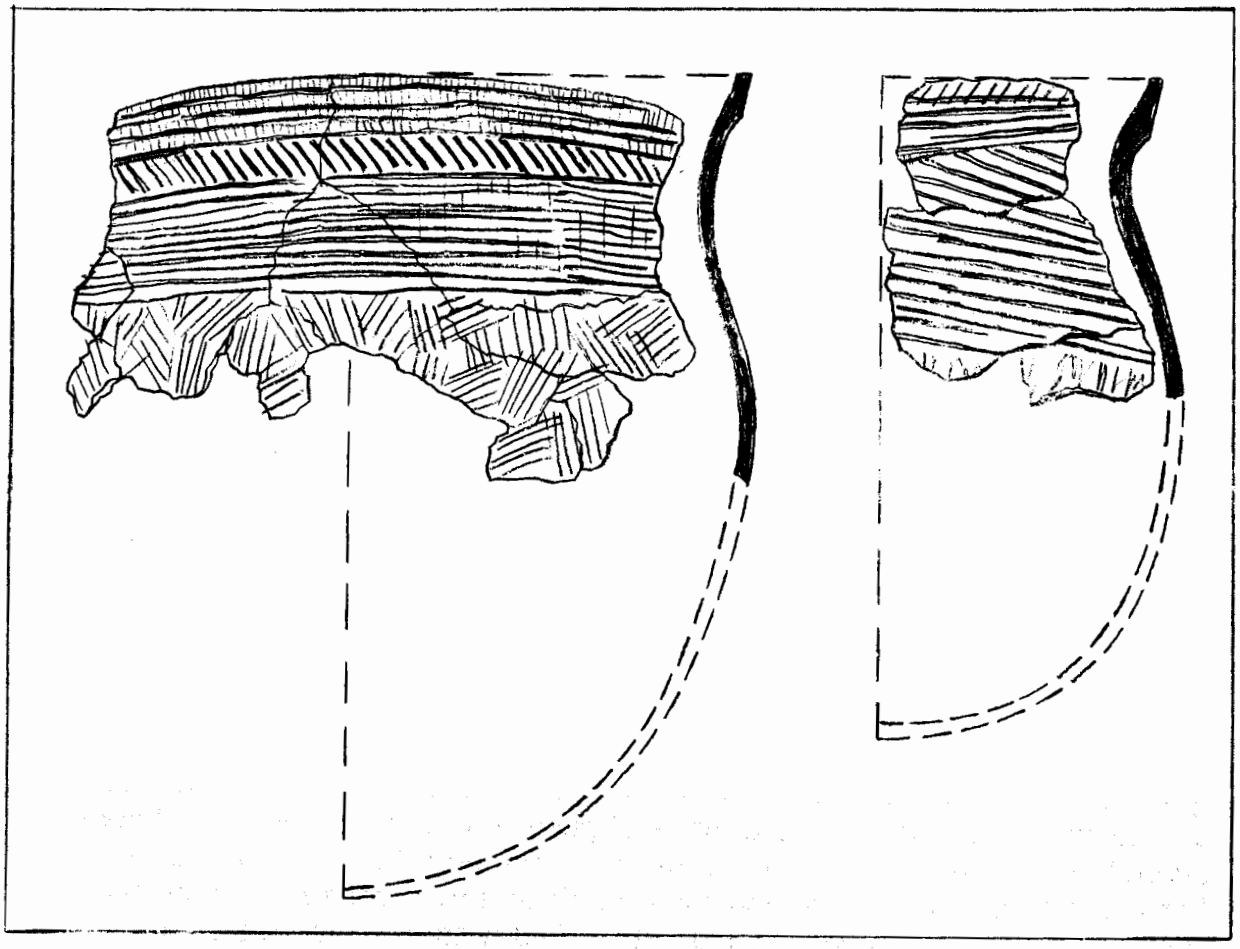
But in this late stage of their history -- after 1500 -- a lot of interesting things happened to the ceramic types. In the lower Susquehanna Valley the Shenk's Ferry pottery types and the people who were making them came into direct contact with Susquehannocks from the north. There were Susquehanna communities with large numbers of Shenk's Ferry captives, and the women who had made pottery in the Shenk's Ferry communities apparently made some attempt to modify their ceramic and decorative styles to Susquehannock forms. In so doing, they modified the whole character and appearance of the ware to a totally different form and a totally different set of decorative styles. And yet they were apparently unable to mimic exactly the pots they were copying -- the details are all wrong.

Further north, in the Wyoming Valley, at a slightly earlier interval, a number of small Shenk's Ferry communities were in very close contact with the Munsee in the Delaware Valley to the east. Their closest neighbors across the ridges were an Algonquian-speaking people who were making a northern pottery type that is supposedly Iroquoian. It is in fact an exaggerated Iroquoian type. So here in the Wyoming Valley, the Susquehannock peoples began to heighten their pot rims, and to copy all of the Munsee incised motifs on to these rims. They also added a lot of innovations, which were neither Munsee nor anything else. In this community we have an efflorescence of poorly done incised decorations which appear on pot rims; the decorations are based on the styles of a neighbor, but they are done grotesquely and with a lot of innovation.

At one particular site at West Anticoke [?] this material is mixed up in the midden with Susquehannock sherds. These communities in their last stages were presumably undergoing a second acculturation to Susquehannock pottery, though we are not sure. I do not think this picture of rapidly changing, rather chaotic, ceramic history in the Susquehanna Valley is peculiar for this northern region. In Coe's Siouan material on the Roanoke, there seemed to be fairly rapid and drastic revolutions in style from one stage to another, and it seems to be anything but lack of response to stylistic details that were in other areas. In the Potomac region we have this mystery of the background of the pottery types at the Potomac Creek site. And in terms of the data available today, there seem to be in the

Potomac Valley the interminglings of different variants of the same ceramic tradition with fairly rapid change towards the end of this tradition. There is a site sequence in the Potomac which seems to lead from the Potomac Creek site in its earliest historic levels back to the site on Selden Island, and back to the Hughes site. From the Hughes site, the trail seems to branch out and go back to the Radford, the coastal material, and the Albemarle material.

At any rate, in this northern region, we cannot see the roots of the Shenk's Ferry types in older forms. Further south we can see the roots of the Siouan stock, and we can see the roots of some of the Potomac stock going back into such things as the Radford series, but in the north we have not found it. We can, however, see in the northern region the same sort of flux in late times from one fairly short historic stage to the next, as we approach and come up into the contact period. This is in quite marked contrast to what happened to the northern ceramic tradition -- the Iroquois and so on -- where we have more orderly autonomous progression stage by stage. It also contrasts with the deep Southeast where we have such strong conservatism in so much of the ceramic history.



Shenk's Ferry Incised (after Witthoft and Farver)

ROUND TABLE: CERAMIC CLASSIFICATION
Chairman Stephen Williams

WILLIAMS: I would like to lead off with something on the history of the type concept in the Southeast. There is a lot I probably do not know about it, and I have just learned some more things in the past week or two. I have here the results of the First Southeastern Conference, held in Ann Arbor in May, 1938. Showing that archaeologists are pretty long-lived, we have here a number of the archaeologists who were there and who were important in getting the first Conference going.

It all began in the fall of 1937 when a mimeographed proposal was circulated to certain workers in the Southeast with regard to a conference on pottery nomenclature to be held in Ann Arbor the next spring. That little document [republished as SAC-NL, vol. 7, no. 1, pp. 5-9] is quite interesting in itself, because mimeographed as it must have been in the fall of 1937, it includes the type name Hopewell Zoned Stamp. Griffin, Ford, Kelly, Willey and Holder were the originators of this proposal which set out some ideas on the methodology and the terminology to be used.

The first Conference was held in May, 1938, in the Ceramic Repository, with fifteen members present. The results of this Conference were published in a twelve page report. [republished as SAC-NL, vol. 7, no.1, pp. 10-22] This document had a rather limited distribution, although a number of the workers soon used the methodology presented in it. It includes an outline of the way a type description ought to be written. A lot of other problems were raised by the members of the Conference, and a number of the concepts are used, or were soon to be used in the Southeast by people like Jim Ford and Gordon Willey, although there are only a few references to this ephemeral document which was not originally published as a part of the Newsletter of this Conference. I often wondered why everyone agreed on so many basic things in the Southeast, at least about some aspects of pottery terminology, since I was not aware of the existence of this document. I hope that one thing we may do this next year is to reprint it just for historical value, and also include a history of the Southeast Conference.

The major conclusions that were reached at the Conference included the establishment of a trinomial type nomenclature, the recognition of a problem that has not yet been solved, ie, that there are going to be variations within types, and the problem of the possibility of having two types on the same vessel. Another thing which came out was the use of a term which now seems to have slipped into disuse, the term "constant," which was the second term in the trinomial nomenclature. - First the geographic term and then the descriptive modifier, then the constant: plain, incised, filmed, etc. And within a year the first

Newsletter came out using this terminology and it has been going along ever since.

Now I would like to present some ideas that I have been working on with Phillips and Gifford at the Peabody Museum with regard to various ways of working with pottery, especially the type variety concept. The fact that there are variations within types and that there is the problem of cutting off one type and starting a new one was recognized twenty-one years ago. In the recent literature a number of people havemade use of the variety concept, although they did not give it formal distinction. Goggin, for instance, in his publication of Seminole pottery, in The Eastern Pottery Series, recognized certain minor variations of types that were different in paste characteristics, but were in all other ways exactly the same type. I think this brings out the need for finer divisions within our pottery types and, as Goggin mentioned, there is just too much which was called Chattahoochee Brushed. It ought to be broken down into regional varieties.

One of the things I would like to begin with is how we do an analysis. If we are starting out on a completely new area, we tend first to sort the sherds into what might be termed type classes, based on these constants -- plain incised, cord marked. This reflects something that I think is basic to Southeastern archaeology: that surface features seem to be the most workable attribute for sorting; this also was said in 1938. Then we subdivide these larger units, which form the basis for the division, of plain from red filmed into recognizable units that have historic significance -- we hope. I have not heard it raised today, but some people suggest that what we really do is merely place these things into convenient piles. I do not think anyone in the Southeast actually works that way; they make units or types which do have historical significance either in a spatial or temporal dimension.

As you begin working on the material, you have a series of what we might term simple types which are the "established variety" in this type-variety concept. They are the type at the first time of analysis. Then we can subdivide these types into varieties, and these are units again which have a temporal and areal significance. They are not -- to take exception to Bills Sears -- based on just any technological difference that happens to be noticed.

Within these types and varieties we are certainly sorting for various modes too, such as rim forms and vessel shapes, which often cut across the types. When we finish, we can then define a ceramic complex in terms of types, varieties, and modes, which together define or describe the materials we find together in a meaningful context.

As an example of this from the Lower Valley, we might use what is

now being termed "the ceramics of the Issaquena phase," or the Issaquena ceramic complex. This complex was taken from a larger unit of what can be termed Marksville pottery. What this complex does is exclude the material from the type site of Marksville (and Crooks and Peck) which are different. These latter materials include crosshatched rims and bird designs, which do not occur in the Issaquena complex.

There are a tremendous number of sites which exhibit this Issaquena ceramic complex. It does include the material from Av. 25, and a number of sites in Mississippi north of Vicksburg: Manny, Thornton, and Mayben sites. In the complex there is Baytown Plain and a variety of Baytown Plain which we term Reed, which we can sort out on certain attributes of texture and rim form and that sort of thing.

The second item in the complex is Manny Stamped, which is a division of the old Marksville Stamped. We are now using the term Marksville Stamped only to refer to the material from Marksville, Crooks, and Peck, which is quite different. It is different in paste, it is different in design, it is different in shape, it is different in rim form.

Also we have in this complex Troyville Stamped; two varieties of the established type as described by Jim Ford and another variety which we have termed Avoyelles -- which is really the very sloppy broken-down Troyville.

We see some temporal distinctions in various components of the Issaquena phase that these different varieties. Within the type Yokena Incised we have the standard established variety Yokena as defined many years ago in the Newsletter. But there are two other varieties, one termed Steele Bayou -- which is a term we have given to a variation which Jim Ford recognized at the Greenhouse site with a rather complicated design. This is again a sortable entity, and yet in every other characteristic falls within the definition of Yokena. The other variety we have been calling Indian Pass-Like. It is a material like Indian Pass Incised from the Florida Gulf Coast mainly in its design styles. Then we have Churupa Punctated which we have broken into two varieties, one a zoned variety -- the established variety -- and the other which does not have the zoning, but exactly has the same kind of punctating. Then there is Larto Red Filmed, -- we have just the same type, with no recognized varieties.

This complex has a number of what might be termed general modes, as for example paste, surface finish, and sherd temper, which define the complex as a whole.

Very frequently in the analysis we have been doing on this material we can recognize a number of vessel shapes which characterize the

complex as a whole. An example of this is a rather strange gourd-shaped vessel which goes through many of the types and occurs in Manny Stamped, in Yokena, and in Baytown Plain. There are also a number of very characteristic rim forms, one of which we have termed the Arcadia Rim. We have begun to give names to certain rather complex modes which, if we had to describe them, would be too cumbersome. Thus we can give a single name to a particular rim form. Various appendages such as triangular lugs are also characteristic of this complex, as are certain basal features and techniques of design -- for example, the broad U-shaped lines which we find in Manny Stamped, in Yokena Incised, in Churupa Punctated. Certain designs, and various kinds of zoning are also characteristic. These are general modes which define the complex as a whole.

Within the types and varieties, each one has a series of standard modes which are the basis for the type or variety definition. These are the traits which characterize it, as for example the zoned hemiconical punctates which are characteristic of the Churupa. Thus when we are making an analysis of this material, we count Churupa Punctated, for example, but we do not have to count this standard mode of hemiconical or zoned hemiconical punctate because we have already got that within the modes which characterize Churupa Punctated. There are, however, a series of special modes which are either alternative or additional modes, which we find within these types and varieties which we want to study, count and sort, and watch for their distribution in both time and space. These additional special modes may form the basis for new varieties, but we have to get a significant amount of material before we will promote them to variety status. An example can be noted in this rather elaborate Yokena Incised, which we have termed Steele Bayou. We have about four sherds which have red filmed zones. We are going to count that and its distribution, and describe it as a special mode of this material, but we are not going to promote it to variety status on the basis of such a limited showing.

I have a chart here which I would like to show you [prepared by Phillips and Gifford]. I would like to say first that there is nothing new on the chart; nothing that the people in the Southeast have not been doing since 1938. This chart - or some of it - is in essence based on a paper which Rouse is publishing in the January issue of American Antiquity. ["The Classification of Artifacts in Archaeology," by Irving Rouse, American Antiquity, Vol. 25, No. 3, January, 1960, pp. 313-323.] He, in discussing classification in archaeology as a whole, mentioned the distinction between what he terms analytical on this side, and taxonomic on the other.

Rouse felt that these two things were very different kinds of classifications. I can not agree entirely -- I can see that they sometimes work in different ways, as I will try to point out, but we all start out together.

What happens here [on this side of the chart] is the familiar grouping of this material into types and varieties; and very commonly these types and varieties are grouped together into a complex. I do not think anyone used the term "complex" this morning -- I was listening for it -- John, you used Weeden Island tradition.

GOGGIN: That is a complex too.

WILLIAMS: Yes. Actually, the term pottery complex is something that was defined in 1938, and it is something which I think we all understand. You can group types into a ceramic sequence or series -- not to be confused with the way ceramic series has been used in the Southeast to name a series of similar pottery types by the same name, but in a sequence of types as one develops from another. You can group types into a ceramic system, something that has been done in the Southwest a lot. Or you can group types into various wares, something that has been done a bit in the Southeast, more in other areas such as in the Plains.

In doing this work on these types and varieties, you look at various significant clusters of attributes, which we may call modes, to use Rouse's term. The modes are the things that cut across all these pottery types and can be used as a partial description or definition of the complex. If you want, you may do a purely modal analysis, -- and this has been done with Rouse's work in the Caribbean. His Caribbean analysis has been primarily on this level: he has never used the concept of pottery types there, in the sense that it has been used in the Southeast. He has, however, used this concept in his work in Florida and in Connecticut.

There are certain things which you can understand better by following modes -- it certainly seems that modes very often tend to be diffused, and when you want to divise horizon styles it is very often in terms of various modes rather than types that you can trace across space in a relatively short time.

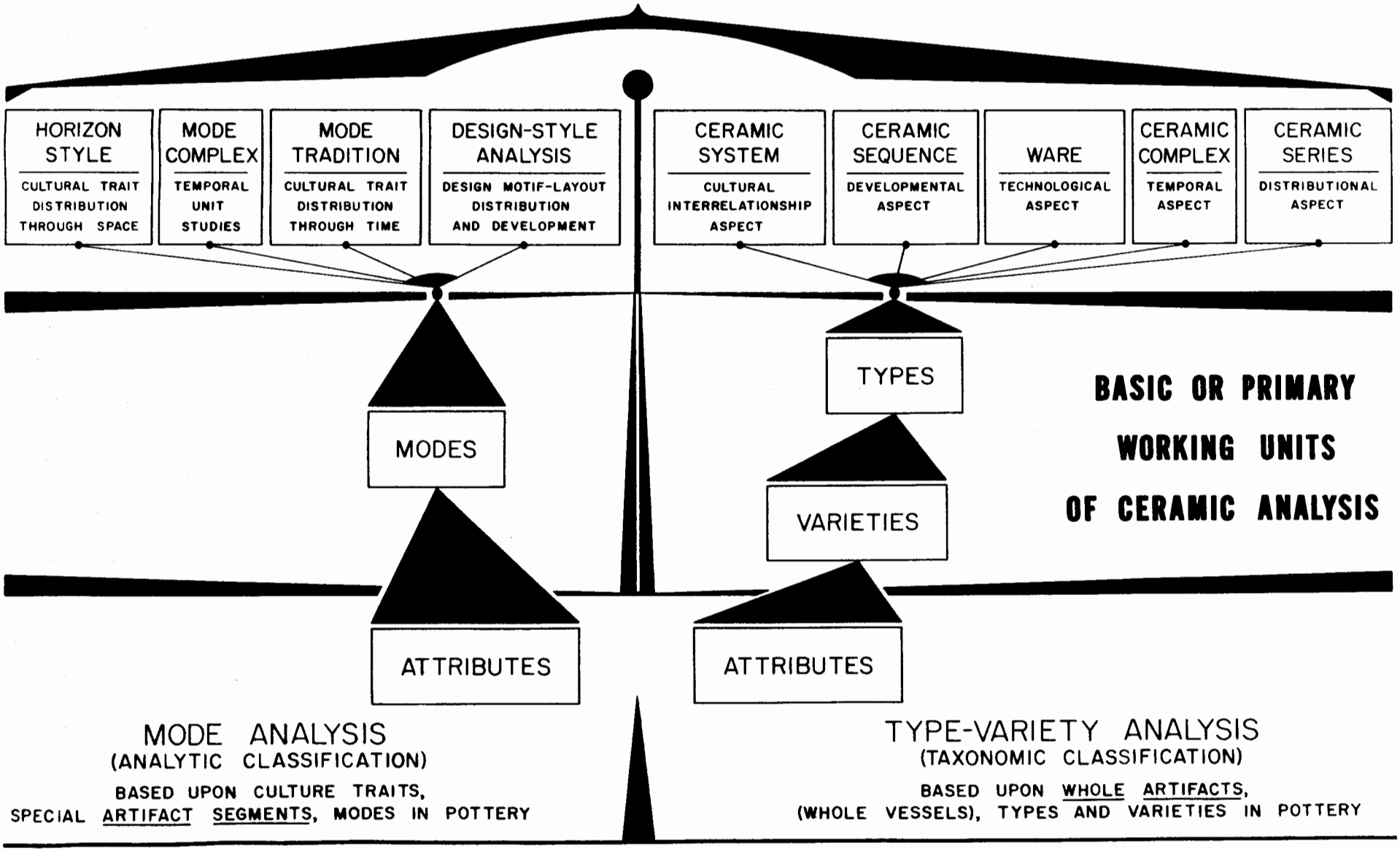
If you are going to do a design-style analysis, you would probably do it on the basis of various modes which you would pick from all the pottery types within a ceramic complex. Some people have grouped a series of modes into the various pottery traditions. I think you certainly can do the same thing with types too. Rouse has gotten a unit above the size of a mode for his historical reconstruction in the Caribbean, and what he has really gotten in his major Styles are modes grouped into what we would term a ceramic complex.

Therefore, I would say that there is nothing very rigid about going from attributes to types. Here I would agree with Bill Sears that if we are going to refine the temporal breakdowns, we are going to have to

WHEN AL OF THESE FACETS OF CERAMIC ANALYSIS HAVE BEEN DOCUMEN , THE CERAMIC PICTURE IN ANY GIVEN ARCHAEOLOGICAL S ATION WILL HAVE BEEN MADE AVAILABLE

THEORETIC CONCEPTIONS

REPRESENT VARIOUS TYPE OR MODE GROUPINGS EACH OF WHICH TENDS TO BRING OUT AND EMPHASIZE A PARTICULAR ASPECT OF ANY CERAMIC PICTURE



PHILIP PHILLIPS AND JAMES C. GIFFORD – AUGUST 1959

go off into modal analysis, as Bill did in his Final Report on Kolomoki. That is the place where we are going to get at, sharpen, and refine our chronologies. If we keep our types too big, I think we are not going to be able to get at some of the details that we are going to have to get to in the next twenty years.

What do we end up with on this side of the chart? You, of course, end up with counts of types and varieties; and a characterization of those in terms of percentages will give you some idea of the complex. You can compare complexes in terms of those percentages. You can also count, as I mentioned, modes of rim form, and vessel shape. These are the sort of thing which may help to segregate two time levels within a particular complex. For example, in this Issaquena complex we are beginning to see a difference between Early and Late Issaquena on the basis of different shapes which we are counting as modes. They are practically absent in the lower levels, and come in at the top, although the type names are still the same throughout. Of course, we can also get at this same kind of distinction between Early and Late by the presence or absence of certain varieties. An example is this very sloppy Avoyelles variety of Troyville, which appears in certain components and which seems to be a very good indicator for the very late part of some of the phases.

As I have said, you can do a lot of other things besides set up a pottery complex. This is something which Bill Sears was saying this morning when he was talking about different people wanting to do different things. I do not see why these two things (types-variety analysis and modal analysis) are not about all you need to do almost anything you want. I do not think they necessarily lead directly into any sort of an absolute hierarchy.

Phillips, Gifford and I have been working on this. This dichotomy is coming out, somehow, slightly adapted from Rouse. Rouse, I think, tends to feel that if you start here and go up here [on the chart] you come out with certain things; if you want this other kind of analysis, you come up here. I think there is a meeting ground here, and there are probably other meeting grounds. For instance, I am not quite sure of the pottery tradition. You can group a bunch of types into a pottery tradition just as easily as you can group them on the basis of modes.

FORD: In this discussion, the difference between modes and types was not made entirely clear, I think.

WILLIAMS: Let me give you a definition. I would say that modes are artifact segments, attributes, selected for some meaning. In any series of pottery there is an infinite number of attributes and combinations, and we are not going to select all of them because they are not all meaningful. We are going to select the ones which have some meaning.

For instance, in making a series of sortings you start with a series of rim forms and in sorting for them, you begin to see that you are going to have to include quite a number. You see two forms which are quite alike. You are going to segregate them at first, but eventually you might see that there is not any difference in the distribution. You would then group them together and count them as a single mode.

There is another distinction here which I have not made -- something Rouse has said elsewhere which I think is true -- that in essence on this side of the chart [type-variety analysis] you tend to be dealing with whole artifacts. The types are based on whole artifacts, whereas modal analysis tends to deal with segments of artifacts. As I mentioned earlier, one of the problems that arose in 1938 and is still with us is the fact that sometimes when we get a whole vessel we find two types on the same vessel. Now we attempt to bring together types that we find that way, if it can be meaningfully done. I am not terribly worried, as some people are, with the problem of plain sherds as against decorated sherds. The fact that you can break a pot which has incising on the shoulder and have one sherd from the bottom go into a plain category and another into a named incised type does not bother me too much; maybe it does some of you.

DISCUSSION

GOGGIN: The thing which occurs to me about this is that it is very logical; because I am going through an experience which is very illuminating. I have not brought this to completion, but I am making two studies of Spanish historical ceramics. One is a study of Majolica and the other is the study of Olive jars. I am using two different techniques: types for Majolica, and your modal principle on Olive jars. In Olive jars I have ended up with a style, early and middle and late variety, composed of a number of variable modes which occur together in too many combinations to make a type out of it. And yet they do fit in chronologically. The point is, I think, that this is a decision which must be made one way or another. It is not necessarily one made by an archaeologist, but one made in part by the nature of the material you are dealing with.

WILLIAMS: I think that is a good point, although I am not as convinced as I used to be. Rouse has said in conversation -- and in publication too -- that he wished someone would come into the Caribbean with the type concept as we use it here, and apply it to the Caribbean material.

GOGGIN: My Trinidad material, historic and proto-historic, will be published on the basis of types, whereas Ben's earlier Trinidad material has been done on the basis of modes.

WILLIAMS: Do you think there is something inherent in that material which does not make it profitable to put it in on this side of the chart?

GOGGIN: I put it on that side and Ben does not feel too bad about it.

WILLIAMS: I see. Some people would say one cannot analyze some material this way. The same has been said for a long time about Mayan ceramics, and at the Harvard Peabody Museum, Jim Gifford and Bob Smith of Carnegie, have just completely overhauled the pottery from Uaxactun and put it into the type-variety system. They are also using this type-variety concept on Willey's material from the Barton Ramie site in British Honduras. It works out nicely.

VOICE: It worked well down in Mexico.

FORD: Ricketson's original analysis was modal, wasn't it?

WILLIAMS: Yes.

FORD: I would like to elaborate what I said about there being no qualitative difference between the systems. What we are actually measuring is the changing ideas which came about as to the ways to make a pot. The difference between classifying by types and classifying by modes is merely a question of how large a magnifying glass you use to look at the end products of their ideas of the proper way to make a pot. You are just getting a little nearer your limit to perceive difference in modes as well as in types.

WILLIAMS: I do not know whether I should agree or not. I know there are an awful lot of people around who have been beating on me about this kind of analysis, and saying that the reason this kind of modal analysis is so wonderful is that it is much closer to the material than...

FORD: It is much closer to your limit of ability to distinguish.

WILLIAMS: Well they say, "Listen, you guys and your types, that's pretty far off on a Cloud 9 level of abstraction; we're down here on these little real modes."

FORD: You have put your finger right on the fact!

WILLIAMS: Do you think it is true?

KELLY: Let us consider what would happen if you state your problem so as to try and arrive at a total overall picture of what we would call Lamar. It is very widespread in the Southeast, and we all know there might be a half dozen or more different kinds of Lamars in subareas reaching over the Southeast.

If you tackled this problem in the Basin, you would start out on the basis of types. You find simple stamp, you find check stamp, you

find complicated stamp, you find certain types of zoning, but you would really be working in terms of types. As you would work from these and go from one area to the other, you would start making modes. If you are still in that stage of analysis, you have not come out yet with your complexes. In other words, in an actual analysis dealing with major problems which cover alot of area, a point would be reached when a horizon style might be defined on the basis of a mode which is strictly within a small time limit over a wide area. You would go through an analysis of types but you would rely on your modes. You would find, for example, at certain stages in Lamar that your rim morphology is more significant. We are just now beginning to come through in North Georgia and the Chatahoochee with what we think comes generally within Early Lamar. This is what the developed Lamar came out of.

I certainly think highly of the modal concept but you are not going to see that unless you are first dealing with types. They are both present at all times when you are dealing with a major problem in analysis.

WILLIAMS: I agree. I think what you would be doing is to set up a series of varieties of Lamar Incised on the basis of different modes within this big entity that you recognize as Lamar Bold Incised.

VOICE: You said that Ben Rouse would not admit to this line between modes and types. He would keep these but on what basis can he even emotionally or mentally keep these distinct?

WILLIAMS: It is logical. I agree with you. When Rouse started out using modes he tried to describe every possible observable mode included in the type. We just pick the attributes we think are significant for separating these things.

2nd VOICE: I don't see the difference between modes and attributes at the moment.

VOICE: There aren't any.

WILLIAMS: Modes are more often than not the combination or clustering of attributes.

2nd VOICE: For example?

WILLIAMS: Well, there is a particular kind of late Issaquena rim which is a complex clustering of attributes which we term an Arcadia rim. Of course, every sherd can have scores of attributes. There is one point Bill Sears brought up this morning which we might take into consideration in terms of our type descriptions. That is that our

type descriptions always include a lot of descriptive data which describe the entire class of the type such as paste, hardness etc. Sometimes this is the problem which Sears was talking about, how do we know what are the important attributes that define this type. They are lost in the type description. I think there might be some usefulness in trying to start out at the top of the type description with those diagnostic attributes which define the type.

2nd VOICE: This is a big problem. Both negative and positive should be in there. So often people put in the positive and forget about the negative. They accent the positive always.

KELLY: We have been working with some Swift Creek pottery. We have seen material from sites which we know of so far, which is Early Swift Creek. We have a local type site at Mandeville. But these sites all agree in certain attributes as far as rims are concerned -- notably they are straight rimmed, fluted, or scalloped. In other words, these have other attributes which turn up in what we call Middle Swift Creek, but these are not types.

WILLIAMS: No -- when I was looking this morning at your pictures of Early Swift Creek Complicated Stamped, I don't know whether or not it can probably be broken down into some varieties, but certainly the kind of analysis you would want to do would be modal analysis of design elements within the larger unit of Swift Creek.

FORD: How finely can we break down this modal analysis?

WILLIAMS: As fine, or as coarse as it has any significance.

FORD: Well, you see, the whole thing is the sliding scale concept of type in which everything, every item is mixed.

WILLIAMS: That is true. For instance, when Henry Collins described that red and white pottery which he found at Deasonville, he had no idea of what the chronological significance was. He described it adequately, so that now we have some vague idea of what its chronological significance is. But he did describe it adequately enough so we can utilize it. This is something which Bill brought up earlier this afternoon.

FORD: Well, anyone who recalls Jimmy Griffin's early work on Fort Ancient and peruses his tabulations on it realizes that it is a little bit difficult to make these pottery styles break down to your limits of perception. Measure them carefully, weigh each one, look at all the scratches etc. In both these processes all the attributes are studied presumably.

WILLIAMS: Well then, selection takes place.

FORD: Selection takes place but. . .

WILLIAMS: As I say -- certainly in the process of analysis you will have a lot of modes which you will plot and see that they do not do anything for you.

FORD: But you get them some place and they will do something for you. They may be significant.

WILLIAMS: Maybe you are seeing a variation which is just this much in terms of the way the rim is this way, or that way. You have to sort it, and try and find out if you can get any breakdown, or you will just allow that variation within that particular mode.

HAAG: Between these two, isn't there a breakdown on the part of what you might call synchronic and diachronic lines? You describe your types in a purely optiographic fashion; in other words, you simply describe what is there, without any reference to anything else in terms of the age, or what have you.

WILLIAMS: No, I do not think anybody can work this way.

GOGGIN: One simply cannot look at something and see everything. One looks at them, one runs through them, and then comes back and sees more things.

HAAG: You have your type description as being defined, and you add the mode to it.

WILLIAMS: As someone said recently, "Where would they be in genetics and Drosophila experiments if all they had was a series of measurements of various wing dimensions?" They have instead the observation by the scientist in playing these hunches and making these qualitative judgements which are then quantified. And that is all we are doing when we are sorting the potsherds.

GOGGIN: The thing which I have been running into, in moving from Indian ceramics into historical ceramics and running through the analysis of these historical ceramics with all the Indian things in mind, is that you come back and find that there are whole new ways to look at it, which you have to use for this material. And that the first analysis is not necessarily meaningful, because you are thinking in terms of a frame of reference which is not applicable to this particular period. So actually when you move from one pottery type to another in Indian style, it is not a matter of changing frames of reference very much. But when you move from Indian to Europ-

ean styles, it's a lot different.

FORD: You have to turn the sherd over. This is what I am getting at. Those European ceramics come from different parts of Spain; their designs come from a number of sources, so you are not dealing with one tradition.

GOGGIN: This is a very interesting comment because that is exactly why I feel that I have to use the type in one and horizon style in the other. I deal with one factory or group of factories in one case and a number of different factories in another. But I do have the horizon style in Spain in a number of factories at the same time, you see.

FORD: Yes, in one case you are studying a historic evolution and in the other case you are studying a political accident!

GOGGIN: Well, we might compare in one case where I deal with Majolica pottery type made in Seville. I am dealing with something comparable, shall we say, to Weeden Island Incised. But when I start dealing with olive jars, I am dealing with a combination comparable to Weeden Island and French Fork, and they are coming from different places in Spain on the same time level, reflecting different local variations but sharing the same horizon styles, whereas my Majolicas most always centered from one town or region. It is just comparable to one archaeological region here in the Southeast.

VOICE: Are you using your Majolica as a control?

GOGGIN: I am using stratigraphy as a control. It gives the date, but it does not establish the nature.

WILLIAMS: I just want to say something about the concept of Ceramic System which is used in the Southwest. After Phillips wrote his article in American Antiquity, he and I started to wrestle with a series of Systems in the Lower Valley, and spent a frustrating month or so trying to make something happen with it. At present, we are putting the concept into abeyance. We have not found that we could make it work very well in the Southeast. I think one of the reasons for this is something we have mentioned earlier about the nature of the material and the way the typology has been set up. It seems to us it is in the very nature of the Southwestern typology and its immense refinement into very small units. When they group a series of types, as they have done and it seems to work quite well there, into a Ceramic System, they have a larger unit that does have specific time and space relationships which they understand quite well, because of their time

dimensions set by the tree-ring dates. When we try to do this in the Southeast we run into several difficulties, and I think one of them is just the very nature of the difference in the size of our types. When we group a series of our types into a System, we get a huge sort of unwieldy thing which just flops all over the place. When these Southwesterners group their types into a Ceramic System, they really get up to something about the same size as our types. In their typology, of course, they've got their varieties, too - but on the level of types it's so fine, that when they get up to a system they still have a useful unit. I think that one of the things which happened today with some of these systems we were trying to erect here was that they just got too big. You begin to make historical reconstructions which probably are not too valid.

FORD: We have, for example, set up a very good cord-marked pottery system for the Eastern United States.

WILLIAMS: Not in terms of definition of Ceramic System, you haven't.

GOGGIN: Their system sees internal relationships, doesn't it?

WILLIAMS: Right.

HAAG: I wouldn't do that; I would have tried.

WILLIAMS: You get up into something which may or may not be a ceramic tradition, but it's so big.

VOICE: You could get a morphological unit.

WILLIAMS: Within the so-called constant -- or what you might call the type class of cord-marked pottery, you have all this terrific variation, and it raises the question of whether or not you can see any historical meaning to the temper.

I would like to take exception right now to something people have been grumbling about. People have said these two types, which differ only in temper, ought to be brought together. I think that sometimes this is true, but I do not think we can state it quite as baldly as that -- that this is not a significant difference. Sometimes I think we are going to have types which are very similar but differ only in temper. Other times, I think, we can bring these temper differences down to a varietal level, as for example Etowah Complicated Stamped and Hiawassee Island Complicated Stamped -- two very different tempers.

VOICE: Basically the same ware otherwise.

WILLIAMS: Basically the same ware, with exactly the same decorative motives that are found together at Etowah at least; they are just regional variations within that type.

VOICE: That would be a practical problem there, Steve. That is, every analysis that anybody is going to do in that area from now on will be very intricately interwoven, so you are going to have to state the temper difference.

WILLIAMS: You call them both varieties. You count both.

VOICE: I did not think there would be any problem where you could ever refer to just one of these types.

WILLIAMS: Well, you might want to refer to the whole. Historically, there has to be some kind of significance to this terrific similarity.

VOICE: Yes. Of course.

HAAG: Getting back to the cord-marked pottery system and diffusion. You can argue that this concept was originated only once in one person's mind, and every other manifestation at all times and all places must be an emanation from that one occurence. That may be, but it is not useful.

WILLIAMS: Well, yes, that is exactly where our work on the Ceramic system broke down; we could not get any very useful systems. I think the Hopewell Zoned Stamped system which Phillips set up as an example of this was an ideal one and it works. It is just a way of expressing relationships which all of us have known about, but this brings them out quite clearly.

HAAG: Just to continue this, Fairbanks said something this morning which I think we have unconsciously begun to do without putting it into words, namely, to think in terms of population or in ranges of types. This is something which has gone on in the minds of biologists recently. They are now well aware of it; they no longer conceive of these animals as in a type category, but in population ranges. They have done some more significant thinking. And we can do this too without losing our type concepts.

VOICE: That is what we have been talking about all the time.

HAAG: Exactly. But we have not been consciously coming to this. That is, you could extend one of these types to its ultimate end, and you would be thinking modally or manipulating the information as modes. But I do not think we need to worry about losing types.

WILLIAMS: One thing which we should do something about is synonomy, and we should do something about bringing together some of these entities into single types. I remember a conversation with you, Jim, in the hall at Peabody a few years ago. You asked,who cares about these varie-

ties which Phil and I are working out in Lower Yazoo? Who, that is out side of you and me? But the type, Coles Creek Incised, is a unit which I think we can expect some students to know something about, and they don't have to know about all the varieties: Chase, Hunt, Ely, Greenhouse, and some you have never even heard of. So, in a sense, you have a larger unit.

FORD: Remember, as a result of historical accident, Coles Creek was named first.

WILLIAMS: All right, but....

FORD: You have a series which you can call anything you want, but one of those types is no more important than any other.

WILLIAMS: But no one said that one of these types or varieties is more important.

FORD: That's what you keep saying.

WILLIAMS: But if you do as we've suggested and Coles Creek Incised, variety Coles Creek; variety this; variety that. If you want to emphasize Coles Creek, then you've done it!

HAAG: Well, in order to put it on the same level....

WILLIAMS: That is the same level!

VOICE: But this was intentionally to prevent over-emphasizing. This way you keep everything level.

2nd VOICE: The majority of types I feel which we have, particularly those in the Lower Valley as a result of the Survey, were gross generalizations. One of the reasons why I objected to their movements in time and space was that you were moving too large units. Another was that there ought to have been an attack from the standpoint of modes in some cases, because of variation within the types, they were not the same types from one area to another. We just threw them together because we wanted to get done with them!

WILLIAMS: I would like to defend Jim on that. There was the problem of space on those seriation charts; there wasn't too much room. But seriously, I do want to defend Jim on this point. I think it is a good example of types being designed for a purpose and fulfilling that need usefully.

FORD: They represent a stage of the development of the archaeology; in a sense they reflect the history of the archaeology.

WILLIAMS: Well, as you know, Jim, there were dozens of minor variations which all of you recognized when you were sorting that Lower Valley material, and which you temporarily set up as named types and then later demoted from that Status. Although, of course, it is rather strange the ones that you did leave. Some of the provisional types were just sort of chosen; it was almost a personal thing.

KELLY: These things were turned on a thin dime. Take the situation at Etowah which you mentioned a moment ago, with regard to Hiwassee and Etowah Complicated Stamped. Let's take the problem of the so-called Savannah Complicated Stamp, which is a misnomer entirely. There is a lot of Savannah which comes into the Etowah site which Larson and I found in the last five seasons. This Savannah modified very quickly into what locally has been called Wilbanks. Now then, this happens probably within 25 to 50 years or so; pretty quick. You can almost see it happening where you have ten to twelve inches of midden piled up. In turn, Wilbanks very soon becomes indistinguishable from what you might call Early Lamar. It always happens. You have the stuff coming out on house floors, coming out of mounds. You can see it in terms of Mound C during the different stages of mound building right there on the site. It is like the old pictures of variations in the species in Darwin. If you took one end of the string of all species, then took the other, and cut out all the middle, they look fine. You would have no difficulty in separating them. But that is not the way it occurred either in nature or in our archaeological material, where one has a continuum. You simply slide in a sense from Savannah into Wilbanks, and Wilbanks into a marvelous overstamped type which is Lamar. One could never distinguish it from a Lamar complex.

GOGGIN: No -- you distinguish them on the clustering. These are what make the difference. It is the clustering of the things. Whenever you get a cluster which is sharp enough then you cut your line right there.

FORD: I'm afraid you are perfectly right, there is no natural line!

GOGGIN: We cut the line, Jim....

VOICE: Logically this implies that there is a natural line.

WILLIAMS: That depends on your philosophical background. Your view of the world.

FORD: If you are supposed to remain, say, in an 18th century point of view of evolution.

WILLIAMS: The nature of the relation of types to cultural realities, Jim, is a philosophical one.

FORD: It is philosophical but the insistence that there is a natural division between them is a metaphysical one.

WILLIAMS: You think that these Indians didn't have any divisions in their material culture?

FORD: Of course they did.

WILLIAMS: Do you think we can recognize any of the divisions?

FORD: Certainly.

WILLIAMS: All right.

FORD: I have said this before and I don't want to repeat myself. At any one time, a culture is a well-organized device, and it classifies everything in it. The people consciously set up these categories. At present, there are different styles of clothing for men, for women, for sports, and work, and so on. It's all classified. Each is a complex. But unconsciously, as time goes by, each of these categories changes, more or less steadily but always changing. Any one of these categories can go across geographical, natural or political barriers. Now then the archaeologist is working inside that framework, and he always has to be conscious of it.

KELLY: You see, not only do you go from these three types which I have picked to describe, but then all of a sudden at a certain phase these things seem to be picked up again. You go back, for example, suddenly to a stamp which is much clearer. The darn thing might be on the Historic Cherokee horizon. You see some stuff there which, if you found those sherds on the site you would swear they were coming off the Savannah site. And yet they are coming off a 1715 Historic Cherokee site. If you did not have a whole pot, and a village there with historic trade material and ethnohistory to define it, you would swear it was Savannah Complicated Stamp going back to a prehistoric level.

WILLIAMS: Just one thing, Jim -- I think there are some basic differences of opinion in terms of rates of change, and I know what yours are in terms of these slow curves.

FORD: Not necessarily slow.

WILLIAMS: It is certainly basic to some people's thinking about the way culture changes. There are rather sharp slopes.

FORD: Under strange conditions!

WILLIAMS: Well, I disagree with you. That is just a basic difference in terms of what we think about cultural change. In fact, I can cite you literature indicating that people feel that this is a common occurence rather than the rare. So that actually there are sharp breaks here.

FORD: There are some, but it is not normal. When you junk a battleship - that's a sharp break. The fins on automobiles? When did they start? On the 1954 model.

WILLIAMS: I understand, Jim.

FORD: Another thing is the curve. You've got to define what you are talking about. If you are really talking about the history of geographical areas, you can't have sharp change. If you talk about a cultural tradition, or a branch of a cultural tradition, as Madeline said, then the sudden change is the difference between having big cars and small cars. Well, that's what is sudden change; we're off on the science of European automobiles.

KNEBERG: We have got to focus on changes.

WILLIAMS: Onething which I think is useful in this type-variety concept as defined is the following: Going back to 1938, you have to be able to sort type from type. We are making some attempts to break down these bigger types, which Jim was mentioning, on a meaningful basis. We cannot always, it is granted, make all these variety distinctions when we do not have the right kind of sherds, but we can count them as Baytown Plain,"variety unspecified." However, if we have a bunch of good rim sherds which have these diagnostic modes which we have used to define that particular variety, then we can count those. Often even if we have a dozen Baytown plain sherds which do not tell us a thing, and only one good one which has one of these modes that we have been looking for and defining our variety on, then we have what we feel is a meaningful bit of information on that material.

I hope, tonight, we can informally discuss some of these things in more detail, and possibly tomorrow before we break up, come to grips with some things which we want to do in the Southeast Conference. I think there are some steps we ought to take now, not specifically about this pottery typology alone, but about a number of other things which we as a group ought to be thinking about. Bill has mentioned some, and other people have been talking about doing something more with the Newsletter and type description. I hope we can start in that direction.

SESSION III

RECENT EXCAVATIONS
Chairman, John M. Goggin

EXCAVATIONS AT THE MANDEVILLE SITE, CLAY COUNTY, GEORGIA
by James H. Kellar

KELLAR: We have been having some rather high-level kinds of discussions; perhaps we can throw up a little dirt and get back on earth again.

You heard the name Mandeville site mentioned intermittently yesterday, and those of us who worked on it -- Ed McMichael, Dr. Kelly and myself -- have been somewhat impressed with its potential from a number of points of view. The site itself is located in the middle Chatachoochee valley some eighty miles south of Columbus, about six miles above Ft. Gains, Georgia. There is presently a dam being built there, the Walter F. George Dam. The area in which it is situated obviously is to be flooded, and the operations were made possible by contract with the National Park Service to the University of Georgia. The University of Georgia chose this particular site in terms of some over-all logistics, of course. It is somewhat difficult for the university parties to run at random over very large areas to begin with; also, surface collections had been made on this site, and Dr. Kelly felt that it was worthy of some extended time on it.

I have drawn a sketch of what the site looks like -- very briefly to orient you. Looking to the north, the site is fairly well defined by natural features on these three sides. There is something called Sandy Creek running along here; to the south, a small sandy branch, spring fed, running along the eastern side, forming roughly a triangular area.

The Chattahoochee River is roughly a half mile from the site proper. To the west, there is a kind of erosional gulley, rather broad and shallow, which tends to raise the habitation area. To the north, there is no natural feature which defines the site. How far the surface materials go we do not know, but in general we do know that over an area of roughly forty acres or so surface indication is good in the way of pottery primarily. There are two major surface mounds, Mound A, which is a pyramidal type structure -- truncated; Mound B, although somewhat disturbed by pits, gives the appearance of having been conical.

Ed McMichaels was in charge of the excavation of Mound A. He got there in May and began work; Dr. Kelly and I came down to the site after the conclusion of classes at the University of Georgia, and I was in charge of testing in the village proper. All told, about twenty-four test pits were dug in various parts of the village.

The occupational intensity of the site varies as one goes over the surface proper; along this bank, with a rather steep slope down to the creek -- perhaps a thirty foot drop. On this particular part of the site the midden is very heavy, going down some three to three and a half feet in this area. In other portions of the site, where it is sandy, it is fairly shallow -- comparatively so. In some instances, it is only eight inches before you hit sterile clay. In an area over here there is a projection which is all sandy; here we found pottery down to a depth of six feet. But this is all very loose sand in here and very easy going; but obviously materials could have been displaced.

This, in very brief fashion, is the Mandeville site. The distance, by the way, between Mound A and Mound B is approximately a thousand feet, or roughly that. Now, from surface surveys which were made, it was obvious that we were dealing here with a multi-component site. One of the things which led us in that direction, was that when undertaking a surface survey some years ago and digging underneath a tree in some roots, a whole pottery vessel was removed. This pot happened to be Etowah. As I recall, this was the only Etowah sherd which was found and this happened to be a whole pot. There was not another Etowah sherd found in the course of the excavation, and I guess some fifty or sixty thousand sherds are involved in the total collection.

This [slide] is a view of the site from Mound A towards Mound B from the flat top to what we think is the conical mound. These various holes which you see are tests which were made more or less at random throughout the village.

In this particular area -- a good deal of brushed pottery, apparently Chattahoochee Brushed, was found; but these materials were confined pretty much to this area of the site. Scattered over much of the site there is some pottery which indicated an Early Mississippi occupation. This tended to tie in with our initial interpretation of the site, when we saw this very nice truncated mound. However, in going through the village collections, certainly the bulk of the material was Early Swift Creek, in almost every area of the village. Although the pottery from the village has not been analyzed, certainly no less than 75% of the sherds are Early Swift Creek.

This [slide] is a view of Mound B, looking at it from the west; the very large pit has been made, and it looks as if someone may have even taken a horse and slip scraper and taken the dirt out of the large trench coming in from this side. It had been our intent last summer at least to go into the pit and try to get a profile, and see what we were looking for. However, as things worked out we did not because of certain things which happened on Mound A, mostly of an accidental nature -- when the walls came tumbling down. But it is presently anticipated that we will get back to it in the coming summer, because we are going back if all goes well.

The hole in the mound [slide]: C. B. Moore worked on this site in 1905 of 1906. At least he put in a few pits. The hole on Mound B apparently was there at that time; it is pre-Moore in origin.

This [slide] is Mound A, viewing it from Mound B, roughly a thousand feet between the two. The Mound is around 240 feet long, 70 feet wide, about 14 feet high. A good flat-top configuration, and, as I said, it was anticipated, in terms of approaching this, that we were here dealing with some Mississippian population in general.

In terms of this, because the land owners had said that it had not been cultivated since they had owned the land -- some fifty years or so -- since there was timber on it, Ed McMichael felt that there was good likelihood of picking up perhaps a final structure on top. So, in terms of that, he started in peeling off some of the upper surface material in hopes of finding indications of the structure. As he went along he found a good deal of Early Missippian pottery, some Lamar-like material in minor quantities, but no post holes. He felt that probably there had been cultivation which had obliterated all indications of this last mound stage. So, in terms of these conclusions, he decided to take it down some additional levels in order to find another upper surface within this larger mound.

Getting down into the mound we had a very neat level in this section which did not surprise us too greatly in terms of structure since it was anticipated that this was what we would find, in terms of a rather well-defined layer here indicating some internal mound structure, probably still relating to the Mississippian occupation.

However, the sherds with this area are almost exclusively Early Swift Creek sherds -- the Woodland occupation--while those above it, in a kind of clay cap, were Mississippian. Upon observing this -- Dr. Kelly had excavated the type site of Swift Creek -- he decided instead of coming down on top, to go out to the margins of the mound, and try to get a profile of some sort through the mound. So this was done. Originally they anticipated going all the way through, but as it turned out the time at our disposal was limited, and so two trenches were just put in.

One was put in, as I recall, 70 feet here [slide], 50 feet here, and on the other side, a comparable trench into the mound -- 50 feet into the high pointed structure. In terms of working through this material, attempts were made to follow the structural levels which were present in the mound proper.

This [slide] is a view of the trench on the south side, when it was near completion. The steps which you see here were subsequent additions to the excavation procedures.

It was felt that the clay cap on top which had been preserved would offer some protection, although the soils in here were fairly sandy, and the walls were not ten feet at the bottom. We thought this might add some additional support, but over a period of about two days we had quite a bit of rainfall. Ed and I happened to be standing up here on the floor when we discovered this wall was coming down. We hid quite rapidly, all in wheelbarrows. One of the fellows who was the custodian of the wheelbarrows saw the dirt coming down and the six of us in the wheelbarrow. He was very irritated because he was afraid his wheelbarrow was going to get covered ahead of us.

This [slide] is the overall view of the south face as such. At the base of what has been called level three in the mound, within the Woodland occupation. These levels were defined in part by very marked kinds of structural changes within the mound -- a floor was observed, or at least indications of a number of post holes. Now obviously with the trench showing a tenth or actually less of this level it is somewhat difficult to pattern these things. This is probably a fire basin. It was excavated perhaps a little too ideally. You had a darkened earth in this area, charred material, indication of fire here, and burned clay around the sides. Ed McMichael makes no attempt to imply that this was any neatly formed ring of this sort. But there was burned clay around the sides of the fire basins themselves. This is roughly seven to eight feet down from the top of the mound, so there is an occupation level here.

As I said, the walls came tumbling down, which kind of obliterates a nice profile. This being on the south side, the layering in the mound was not nearly as neat as it was on the north side of the mound. This perhaps indicates living in this particular area, perhaps an accumulation of midden, and so on the north side of the mound, as you will know later, where these layers are very precise and very clean cut; further additions to that mound to maintain some kind of level with itself. At the same time the amount of artifactual material coming out on the south side of the mound was generally heavier than on the other side of the mound.

You may assume from the earlier slide that there had been a rather intensive occupation here. This occupation was what we are wishfully calling terminal Deptford occupation. The occupation level proper was pretty well defined here in most instances between the so-called Proto-mound and the beginnings of the mound proper; subsequently additions were made, perhaps somewhat fortuitously, in this part, until a level was reached. This would correspond to an occupation level, which was covered on both sides of the mound. There was basket-loaded material in here; it was not too productive of artifacts at all. But a major addition had been made to this beginning building here. You get some indication, of course, in this area of the basket-loading, and in

subsequent levels in through here. The Rood cap, or the Mississippian cap, was added to this already accumulating pile made by the Swift Creek people.

I think the next slide, which is on the top of the north side, shows the rather neat banding and levels somewhat more explicitly. Here you get parallel strata. Now keep in mind that this is only a ten foot trench; what the rest of the mound looks like we hope to find out next summer, but there are very definite kinds of additions to the mound back proper at this early Swift Creek stage. Willey talks in his Gulf Coast publication about at least one possible early flat-top mound in Florida. Here at Mandeville this kind of structure is strongly suggested on the basis of this limited trench. For example, you see what must have been an old surface here, coming down, trailing off toward the edge, and here an addition made, a continuation of the whole surface. Now, I will grant you this is looking at a corner of the cut proper.

VOICE: Jim, are those distinct caps fills? Are they surfaces which you can trowel or are there cleavages between them? Are there other caps?

KELLAR: Like sand, for example; taking sand and put over one of these surfaces?

VOICE: Or clay?

KELLAR: Clay. There were some indications, for example, in here, of a rather coarse, grainy, sand -- sterile sand -- that had been deposited on this.

VOICE: Is that correct? I think it was blown. Was it deposited or blown?

KELLAR: This is too heavy to be blown, I think, since it is a rather coarse material. It is not a fine sand, it is very heavy, coarse, and granular. Now, as I say, this profile is much more precise than on the other side. Nonetheless, it was possible to correlate at least some of these levels.

At the base of the mound, and this is roughly within the village site, or the terminal Deptford occupation level, a burned area was encountered on the south side. This included burned clay, wood ash, and some indication of very intense firing.

After cleaning that off, and getting down into the sterile soils -- this is at the Terminal Deptford level -- a good many post holes were observed, large pits. Some of these post holes were filled with mussel shell; in some of the pits some bone was found -- deer bones, as I recall. No human bones at all were found in this particular mound. A good deal of

deer bone, however, mussel shell, some turtle shell, however, was found.

In digging the whole trench, and cleaning out this particular region, you get a pattern of this sort. It is an extremely complex occupation level.

VOICE: Is this the clay in the basin?

KELLAR: This is a sandy clay. More sand than clay, actually, and McMichael has tried to determine on the basis of elevation some indication of houses. He feels that he can perhaps see some circularity of houses using the elevations of the post holes as his main criterion. Next year we anticipate using some heavy equipment to open larger areas of this, so perhaps if there is a house pattern, it can be observed.

By the way, let me show you some indication of the kind of thing which has come out besides pottery. One scrap of copper was found in Mound A; a broken pendant of some sort. Mica occurs in great quantities, both in the middle of the mound, and in the midden of the village. They are very very soft things, and I would suspect we have a thousand fragments, a collection which is relatively large as you see here.

Here is a broken bannerstone which came from the Deptford level at the mound.

One of the things which we were impressed with were figurines. When we first began to find these rather amorphous bits of clay, obviously not really amorphous, but really worked. We began to talk: "Gee, these are phallic symbols, and rather interesting." Then all of a sudden, in washing up some of the stuff from digging in the village, we encountered this little head. We began to put these parts together in our imagination and we discovered that we were dealing here with parts of figurines. McMichael and I both were impressed with this one which in part at least seemed to have some stylistic relationship to some of the Hopewell figurines farther north. This is the upper part of the torso; we have not decided as yet whether it is an overdeveloped male or underdeveloped female.

Flake knives occur here as well.

This in general is the structure of the mound. The initial analysis of the artifacts from Mound A suggests that there are ideally three major occupations: a terminal Deptford, an Early Swift Creek, and of course, a Mississippi one. In general there seems to be good continuity from the terminal Deptford into Early Swift Creek. For example, without breaking this down too minutely, if one deals with

the Deptford checks and Simple stamps in the lower levels, the percentage of Simple stamp is about 13% to 15% in the second level. By the time you get up to the upper Woodland levels, 6% and 5% are the figures. On Check stamp, 23% in the lowest levels, 11% in level two, 10% in level three, and 4% in level four. If you take your curvilinear complicated stamp, without breaking it down too fine, it ranges from 9% in the lowest levels to 36% in the upper Woodland levels. The rectilinear complicated stamp, if you take what might be called in the Crooked River type, shows up only in the third level, and the fourth, not in the preceding two. Such things as a minor percentage, or a small percentage of rocker stamping, for example, is present in the upper Woodland level. Negative painting is present in the same level.

This kind of sequence is supported by other artifact considerations--tetrapods, for example -- if you assume that the Deptford tetrapods tend to be somewhat heavier, getting somewhat smaller into Swift Creek. They occur, of course, in all these levels except the extreme upper ones, the Early Mississippi. Thus the tetrapods go, in general, from large to small as one goes from the lower portions of the mound to the upper. Similar kinds of things show up in projectile points occur in the lower level, and when you get up to level four, you get the type which is commonly associated with the Early Swift Creek -- the expanded base type.

In general, we have tentatively concluded, that we have here a rather good continuity which suggests an evolution from terminal Deptford into Early Swift Creek. At least there is a ceramic continuity and we feel that here there is the earliest indication of a layered pyramidal type of mound. Do not conclude from this that I say that this is necessarily ancestral to Mississippian; I did not say that. I said there is a strong suggestion that this is the earliest case of the layered pyramidal mound. We also have good indications at the village level at the base of the mound of an intensively occupied Early Woodland village.

It is, of course, difficult to know the significance of the mound in relationship to the village site, but since there are about forty acres of village, the major portion of which is Early Swift Creek, and the mound itself is Early Swift Creek. Whether there is some suggestion here of social stratification or some kind of ceremonialism is, of course, a moot point. As I said, next year, the University of Georgia will be returning to the site; it is anticipated that they will use some heavier equipment, and get a better view of Mound A, and also inaugurate work on Mound B. Of course, McMichael and I, being Ohio Valleyians or at least having training in that area, view the figurines and the flint knives perhaps a little too conclusively, but we are anticipating Mound B with some concern.

DISCUSSION

VOICE: Jim, what is the Mississippian element there?

KELLAR: It is Rood.

VOICE: Don't go away. You said Early Mississippi. What is Early?

KELLAR: By using this Rood focus material. Pottery, in general, is related to this type of stuff.

VOICE: Have you got enough rim forms and handles to demonstrate this?

KELLAR: I think so.

VOICE: You have, all right. Now, what were the lower levels of this mound used for?

KELLAR: The lower levels of the mound and this is only a tentative, seem to me to have been occupational to begin with. And then there is some point, at about the second level, when this major addition to the mound was made.

VOICE: What were the sutures used for?

KELLAR: They are occupational.

VOICE: You did not get any evidence of post holes?

KELLAR: There is evidence of post holes at level three, but at the bottom of level three.

VOICE: At the bottom, yes.

KELLAR: But they were apparently on top of one of these old levels.

VOICE: And do you think that it might have been a circular house pattern?

KELLAR: Well, this cannot be told at this particular level.

VOICE: I see.

KELLAR: These are random. There is difficulty in this small trench to read too much of a pattern. This is what we hope to solve next year, to see if we can get some kind of configuration out of it.

A DEFINITION OF LAMAR IN WESTERN GEORGIA

by David W. Chase

CHASE: I do not mean to depart from the announced topic here, but I had wanted to focus our attention a little bit on one troubled phase of our problem down here in the Chattahoochee Valley. My title as originally announced was a "Survey and Reconnaissance of the Middle Chattahoochee Valley," which I thought was too generalized, so I decided to concentrate on better definition of the Lamar in western Georgia, and specifically in the Middle Chattahoochee Valley, because Lamar now, like the omnipresent Kudzu vine has grown and expanded and gone all over the place, and has varied and sundry interpretations which is causing the whole picture to become a little bit nebulous.

I had a little qualm about trying to do this, because of the nebulous situation which Lamar seems to be in; and I thought as an alternate title here, we might call it "Defining Lamar or How Fouled Up Can You Get?" There is no simple approach, of course; there are no pat solutions and nothing which I can offer in the short space of time which I am going to be standing up here.

Some of the history of a definition of Lamar in our area has already been alluded to in the last discussion, especially in some of the comments which followed. We have already talked about the Rood mounds which were partially excavated by Joe Caldwell in the summer of 1955, and it was at that point that we were able to suspect a sort of a schismatic situation in the Lamar Chronology. There is an Early phase which seems to be somewhat of a departure from the Bull Creek phase. This is published in the very fine Oliver Basin report, by Jim Kellar and Ed McMichael, and has been pretty well outlined and presented as an early and a late focus, namely Rood for Early, and Bull Creek for Late.

I know you cannot see these various pottery types, but I hope you will be able to get a chance to look at them afterward. I am going to talk about them, and give their modal aspects, their relationships, persistence, and possible diagnostic features. I will name off these traits like pottery types, and add on one or two others; these are traits typical of Early and Late Lamar. As a matter of comparison, we can see that we do have a working basis for clarifying the whole Lamar picture at least in one geographical area.

I want to give briefly a rundown on the sites from which we have gathered these samples. Some of this material has been taken from Rood where we are able to define the Rood focus. Some has been taken from

the Singer mound. The Singer mound site is south of Lumpkin, Georgia, which in turn is south of Columbus. It was a group of at least three, possibly four mounds including one very large truncated temple-type mound. The material has been gathered from the surface. None of this site has been excavated to my knowledge or explored at all by an archaeologist. Other material has been taken from the Patterson site, located south of Cusseta which appears to be an Early Lamar site of the same type.

Now let us talk a little bit about these features. I do not want to belabor the initial exploration aspect except to point out that most of the later material has come from two sites, Bull Creek and Engineer Landing. Engineer Landing is located in the Fort Benning reservation, and Bull Creek is near Columbus. Both are good sites of the Late Lamar or Bull Creek focus.

I am next going to talk about these traits and discuss them in terms of Early and Late Lamar. This is not cut and dried -- I am not presenting it in the way of conclusion, and I do not want it viewed in this manner. The temple mound, the truncated, flat-top, four-sided mound, in Early Lamar seems to be a typical thing; it is typical of Early, but not necessarily of Late. Such mounds were possibly used in Late Lamar times as indicated at Rood by the structure which Joe Caldwell found on the top and by the associated pottery. They were used as a continuation of the ceremonial complex. Large settlements on rivers are not too common in Early Lamar -- they are more characteristic of the Late Lamar such as Bull Creek. The large tributary settlements would be more typical of Early Lamar, but on tributaries in Late Lamar we only find small camps. Apparently there was a movement to the larger streamways in later Lamar times.

A little bit about artifacts: House daub. This was a rather interesting thing. We have not been able to get a good run of house daub in any of our Early Lamar sites. It appears, but in very very small quantities, and it is of different quality than that of the Late Lamar. Whereas in Late Lamar, it is typical, common, and widespread, and usually littered all over the site. There may be some variations in the architectural concept. The fired daub would come out in a sort of a modified, fire-reddened, or extremely hard form. In most cases, this is the way it appears. Daub which is not fired will disintegrate, as far as I can determine, and will just vanish into the ground where it loses its original identity. So I think most of the daub which we are finding is fired by accidental house burning.

Pottery: Lamar Complicated Stamped seems to be totally absent from the Early Lamar. As far as we know we have not picked up any to speak of. There have been one or two sherds picked up at the Patterson site, and out of a run of about 250 sherds we only got one or two which were Lamar

Complicated Stamped, and it was somewhat different from the typical Complicated Stamped of the Late Lamar. It was not deep; it was not well stamped, and so forth. However, in Late Lamar, Complicated Stamped is almost a diagnostic feature; it is very common in western Georgia. I cannot give you a percentage figure on this. Frank Schnell might be able to fill you in a little bit better on that; he worked at Bull Creek last summer and got quite a number of sherds of it.

Lamar Bold Incised. It is present to rare in Early Lamar -- you do not find much of it -- but it is much more common in Late Lamar. We talked about Panellas Incised in which they got three sherds. Here, it appears in Early Lamar but it is absent -- at least, we have not found it -- in the final phase of Lamar. It just does not appear.

Spout handles. You can give all sorts of names to these handles. Many of the handles in Early Lamar appear somewhat as a fancy adornment. This would be a spout handle -- it is a lug, and with these molded handles in cross section the thing looks like this. There is a loop in there -- not quite big enough to get your finger through. There are quite a number of these, they are quite common in the Early Lamar, but they do not appear later.

VOICE: Is that the type of handle you find on the Macon Plateau?

CHASE: This is not Macon, that I know. We get a sort of a rudimentary variant of this where we do not have a full handle. Here is one.

KNEBERG: I noticed the handle. Are the loops riveted or are they molded?

CHASE: I do not know. I think they are molded on. You can look at it, but it looks to me as if they were molded on. Look at this one here.

Now we get this sort of a protrusion -- nose, bump, lump, or whatever you want to call it -- sometimes appearing individually, not in a row always, sometimes spaced out, sometimes just individually with a large space in between, all the way around the rim. Whether they come in multiples of two, or whatever, I do not really know. We have not found a whole pottery vessel so we can determine it. But this again is a characteristic of the Rood focus.

Effigy adornos of the raptorial bird type or animal or even human seem to be more common in Early Lamar -- I am a little hesitant to say this because we have found adornos in Late Lamar, small animals or birds, but they do not appear to be too common. How did that run at Bull Creek, Frank? Did you find many rim adornos there?

SCHNELL: They run higher late.

CHASE: It would be higher in the Rood focus.

SCHNELL: Higher in the Rood focus, higher in the very later part of the Rood focus.

CHASE: Yes.

Lake Jackson Plain. We are picking up some of our southern types. This is the closest thing I can tell from the basis of pottery appearance -- temper, texture, and color, and so forth to Lake Jackson Plain. It seems to appear in the Bull Creek focus, rather than in the Rood focus, although we have picked up some sherds which look like Lake Jackson Plain in the Rood focus, but I do not think it answers the type description of Lake Jackson. It is more typical in the late, which is understandable. We are running coeval with Fort Walton at this time.

Shell tempered pottery. It appears in minor amounts in Rood focus. I think some of this Panellas Incised looks shell tempered to me. Some of it, I believe, is shell tempered, but it is a minority. It picks up in somewhere in the middle of the Bull Creek focus and by the time that Lamar is ready to run out there is quite a bit of shell temper. At the Engineers Landing there was a fair amount of it that we were able to identify. This seems possibly to be something prototypical of your early Ocmulgee Fields where we do find quite a bit of shell tempered pottery.

Fort Walton Incised. I am not prepared to say that it appears in any great amount in Early Lamar. We have not seen this to be so. It does appear in the Bull Creek focus, and in moderate quantities.

If we are going to talk about temper generally, it appears that sand was used as the temper ingredient primarily. If we are going to compare the two, mainly sand in Rood focus and grit mainly in Bull Creek focus, we do get both in either of the foci, but massive, thick, sand-tempered sherds seem to be common in the Rood focus, but not so much so in Bull Creek; grit is typical and most common.

VOICE: You can get a loop handle and a strap handle in both, can't you?

CHASE: It is a loop handle, mainly. You get strap handles, but handles generally are not common later on. The idea of putting handles on pots was not as popular later on.

VOICE: What is your grit in there, a crushed quartz?

CHASE: It is a crushed, metamorphic stone of some kind or other which is characteristic north of Columbus. They used crystalline rocks usually, quartz sometimes, smashed up river pebbles or whatever was available.

Pottery discs prevailed throughout Lamar and run into Ocmulgee Fields. They seem to vanish somewhere in the early part of Ocmulgee Fields. It picks up down here and goes all the way through. I guess that occurs at Fort Walton too.

That just about runs out of what I think are major and more or less important traits in terms of artifacts. As I said before, the list may not be 100% accurate on that, but I presented it in general terms because I am a weekend digger, and I do not have too much time in between fooling around with what other things Uncle Sam wants me to do to actually break this business down in the proper laboratory fashion; but we are taking care of the broad glance of it, and presenting it to you. We think it might possibly represent some sort of a formative approach to geographical interpretations in this Lamar business, which is a problem, and it is going to get worse if something is not done. I think Dr. Kelly will agree with me on that.

Incidentally, something was mentioned yesterday about the early appearance of checked stamped. We think that this checked stamped up here is sort of a proto-Ocmulgee Fields. It occurs in early Ocmulgee Fields up the valley. That sherd came from Engineers Landing, which indicates that it somehow is in the very tail end of Lamar -- Engineers Landing would be late in the Bull Creek focus.

DISCUSSION

VOICE: Have you ever found any of the other loop handles in the south?

CHASE: I have found others, yes. [background discussion] That is an unusual one. That is Fort Ancient.

VOICE: That's kind of interesting.

GRIFFIN: But I agree with Tono; this thing does not have anything to do with Lamar, except perhaps as a contemporary development on the Chattahoochee of Lamar developing somewhere else. I do not know what the interpretation is, but it is a great mistake to call that Lamar.

CHASE: That is where it is, Jimmy; it came out with this stuff.

GRIFFIN: I know. I mean that your whole Rood complex is not Lamar.

CHASE: Well, not Lamar, but in terms of traits of this type.

GRIFFIN: Well, those are traits linked to Lamar, but that is not a Lamar complex.

CHASE: This is what we are trying to work out: whether we can justifiably call this a proto-Lamar or what?

GRIFFIN: I think it is too late to call it proto-Lamar.

CHASE: Can't Lamar develop somewhere else and then move in on top of this? Or blend with it?

VOICE: I suppose so.

CHASE: It could well be. Maybe coming out of north Georgia somewhere.

VOICE: Your Bull Creek focus, so called up here, is a mixture of Lamar and Fort Walton.

2nd VOICE: Doc, that complex on top there, I think, can be dated. Remember, Joe Caldwell pointed out that something on the complicated stamp which he got at Rood was the same as the stuff in that little site at Kolomokio.

GRIFFIN: Yes.

VOICE: There was one very characteristic design -- a cross with four circles -- which he picked up. That same design -- same check stamp -- showed up at one site in Florida, the Seven Oaks site. It is the dominant material there, and that again is a checked stamp. I think it indicates the same people. How they got down to Seven Oaks from Tampa, I do not know.

2nd VOICE: [from background] 1650.

VOICE: But John Goggin has a paper on the associated trade material which would indicate pretty clearly that this material is right under it, which it is in your two or three sites in the valley. It can not be very early.

GRIFFIN: What David is saying is that this sort of thing does occur, and he has pointed out possibly that what we call Early Lamar would be a little bit different up in north Georgia.

CHASE: I think at the Patterson site we are going to see this stuff leading into a variant which looks almost as if it were transitionally Early.

GRIFFIN: Well, you would have to be able to demonstrate it on a stratified site.

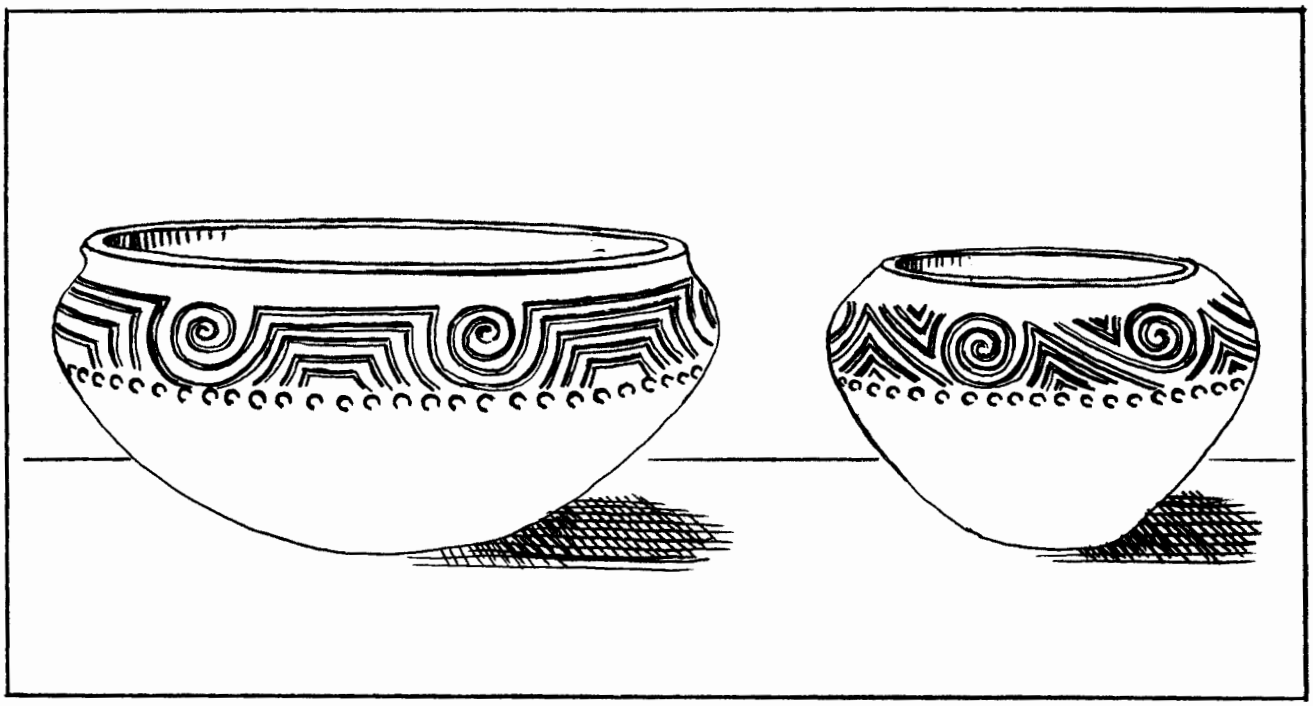
VOICE: I think you are getting into the trap of looking at this as a development in a particularly local area, whereas another interpretation is that the Lamaroid material comes in on top of this, and that the Lamar

part of it in your upper section is not a development from this down below at all. [general discussion re periphery]

CHASE: One thing, in justification for these comments is that we have not found a stratified dual component site with both of these foci on it. Until we do, we cannot really say too much about it in terms of whether this is going into that, and so forth.

[BACKGROUND QUESTION]

CHASE: Yes, that is true. I had forgotten you are right there. I omitted that. Rood does have the both foci. But no work was done in the village component area, so we do not know. I am going to leave this here, for any of you to see.



Lamar Bold Incised

RECENT DEVELOPMENTS IN UNDERWATER ARCHAEOLOGY

by

John M. Goggin

GOGGIN: Our program actually started in 1947, when we began to look in shallow waters in Florida with nothing more than glass bottomed buckets and face masks. With these we were able to recover a great amount of material from a particular Spanish Indian site, presumably a mission, dating around 1630 to 1650. Later we used homemade aqualungs with airplane oxygen regulators. It is a very dangerous operation but one that is safe within certain limits. Eventually, students and I bought all the equipment. Finally, we began to get some grants and now we are fairly well equipped with professional aqualung diving equipment. As a result, we have been able to get a considerable amount of material, which gives us some information of interest. Most of the material laid out on the back table there we recovered ourselves. The two pots over on the far side were brought in by divers.

The main advantage of underwater archaeology, in general, is that it complements regular archaeology; it is not a substitute for it. Particularly advantageous are sites where people lived on the banks of a creek, or some body of water. You find material almost as if the people threw whole pots, slightly cracked into the nearest body of water. If you break a pot and it falls to the ground in three or four large pieces, you lose these underfoot. But if you pick these pieces up and throw them in the nearest body of water, you can get rid of them. Oven Hill, a Seminole site on the St. John's River: We excavated a rich portion on the land, and then we dove in the river right in front of it. The largest sherds that we were able to put together from our land excavations were about this size; whereas in the river, we got cracked but whole pots, as well as halves, thirds, quarters, and many other large pieces of pottery. These all complemented the land collection. There are, of course, certain disadvantages with underwater material. Very frequently they are covered with algae and moss or stained with iron and manganese.

We find that in theory any body of water can yield a site for study. But in practice, sites are best limited to bodies of water which tend to have fairly solid bottoms, and bodies of water which do not carry large amounts of sediments to scour their bottom. The Suwanee River, for example, rises in flood, and apparently has in the past carried sediment, because it has natural levees; but certainly in recent times there is no evidence of levee building. In all the floods of recent years -- which have been very severe in some cases -- there has been no mineral sediment at all, merely organic materials.

Of course, there are other types of underwater archaeology. The study of shipwrecks may be very useful. Also we overlap with geology in many

places, working together in springs, which have turned out to be repositories of terrific quantities of Pleistocene material, as well as archaeological material over a long range of time.

Some recent developments in Florida are very unusual, and worthy of brief mention. Last spring I got word from the geologist at the University of Florida that a spring with many human bones in it had been found in the southern part of the state. Shortly thereafter, I was contacted by Dr. Louanna Petty, a young physical anthropology graduate from Indiana who is now teaching at Ohio; she had been wintering in Venice, Florida, on the southwest coast. She called me up and told me that they had a spring in which a great quantity of human bones had been found. As a result, we took our diving team down and looked at this spring and one other.

This spring is known as Little Salt Spring. It has a considerable output, but it is still fairly slow-moving. It is ultimately a basin about a hundred yards across with very low banks; it slopes down in a funnel-like form. At this point it is about 40 feet deep, whereas at the bottom it is about 200 feet deep. This area here [showing profile] is actually quite a bit steeper than I indicated. This area yielded a great quantity of heavily mineralized human bones. Miss Petty and some local skin divers had recovered a great number, and when we went out we recovered a few more, although we were not interested in taking out any more than were necessary to absolutely determine the situation. But at the last count, I believe there were enough femurs from one side to account for over 50 individuals, and apparently this bone bed is hardly scratched. The bulk of the bones are body bones. There are only a few skull fragments, although there is a large number of jaws as compared to skulls. It has been postulated, by me at least, that these bones represent secondary burials thrown in from the bank and that the skulls on this steep slope simply went down to the bottom. The bottom is a deep layer of very soft silt, at least six feet deep. It is very difficult to work in. Of course at this depth of 200 feet you can only stay down a very few minutes, and then you have to spend a long period decompressing coming up.

The artifact situation is very peculiar. There is no pottery. There are a number of bone awl-like tools, a large number of deer antlers (which have the tines broken off in some cases in other cases they have been ringed and then broken); and there is one shell chisel, but as I said before, no pottery.

The question of explaining this is very difficult. The water is highly mineralized, and the bones are very mineralized. A few that were broken show crystals growing in the interior of the bone almost like crystals in a geode which are also very heavy and hard.

VOICE: Is there a site around there?

GOGGIN: We did not have time to look. The hammock area is very low, and the water table at the land was very high; it was a period of heavy rains so everything was very swampy and difficult. We are hoping to plan a detailed excavation, but we have run into several snags.

Dr. Petty saw it in abnormal high water season. Pine trees grow out here which do not grow in the swamps, and the first people she worked with had very loose terminology. This is a low hammock in terms of physiography, and round this is what we in Florida call prairie, which is something more than a marsh. A prairie is dry a good part of the year, and a marsh is wet most of the year. But there is still this ring of low hammock around the site, and it grades up into a little stand of pines. Pines will not grow in Florida if they have water on their roots for more than a couple of months during the year.

GRIFFIN: John, what is the nature of the collection?

GOGGIN: We took nothing; we left everything there. Although I know the bones are pretty well scattered, there are some in the Florida State Museum and some in the American Museum of Natural History. But in any case -- so far as I can see -- there are probably as many more bones.

The sedimentation in the bottom of this is very interesting. The materials on this slope are just barely in equilibrium. You can drift down gently -- I do not know if this makes sense to you, but when you are in water with an aqualung you can sort of drift down -- and all you have to do is sort of flick the bottom of the hand and things will start shaking down. The top layer of this is a very loose material anywhere from three or four to eight inches thick. It is primarily organic, very loose gray-black peat, with a mixture of tiny shell fragments. Underneath is a more consolidated material, sandy and shelly, which is pretty firm. As far as I can see, at least some of the bones are definitely imbedded in this consolidated material. I have termed it consolidated; this is relative to the loose material. But it will stand on its own without much trouble, I think, whereas the top stuff will move at the slightest brush. This suggests to me that the bones were down here. We did not systematically analyze what there is up here but the organic material seems to get thicker, I think, up closer to the surface; that would be reasonable. And if these bones were thrown in there should be a greater concentration up here than in the area where most of them were found.

The problem we are facing right now is that this site is owned by a

large corporation which is engaged in the business of selling lots: ten dollars down, two dollars a month. George Quimby owns one in Port Charlotte. They are apparently trying to figure out ways to get publicity so they have held up giving us permission to work in this site. Although we have no money as yet, we feel we can probably get it.

A few miles from Little Salt Springs there is another one called Warm Mineral, in which I also made one brief dive down to about a hundred feet with Lieutenant Colonel Royal, the man who had found the first bones in here.

Warm Mineral has an interesting history. It is also being developed by people who are selling lots around it. They sell bottled water from it, and they let you bathe in it for a fee, all presumed to increase your laxativity. At the present time they are trying to convince the city that this is Ponce de Leon's fountain of youth. The operators of Warm Mineral Springs hired a very aggresive promoter who kept encouraging this Colonel Royal to dive here. So Colonel Royal, together with an ex-geologist named Dr. Eugenie Clark -- a very famous shark expert who wrote the book titled "Lady With A Spear" which you may have read -- have been operating in Warm Mineral. And as you probably know, if you have been looking at television, they have made some very sensational discoveries all by themselves without any consultation with any archaeologists, and with only a slight consultation with Dr. Petty.

Warm Mineral is somewhat similar to Little Salt, except that the basin is much shallower. It comes down to about 180 feet, and about 30-odd feet down there are a couple of little ledges. It is really a circular ledge which runs around the whole thing, that apparently was formed when the sea level was lower. We know this was dry because there are stalactite stumps hanging from the roof. At the time I went down with Colonel Royal -- at the same time we were at little Salt -- they had found one human bone from this ledge. Subsequently, they went back diving -- I do not know who did most of it; certainly Royal did most of it, and apparently Dr. Clark got involved. They got a log and some other human bones, including a skull with the brain intact. I heard about this from many sources. Shapiro wrote me, and the day I left Gainesville I received from the editor of Science a short manuscript of Dr. Clark's for review. According to the newspaper publicity -- and that manuscript confirmed it -- the log from here dates at 10,000 B.C. It was dated by the Scripps Oceanographic Radiocarbon laboratory. They believe that the bones down here date from 10,000 years ago, or 8,000 BC. Furthermore they believe that man was living here 10,000 years ago, for the situation indicates that the sea level was low enough that the spring was down here.

VOICE: What is the depth?

GOGGIN: About 35 feet or something, 180 down to here. How they got down here unless they were great Alpinists I do not know, because this is a pretty rugged cliff. As you swim up and down the face, it is like a wall. But the bones and these logs are in here, and one of the most fascinating things is this material found within the skull, which had been claimed to be a brain. You probably saw it on TV, I didn't.

KNEBERG: Has anybody else see it?

GOGGIN: This was on the Chet Huntley show a while back.

KNEBERG: All the time that this was going on, I kept waiting to see Goggin. This thing went on and on; they got this skull out and they said there was a brain in there, so they were going to take it to the experts. And I said all right, here comes Goggin. Instead of that, they ended up in a Doctor's office with a saw; they sawed off the top of the skull.

GOGGIN: Doctor Clark's husband (she's a Ph.D. in Ichthyology) is an M.D., a surgeon, and I think he is the one who did it.

KNEBERG: Well, he is the one who sawed it, I think. He got a mass which looked about this big. It looked like it was rolling around in there -- and about that time I got so upset because John had not appeared that I do not know what happened.

GOGGIN: They came out with this publicity and a newspaper man's excuse for a scientist called me up. Apparently he called Shapiro and Ford as well. Anyhow he quotes all of us. Ford and Shapiro were quoted rather gently, and I was quoted rather firmly. I think they said something like, "Tragic that this work was done by such irresponsible people." So two days later I got a telegram from the publicity manager of this spring. "In view of your ignorant remarks in the St. Petersburg Times we feel a public apology is due to Dr. Clark and Colonel Royal who have devoted their lifetimes to science unselfishly, etc. etc. Furthermore, the University of Florida has always been cooperative." This is what everyone in Florida is mad about: we have no documents in our Spanish archives to prove that this spring was visited by De Soto. He does not believe us, and he will not come up and look for himself. He can't read Spanish. These are the trials and tribulations which one faces in underwater archaeology. The are worse on the land than they are in the sea.

I do not know what is going to happen about this site. The matter of sea level is quite debatable. We have a spring expert who has made a detailed study of the spring. (By the way, the publicity people are mad at him, because he will not say anything until he writes up his paper, final draft, and then he will give them a copy but he will

not give them any advance publicity.) He does not believe that this was dry 10,000 years ago -- assuming, of course, that the log did date 10,000 years ago by radiocarbon, as I suppose it did. But this place is so highly mineralized that if you take your equipment down it almost falls to pieces before you can get out; your electrical gear corrodes fantastically. The ions must have been dancing back and forth between everything here like a mad race.

VOICE: That is limestone, isn't it?

GOGGIN: Yes. It is heavily mineralized water, and very hot for Florida; it is over 80 degrees.

KNEBERG: John, I thought that was supposed to have been charred wood from a campfire.

GOGGIN: Well, it is a log in which the end is charred; I do not know what the stage is, maybe if it was just the carbon part it would be all right, but they took the wood part.

The observations, as far as I know, were made in the water by Colonel Royal. I dove with him and before I went down he explained to me what I would find in these springs. What I found was certainly different than he described. I have no faith in his power of observation.

VOICE: John,I just have one addition to make to that: the log was found when Louanna was down there. She said she could not figure out what it was or how any bones got back in this place. Theoretically, Eugenie Clark took complete charge of it. They cut off part of the log, and left the other part in place. That much Louanna did insist upon; they did not take out the whole log, so in theory part of that log is out there. The skull was not found until a least a month after that. Now whether it was found in the same spot or not I do not know; but I know it was found long after the removal of the log.

GOGGIN: Supposedly it was found in the same layer. There are several different layers of weeds and stuff.

VOICE: Parts of the log were just sticking out; there wasn't any layer at all.

GOGGIN: Well, it would not be impossible for materials thrown in here to get back in there, because you have a warm mineral spring. If we have a two or three day change, a cold wave which would bring 40 degree weather down here, the temperature of the surface water would start dropping and you would have a complete change in current. Furthermore, these springs are highly sensitive to droughts and

floods, and they are intensely fluctuating. Third, we have found beer cans very deep -- many, many feet back -- in the face of very, very strong current. And it is quite clear that from our experience with springs, that we have a major current, so we watch what happens. In the very bottom there is often a counter current. Many of our bone projectile points and flint points and things which are far back in these spring caves can be explained this way. You can explain that maybe you stuck them in a fish and they went back there and died but there are too many for this. These things have worked back in a counter current, underneath the major current.

VOICE: Well, John, if anything went down there, now, it would be collected there, would it not?

GOGGIN: Their argument, of course, is that these things were deposited when the stalactites were being formed. If stalactites were being formed, it was a pretty wet period, and the idea of people being back in there in a little niche, presents a problem. According to Colonel Royal and Dr. Petty these niches are six feet, maybe, but not much more. From what I saw, six feet would be a pretty good measurement. It is a very fascinating problem, but this business of ichthyologists and retired Air Force officers setting themselves up as archaeologists is a little discouraging.

KNEBERG: The thing that disturbed me about it was the fact that this was a nation-wide broadcast, evidently very elaborately set up by NBC, and I felt at the time that the American Anthropological Association should protest the publicity on a thing like this, without contacting any professional people.

GOGGIN: Well, this was the Chet Huntley show, and it was scheduled for earlier in the summer. Our geologist went up to New York just two weeks before it was set up, and he protested to NBC at that time that the geological picture had been distorted. Apparently they put if off then and then picked it up later. I do not know too much detail. There are so many ramifications that I hear things from different people but I never get anything directly straight.

KNEBERG: Well, they were represented as archaeologists.

GOGGIN: This is the discouraging thing; that this is called archaeology.

KNEBERG: They said that over and over again during the film.

GOGGIN: The thing which is discouraging to me is that someone who is a responsible scholar in one discipline seems to carry no responsibility over into another.

VOICE: That is right.

GOGGIN: Getting back to the original topic, briefly, we started out to point out what is necessary and said that at the beginning we started our diving in shallow water with nothing more than a face mask. This can be used in fairly deep water when you become skilled, that is up to 20 or 30 feet, but the problem is that if you want to do any serious work you are limited by having to pop up to the surface to catch a breath of air. So the simplest way is to carry your air with you in one way or another. And the best way is with a so-called Aqualung, which is one of a number of forms of self-contained air-breathing apparatuses. For working in water you need simply equipment to supply you with air and accessories to enable you to see and to move about and to stay down. The basic thing for your air supply is a tank of compressed air which weighs, when full, 30-odd pounds. It is so made, though, that it contains actually only 4 pounds of air, under pressure of 2250 pounds when full. This is two pounds over equilibrium in the water when full. When empty it is two pounds under equilibrium, so you are in a very delicate balance with your atmosphere, even though this is 35 pounds in weight. The basic problem in getting air, of course, is that as you go deeper in the water you are under more pressure from the water around you. At a depth of 32 feet you have one atmosphere more pressure than you had on land. You can not breathe air at surface pressure more than three or four feet deep, because your lungs cannot draw it in, and your lungs will be evacuated. That is, if you jump in the water with a garden hose down to 20 feet and try to breathe from surface water the hose will suck everything out of your lungs, because of the pressure in your lungs.

The major device used in diving is a regulator, a set of valves which supply compressed air at exactly the same pressure at whatever depth you may be. So no matter how deep you go you receive air at exactly the same pressure as the water around you. This is the real secret of an Aqualung. This is what took a long time to develop -- but it is a very efficient device. Cousteau, as you know, developed the first really efficient Aqualung and since then there have been a number of variations. But his is the best and most efficient. [Demonstrating.] This is put on, and clamped very tightly. You then open up your tank, and you are ready to breathe simply by inhaling through this mouthpiece. There is a set of non-return valves on each side to bring your air in. The real secret is the regulator which feeds you air at exactly the same pressure. This sets up certain problems of course. The deeper you go, the more air you use; so you cannot stay down very long, because you are constantly using fresh air at a very high pressure. This exhausts your tank very quickly.

We are now working in the Swannee River, mainly at 15 to 20 feet

depth. I can usually stay down about 55 minutes working steadily before I run out of air. This is something which varies; some people breathe more than others. Everybody breathes a lot when they start out; they are not too sure. As you become more experienced, and particularly if you find things and are busy working, you forget about things and you go into a normal rhythm and your air supply then becomes much more useful and lasts much longer.

The time varies with the depth, however, I could stay 55 minutes at 15 feet but if I were to go down to 100 feet it would be less than 15 minutes; at 175 feet it would probably only be about 5 minutes. So when you go deep you usually take a double rig. Also, if you stay down that long, you have to decompress. There is no depth at which you can stay down long enough with one tank which makes decompression necessary. I find it preferable to use single tanks with student divers because it is absolutely safe; you never have to worry about decompressions. But if you use double tanks, you can stay down long enough that you have to decompress.

We have been doing some diving with geologists and have been getting Pleistocene fossils from a cave 165 feet deep. To get to it, you go down into the sinkhole and then angle off into a tunnel and to the spring tunnel. We have been bringing up mastodon jaws, and we still have whole femurs and scapulae down there which we can not get out. We have to rig up a floating rig -- a ballon thing, but we have to decompress. If we stay down 15 minutes at 165 feet, we come up to 10 feet and then one of the boys on our surface team will bring down another tank or will leave one there ready for us. We have to stay 25 minutes at 10 feet. So decompressing is a great problem, but basically a simple one.

In addition to the air supply, one uses weight belts depending upon your general body build. I use four pounds in fresh water; these are 5-pound ones. Different people with different body build use more or less. You simply add or take off weights. In addition to this you need a mask (this is one type of mask) and flippers to move through the water. It is impossible to swim with a tank without flippers.

We also use lights. Our particular one does not work well. Lights are the greatest problem. Anybody who invented a good underwater light would certainly seize the whole market because no one yet has invented a satisfactory one. The problem, of course, is that as long as you have an open electric circuit in the water, you have corrosion, or electrolysis, operating and trying to produce a closed circuit. The pressures are incredible. You have no idea of what water will do, how it will seep into something at 30 feet -- much less at 100 feet.

We have various types of camera cases. I have one which carries

my Leica; one of the boys has a case which will hold a Rolliflex. But, here again, we had considerable problems. It is very difficult to make these cases waterproof, and they are quite expensive, and in most cases you also have to have flash attachments.

VOICE: Being completely unfamiliar with this, what happens to your poor nose when you are breathing through your mouth?

GOGGIN: This is a matter of habit. I took one fellow out who was very interested in going, and he went in and suddenly discovered that he could not breathe through his mouth. He had always breathed through his nose and he could not shift, and he tried and tried. Apparently there are a few people like that.

Generally speaking, depending upon what sort of a discount you can get for your University, you can buy the best simple outfit for less than $200 for one person. But, of course, you have to have a source of air supply, which means either getting your own compressor or else buying it. Both are very expensive; compressors wear out very quickly, they work at very high speed. It is a very expensive operation in some respects. As long as you stay in fresh water though, your equipment will hold up pretty well, but in salt water you really have to be careful to wash it thoroughly and make sure it is really flushed out each time you dive.

But I think that this is something within the possibility for many people in the Southeast here. There are many springs. We have hardly ever been in a spring in Florida in which we have not found artifacts. Of course, our Florida springs, as you know, are pretty large. Most small Florida springs would be large springs in any other state outside of Missouri, or parts of Kentucky, and southwest Georgia. But most of these springs show a considerable number of artifacts, and I suspect that there are many lakes and perhaps certain of the rivers as well here in the Southeast which would be amenable for exploration. The silt-laden rivers, however, would not be practicable because they carry such a heavy load as they scour the bottom. Furthermore, they deposit silt when they slow down and cover up artifact. It is very interesting to see Oven Hill where we have been diving. On the land, the predominant material is Seminole. Underneath are similar materials with a little scattered Deptford and Weeden Island. When we dive in the river in front we get primarily Seminole material but a little scattered Deptford and Weeden Island as well. It is just as though those sherds have been there for a fairly long time right in front of the site. But the interesting thing is that if we did not know the types, we could sort out Deptford from Weeden Island by erosion. They do show the effects of long immersion in water and they are much more eroded. Of course, Seminole pottery is exceptionally well made technically speaking; it is very hard and well fired.

VOICE: You can tell the difference between Deptford and Weeden Island?

GOGGIN: Not nearly as well as between those and the other.

VOICE: Is the erosion on one side -- like the top side -- under water, or on both sides?

GOGGIN: Strictly speaking, it is all around. At Oven Hill our particular problem is this: [Demonstrating.] Here is the land. We have a little escarpment about 10 to 15 feet to a little short beach. Here is the Swannee River. Then we have a talus running down here depending on the level of the river; it varies from 12 to 15 feet as a rule. Then the river bottom is like this. The river bottom is practically all hard rock, covered thinly with a mantle of sand. And the river sides, wherever they have been cut into, are rock, and we suspect there is rock under here. This is a very steep slope and this talus is very unstable. Practically all of our finds are out in here; and this is a long throw from up here.

We suspect there is far more material in the talus than in the river, and as a result we are now constructing a suction dredge which we can use here and which will probably be useful in many other places. Perhaps you have read Costeau's articles in the National Geographic Magazine about the galley they are working on. They are using a suction off Marseilles. We suspect that we will find far more material. One advantage of material in the sand where it is away from the river current is that we have very good hopes of finding wooden and other remains.

This suction dredge is nothing more than a big pipe. It will be a series of connected irrigation pipes -- aluminum pipes -- and at the bottom of this last piece of pipe will be a fitting connected to a hose with a valve on it. And this hose will run up to a compressed air supply of very low pressure, about 50 pounds but 45 to 75 cubic feet a minute. When we turn this valve on here, this compressed air is going to start shooting up, and when it shoots up it sucks up everything; but it creates no turbulent disturbance. You can be here working this, and move it around, and suck everything up, but at the same time you can see. It is not like using a jet or something which blows. This will come up to the surface where we have a large wire basket which will have floats around it; and this basket will float on the surface. This pipe will come up to here, shoot the stuff up in here. The debris and sediment will fall through the wire basket; stones, shells and artifacts will collect in here, and we have a gate on the bottom and every so often we will send a diver down with a big basket who will open the gate and catch it and take it up to our boat which will be here on the shore.

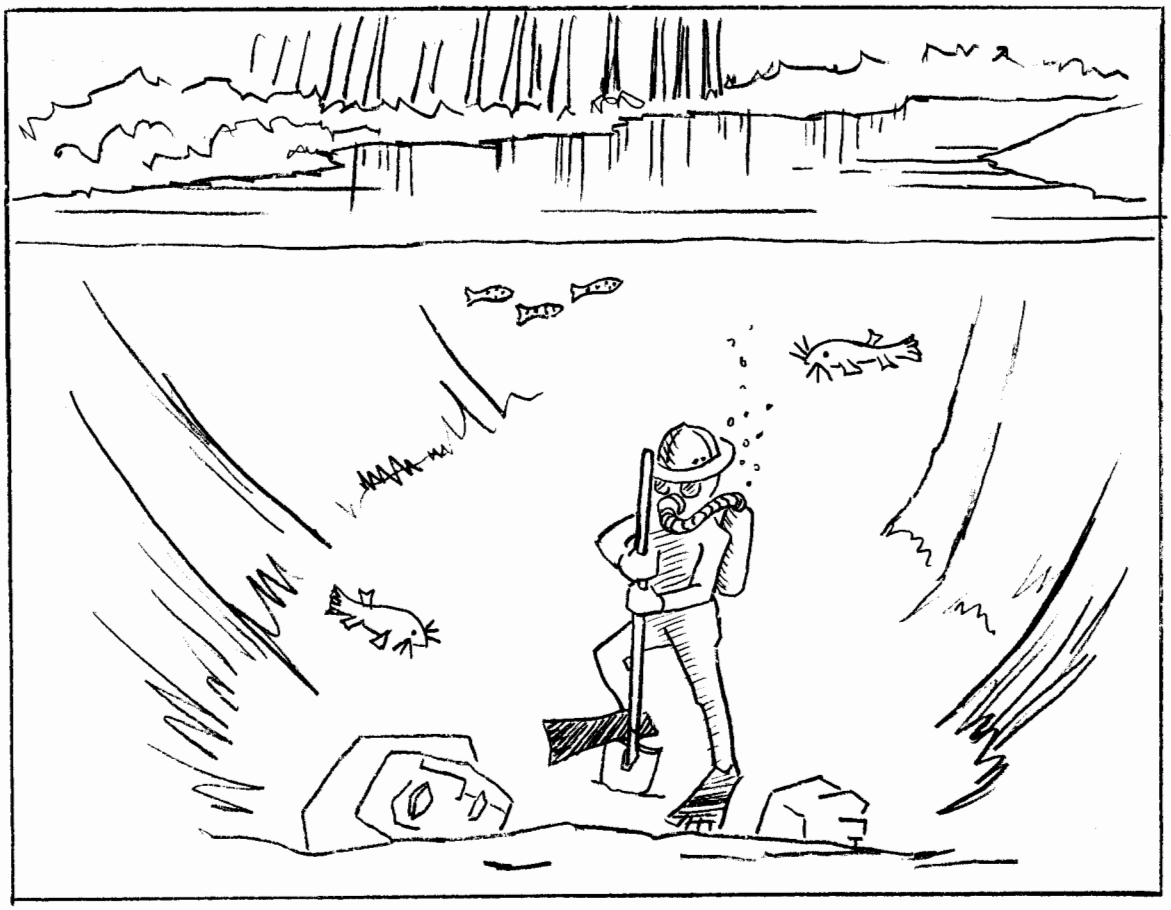
VOICES: Is it on the level?!

GOGGIN: It is possible. It actually is possible. We do not have ours in operation but I have talked to many treasure hunters who have used them and they tell me they have become very very good. You can ease off and really work the surface very delicately.

VOICE: This does not damage any of your pottery or anything like that?

GOGGIN: There are no moving parts, you see. Here you have a stream of bubbles. And I have seen very minutely thin Spanish glass -- paper thin -- which has come up from these Spanish wrecks into the basket. It comes up here. You see, it is cushioned in water all the time. When it comes down, the only problem would be here that if you have something thin that you might have things piling up on top.

In the river here, we have to operate this way. The fellows who are working on wrecks in the Keys simply take a long pipe and run it over their shoulder about 30 feet long -- all under water -- and let it shoot out under water where there is a current. There is enough tide current to carry the sediment away and the artifacts fall right underneath the pipe - and the guy stands down there. The only trouble is that the fellow running the pipe every now and then sticks a cannon ball in it for the heck of it and it shoots up and drops down in the basket.



WILLIAMS: As I mentioned yesterday, there are some general problems that I would like to discuss with the group as a whole. First, let's discuss next year's meeting. We have an invitation from John Goggin to go to Gainesville. I think it's ten years since we were there, and if that is agreeable to everyone, we will accept his kind invitation. Any discussion? Well, if there isn't any discussion of the place, Gainesville is it. I do think we ought to discuss what we are going to do there. Has anybody got any ideas? John said he is open to any suggestions. We generally try to have some sort of theme, or structure to build these things around.

VOICE: I have been thinking of at least one topic that might be considered in view of what they have been getting at Chattahoochee in terms of Fairbanks' discussion. Maybe we could spend at least a session on Deptford-Swift Creek again. We have done that before but it was a little while back and there seems to be new material. Sears is getting a little bit and the Chattahoochee Valley stuff is coming out, and we might by next year have enough.

LOW VOICE: That is pretty heavy for this conference as a whole. We might expand it for that whole horizon.

WILLIAMS: Well, what would you include in other parts of the country?

VOICE: We could have several different themes for different sessions. One morning, one afternoon.

WILLIAMS: All right.

VOICE: One morning Deptford-Swift Creek. I would like to say that in that connection the data produced some real honest-to-goodness Swift Creek, and changes in the complicated stamp. People have talked about it and talked about it, but I do not know of any real data which have been presented.

KNEBERG: Would it be possible sometime to have a session on the other traits which are associated with these pottery types?

WILLIAMS: Oh, cultures? Let's keep it clean.

KNEBERG: Yeah!

VOICE: The Real World -- Florida potsherds.

KNEBERG: I think we have an awful lot of pottery types floating around.

VOICE: Why don't we make the Deptford-Swift Creek: a cultural combination?

WILLIAMS: All right.

VOICE: I would like Bruce Trickey for example, to move into that in spite of remarks. Maybe someone will worry a little bit more about Tchefuncte again.

WILLIAMS: But no one is getting new data on Tchefuncte. I was talking to Jim Ford and one of the things he mentioned was that we have to focus on problems on which we do have new data to present. One of the functions of these meetings is to deal with something which is new and for us to try to work it out together.

KNEBERG: There is one thing we might be interested to have as a round table discussion - we talked about doing it here - and that is the elimination of duplicate names and duplicate types. The best example is the Guntersville Series.

VOICE: Yes.

KNEBERG: And I think we ought to do that for anybody who is ready to publish; you do not know whether they used those Guntersville types, or whether they are equivalent to something else. And we either ought to substitute those for something, or get rid of them.

WILLIAMS: Bill, what do you think about that suggestion you were making about having a session on a particular pottery group?

HAAG: I don't think we could possibly do it for all types in Yazoo County.

WILLIAMS: No. No. No.

HAAG: Just one part, maybe this could be a corollary to this Deptford-Swift Creek.

WILLIAMS: All right.

HAAG: We could just take those types, actual samples of some of them, and try to reach an agreement on what name will be the variety name.

VOICE: I do not think a lot of people present quite realize what a problem that Guntersville report is in that people have begun to use other names for some of the material and some of it is already in print by other names and who has priority?

KNEBERG: It is holding up stuff on my Dallas report; you just don't know what names to use.

VOICE: We have three suggestions then. One would be Deptford-Swift Creek or all early Gulf Coast. Another would be the duplication of names and the third would be proto-historic. We would have three sessions: two morning, and one afternoon.

WILLIAMS: Yes. I wonder whether we had better not drop out the proto-historic and just cut back to Deptford-Swift Creek and deal with the cultures and with the pottery types within this general period.

VOICE: Well, except that if you take the Guntersville Report which still worries me, it covers not only the whole time range in the Southeast but also cultures which every single one of us here has dealt with. There is no doubt about it, the report is talking about the same material we are. It is a matter of sorting out terminologies so we do not have fourteen names for them.

2nd VOICE: That alone could be one session.

3rd VOICE: It may end up becoming a session.

VOICE: Just one session devoted to simple synonymy.

WILLIAMS: All right, well, to the Deptford-Swift Creek.

KNEBERG: Steve, would it be possible to get enough of the material assembled? I think that is what is needed. We need to see whether it is the same or not.

HAAG: We certainly ought to discuss the unhealthy condition of the Newsletter. Not financially but otherwise.

VOICE: Well, you are the Editor.

HAAG: That's right. I have not had anything to edit in five years.

VOICE: Does anybody ever pay dues any more?

WILLIAMS: I think that we ought to have another call for old dues, just to give the group a feeling of unity in having some initiation fee. I would suggest that we put out a call for a dollar. We have actually about 100 people on the list, so there are a lot of people who probably will not really chip in.

HAAG: I get letters from people who occasionally want to know what Newsletters are in print and so on. So I ask the status.

WILLIAMS: The status of the Southeastern Archaeological Conference Newsletter is as follows: [reading notice] The Newsletter is not a

periodical but an occasional publication whose last released issue was Volume 5, number 1, December, 1956, and it goes on to list the ones which are in print. A copy of each of the above back numbers may be obtained upon the receipt of $2.00. Payment of an additional $1.00 will pay up a person as an active member of the Southeastern Archaeological Conference. He will receive all future numbers and notices until such time as additional funds are needed for publication. At that time each member will be assessed another dollar. Libraries may obtain back numbers and will receive future numbers until further notice. It is expected that publication will be resumed in November, 1959.

VOICE: How prophetic can you get?

WILLIAMS: Fine. One thing we ought to do is this: I am sure that there are some people on that who are no longer really very interested. Then, I think it is agreed that we will assess the membership another dollar, (and with all this financing Bill is going to be buying wonderful whiskey, so it's worth going to Baton Rouge for that).

VOICE: No, we won't call for a financial report.

2nd VOICE: What will be the machinery of the deal? Do we just mail these contributions?

WILLIAMS: Well, Bill will presumably send out notices.

HAAG: I'll be glad to take them under any circumstances.

WILLIAMS: With those funds, even if we only have fifty or sixty dollars out of the hundred people, we should have a good backlog for publication. I have not had a chance to talk to Mr. Caywood about what we are going to do with the results of this, except to discuss with him that I hoped we might publish it as Joffre did the last one. There are plenty of outlets for regular publication in the Southeast, things like the Florida Anthropologist, Southern Indian Studies, and others. But really, in a sense we can use the Newsletter to give some background as to what happened at these meetings while they were in regular session. Also, I hope possibly we can do some real exchange of research which is not in the nature of paper. One of the things which Bill Haag and I were talking about - and I will nail Chuck Fairbanks right now - was his excellent bibliography. Possibly he could be made the chairman of a committee to help get together a bibliography on Southeastern Pottery Types.

VOICE: It is a fact that there are lots of pottery type publications stuck away in obscure journals like the Florida Anthropologist?

WILLIAMS: What do you think about that, Chuck? Would you be willing to do this? It seems to me that with some of the research that was done as background for some of these papers such as Madeline's work and including those Virginia types, Bill Haag's work, and a number of the other various individuals here have already done quite a bit of bibliographic research on these pottery types. We ought to get some of that information together and make it available to all of us. And that is the sort of thing which I hope that the Newsletter will do. We might as well help each other in this kind of research; I think that is what the Newsletter could do.

HAAG: I think the idea did creep in that the Newsletter was a definitive publication. That is not what it was set up for at all originally; but a tentative publication. In other words, a series like Jimmy's was put down as end product, as were many of these pottery types which appeared.

GRIFFIN: It is not supposed to be an end product, Bill. It was developed when there was a vacuum in certain areas of the country. We thought it would be no better in published and illustrated form, so we got pretty good pictures with that, and while I unfortunately, have to charge for that thing, I will admit the cost is not very much; but it comes out in pretty good shape. So if you would like to get your pottery types written up and put out in that kind of a loose leaf form and then use the Newsletter for reports of the conferences and papers which are not illustrated or not illustrated too much, we could do that.

I was just thinking that perhaps we could get Dunlevy's larger report. (I assume that she had a larger report) and put that out in our series out there, along with illustrations where you could see something on the sherds, rather than just noticing that there were sherds. In other words, you would have something so that you would know what you were eliminating.

KNEBERG: I think that probably the Conference could end the complications.

WILLIAMS: We talked yesterday about the possibility of republishing that first report of the Southeast Conference. I hope we can get that under way too, so that we will, in the next year have a series of things coming out.

GOGGIN: I have been thinking about your bibliography idea; it seems to me that to tackle it broadwise through the Southeast would be difficult, but if we could get somebody to make up a bibliography ahead of time -- or at least present it at the next Conference -- on the materials that would fall within the scope of the Conference, and then put

out a bibliography of the types which would be handled at a given time, then we could gradually tackle the thing, and maybe it would make the job a little easier.

WILLIAMS: Well, I wonder, just in the people who have done research for these papers if we haven't gotten quite a bit together already. Chuck has all those forms with all his bibliography of type references.

VOICE: Then, if we published the minutes, so to speak, of this meeting, each person would be allowed to modify his own.

WILLIAMS: Well, I think we ought to separate the bibliography and the pottery types and publish each as a separate thing -- actually as a research project of the group.

VOICE: Steve, to get back to the fiscal matters. You realize it is sacrilegious to make a motion here, but let us reestablish in our minds what we are going to do? Are we going to mail Bill a buck? What is the going price?

WILLIAMS: A dollar, and presumably Bill will then (to people who were not here or who have not paid up by the time he leaves) send notices to them for the dollar assessment.

HAAG: Joffre is going to send me the surplus copies of his so I can send them around to people who were not here.

WILLIAMS: Fine. Is there any other new business from the floor? Any other reports?

VOICE: I think somebody else wanted to mention something about their work.

WILLIAMS: That contingent has left. Therefore, since Doug Byers, the usual member of what they call the Resolutions Committee has left, on behalf of the Southeast Conference, I would like to take this responsibility and offer our sincere thanks to the staff of the Ocmulgee National Monument and the Macon Archaeological Society for all they have done to make this Sixteenth meeting of Southeastern Archaeological Conference so pleasant. Thank you.

VOICE: I was particularly pleased with the Macon Archaeological Society -- after all at this Conference we expected the Ocmulgee National Monument, but the rest is pure love of humankind actions, so we appreciate that very much.

WILLIAMS: People really ought to go see the Monument if you have not seen it already.

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